# Store image influences in consumers' perceptions of store brands: the moderating role of value consciousness

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## Abstract

**Purpose** – The purpose of this study is to develop and test a conceptual model of the moderating effect of customers' value consciousness (CVC) on the relationship of store image (SI) with four dimensions of the perceived risk associated to the purchase of a store brand over a manufacturers' brand, and the direct effect of those variables on the perceived unfairness of manufacturers' brand prices.

**Design/methodology/approach** – A mall-intercept survey of 600 shoppers in Colombia (South America) gathered data on their consumption experiences of a store brand and manufacturer's brand across six product categories and two supermarket chains.

**Findings** – Results suggest that SI exerts different influences on the four categories of perceived risk, the strength of which varies with value-consciousness. Perceptions of the price unfairness of manufacturers' brands are attenuated by the financial and functional risk of buying store brands but increased by the social and psychological risk.

**Research limitations/implications** – The findings may not be generally applicable to other shopping contexts or customers. The functional perspective on SI may mean that the results are not directly comparable with other studies adopting different perspectives.

**Practical implications** – For retailers, the key implications concern awareness and management of customers' perceptions of relative risks and the impact of value-consciousness on the use of SI as a heuristic decision-making cue. For manufacturers, they are the need to demonstrate clear product differentiation as a rationale for higher prices.

**Originality/value** – This is the first study to encompass value-consciousness, SI, perceived risk and perceptions of price unfairness in a single field survey.

**Keywords** Consumer behaviour, Brands, Retailing

**Paper type** Research paper

## Introduction

Retailers' own brands, alternatively called "store brands", today pose significant competitive threats to manufacturers' brands (Semeijn *et al.*, 2004). Their rapidly growing market share has changed the retailer–manufacturer relationship from one of cooperation to one of competition for the consumers' dollars. In that context, Kumar and Steenkamp (2007) assert that the positioning of store brands against manufacturers'

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brands has become an extremely important managerial issue for both retailers and producers.

In this battle for consumers' preferences, the "misfortune for retailers" (Bao *et al.*, 2011) is that store brands are still perceived as a riskier choice, despite their improved quality over time. Thus, consumers are motivated to prefer the manufacturers' brands as a form of insurance for which they have to pay a premium in the form of a higher price (Steenkamp *et al.*, 2010).

If retailers can diminish the perceptions of risk associated with their own brands, they may be able to expand their customer base. Relevant research studies to date have proceeded in two streams. The first has generated useful insights by identifying a plethora of cues on which consumers rely in their efforts to infer quality and mitigate the risk. Richardson *et al.* (1994) and Bao *et al.* (2011) identify product ingredients, brand name, brand image, price and advertising. The second stream investigates how the characteristics of a product category (such as its complexity or quality variation within it) and of its consumers (such as their familiarity with and knowledge of the product or their aversion to risk and their self-confidence) might affect perceptions of the risk attached to store brands and their use of cues to judge quality (Batra and Sinha, 2000; DelVecchio, 2001).

However, no attention has been paid to how identified consumer characteristics moderate the effect of cues on perceptions of the risk inherent in choosing store brands. One of those characteristics is value-consciousness, that is an important driver of store brand purchasing (Burton *et al.*, 1998; Garretson *et al.*, 2002). As far as it represents the concern for paying low price subject to some quality constraint, it may determine consumers' tendency to rely on cues as the basis of their judgements. Furthermore, the current competition between manufacturers and retailers to retain the value-conscious segment gives special relevance to the focus on value-consciousness in analysing the effect that cues have on perceptions of the risk inherent in choosing a store brand. The specific heuristic cue under examination is store image (SI). That image is a strategic element of retailers' competitive strategy. Furthermore, in comparison with other cues, SI is specific to a store or retail chain and its ownership, factors that strengthen their ability to manage and differentiate own brands.

To the best of our knowledge, no previous research study has addressed the moderating effect of consumers' value-consciousness on the relationship between SI and the perceived risk in buying a store brand.

The impact that risk perception has on a store brand's success is well documented in the literature, for example by Gonzalez *et al.* (2006) and Liljander *et al.* (2009). However, it may also have an effect on how consumers perceive the prices of manufacturers' brands. In this paper, we use "price unfairness" to describe the perception that the gap between the price of a manufacturers' brand and the store's own equivalent is "unreasonable, unacceptable or unjustifiable" (Bolton *et al.*, 2003). Bettman (1974) suggested, however, that if consumers perceive a store brand to be a riskier alternative, they will be willing to pay the premium prices asked for the safer alternatives. In this sense, an interesting issue for further investigation is the relationship between perceived risk associated with store brands and perceptions of price unfairness with respect to manufacturers' brands. If, on the other hand, consumers judge the higher price to be a fair premium to pay for reduced risk, the lower price of the store brand will not confer an automatic advantage in the marketplace.

The aim of this paper is, therefore, to answer two research questions:

*RQ1*: Is SI equally effective as a cue in the management of risk perceptions across all value-conscious market segments?

*RQ2*: How does the perceived riskiness of buying store brands affect the perceived unfairness of the pricing of manufacturers' brands?

To provide the answers, it will develop and test the conceptual model in Figure 1. This model shows the hypothesised moderating effect of consumers' value-consciousness on the relationship between SI and the perceived risk of choosing store brands. We take also into account the multidimensional nature of risk because examining different dimensions of risk will offer more profound and useful information than any analysis of risk at the overall level could. Finally, the study analyses the impact of perceived risk on perceived unfairness.

In the remainder of this paper, we first introduce the proposed theoretical model and, then, describe the method used to test a set of hypotheses. The concluding sections discuss the theoretical and managerial implications of the findings, and delineate directions for future research.

### Theoretical framework

Liljander *et al.* (2009) have identified the perception of risk as the key factor leading consumers to perceive store brands as a second-rate alternative. They define it more precisely as consumers' subjective expectations about the magnitude of the adverse consequences that might result from the purchase of a store brand and their estimate of the probability that those will occur. Such expectations can be mitigated by extrinsic and intrinsic cues inherent in the brand and its marketing. Richardson *et al.* (1994) asserted that, in the case of store brands, consumers attach more weight to such
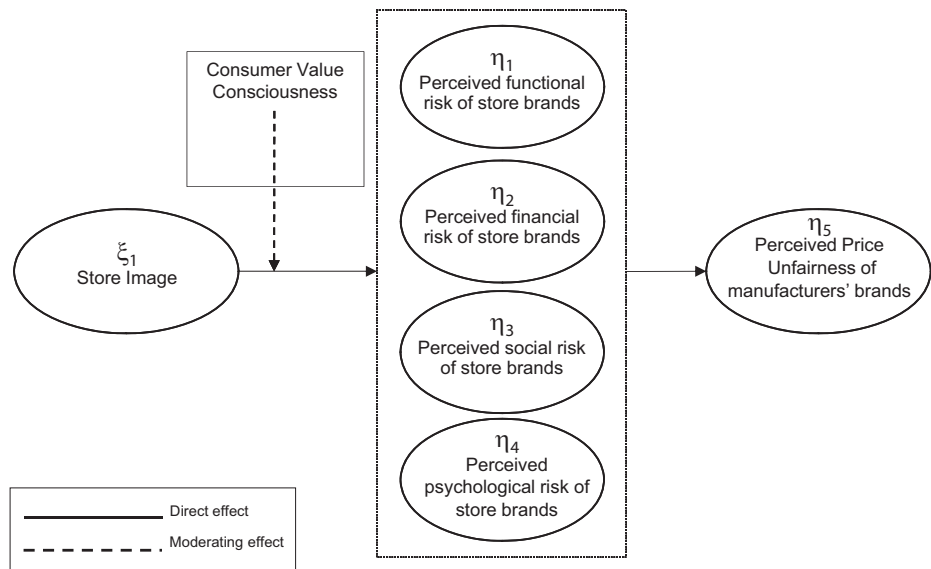


**Figure 1.**
Theoretical model

extrinsic cues as brand name, price, package design or the store's identity than the harder-to-process intrinsic cues, because they are more easily recognised, integrated and interpreted. According to Ailawadi and Keller (2004), SI is an extrinsic cue that acts as an important reliever of perceived risk: a consumer's global impression of a retail store based on a gestalt of such characteristics as product assortment, merchandise quality, store services and prices. It is a reliable and credible cue because of its stability over time, in contrast to pricing or promotion, for example. Not only will a retailer with a positive SI seek to maintain that marketing benefit, but it would require a considerable investment of time and money to modify it (Purohit and Srivastava, 2001).

An important factor in store brand purchasing behaviour that may moderate the effect of cues on risk perceptions is value-consciousness, which is the concern for paying low prices subject to some quality constraint (Lichtenstein et al., 1993). Specifically, Mandrik (1996) suggests that it may determine the extent to which consumers make judgements: that is, on the mode of information processing in which they engage. The implication is that value-conscious consumers are concerned about the inherent need-satisfying properties of the product, which is a stable characteristic of the product. Thus, value-consciousness is related to enduring involvement, which increases the motivation to undertake systematic processing (Pillai and Kumar, 2012). Through this process an individual comes to a judgement by carefully examining, comparing arguments for and against a course of action (Chaiken, 1980). That activity would include taking account of unit-pricing information, reading product labels, comparing intrinsic attributes between brands, and making trial purchases (Mandrik, 1996). Therefore, it is reasonable to expect that value-consciousness will determine whether or not individuals are inclined to rely on SI as the basis of their judgements. At higher levels of value-consciousness, they are more prone to process information and arguments systematically, reducing the tendency to rely on SI as an input to heuristic decision-making.

In contrast, consumers with lower value-consciousness are less motivated to secure the best value. Their relatively low involvement leads them to minimise the effort spent on making judgements, which favours heuristic processing over systematic processing. This processing mode requires much less effort because it involves the use of simple inferential rules, schemata or heuristics to arrive to judgements (Chaiken, 1980).

This reasoning implies that value-consciousness has a moderating effect on the relationship between SI and the underlying dimensions of perceived risk that are the most important in a retailing context: that is, the functional, financial, social and psychological aspects. Each of those will now be considered more specifically, in turn.

*Moderating effect of value-consciousness on the relationship between SI and perceived functional and financial risks*
DelVecchio (2001) defines the functional component of the perceived riskiness of buying store brands as relating to dissatisfaction with a product's substandard performance of its core functions. The financial component is concerned with further expenditure occasioned by that substandard performance and the cost of repair or replacement (Semeijn et al., 2004).

Past research studies (Collins-Dodd and Lindley, 2003; Liljander et al., 2009) suggest that consumers' global impression of a retail store (SI) can be generalised to store brands by lessening the perception of functional and financial risks because SI provides a basis

for overall store brand quality. This main effect may, however, be subject to a consumer's value-consciousness. Returning to the previously explained reasoning about the mode of information processing to be expected at different levels of value-consciousness, we propose that the impact of SI is stronger when the level is low because consumers are less concerned about the objective accuracy of information to be processed. They may, therefore, use simple decision rules or such heuristic cues as SI to make judgements. If the level of value-consciousness is high, on the other hand, the overriding goal is to get the highest quality at the lowest price. Such consumers will, therefore, have a higher motivation to secure valid information, feeling sufficiently confident that it will assuage their concerns about the amount of risk. Accordingly, they will rely less on heuristic information processing because judgements reached in that way tend to be less accurate or more prone to bias, and may compromise the goal of value maximisation (Mandrik, 1996).

Thus:

*H1*. A positive SI reduces consumers' perceptions of the (a) functional and (b) financial risks of buying stores' own brands to a greater (lesser) degree with diminishing (rising) levels of value-consciousness.

*Moderating effect of value-consciousness on the relationship between SI and perceived social risk*
Solomon (1983) has argued that buying choices also depend on a brand's ability to fulfil such symbolic aspects of consumption as status, prestige, earning the recognition of significant others or communicating a personal image. In this sense, perceived social risk relates to the purchaser's expectation of adverse consequences such as unfavourable third-party opinions arising from the acquisition and use of a given brand (Mitchell and Harris, 2005).

In the grocery sector in particular, it has been found that retailers have focused their SI on positioning themselves as providers of a good price/quality ratio and value for money. This positioning can allow individuals to feel that they are smart and competent shoppers (Goldsmith *et al.*, 2010). As this positioning transfers itself to the store brands, it lessens the perception of social risk (Semeijn *et al.*, 2004; Liljander *et al.*, 2009).

We suggest that this direct and principal effect of SI on social risk acts more strongly on highly value-conscious consumers because their underlying motives is to be a "smart shopper" by maximising the value-for-money of their purchases. To this end, they engage in a kind of information processing that involves the heuristic use of such inputs as SI, which is congruent with their values and self-concept (Chen *et al.*, 1999) and will help them to show significant third parties that they are indeed "smart shoppers" (Manzur *et al.*, 2010). Thus, consumers who are higher in value-consciousness will place more emphasis on SI as a relevant cue for mitigating perceived social risk, as far as it supports their underlying values and motives.

Thus:

*H2*. A positive SI reduces consumers' perceptions of the social risk of buying stores' own brands to a greater (lesser) degree with rising (diminishing) levels of consumer value-consciousness.

*Moderating effect of value-consciousness on the relationship between SI and perceived psychological risk*

In studies of the buying of stores' own brands, psychological risk has been either ignored (Liljander *et al.*, 2009; Diallo, 2012) or not differentiated from social risk (Semeijn *et al.*, 2004). Rosenberg (1979) sees social and psychological risks as being related to consumers' self-concept, that is, the totality of their thoughts and feelings with respect to themselves as an object. Both varieties of risk are related to one or other of the distinct dimensions of self-concept recognised in the literature: actual, ideal, private and social (Sirgy *et al.*, 2000). The perception of social risk is clearly an aspect of the consumer's social self-concept, while psychological risk is part of the private self.

Specifically, psychological risk is felt when a consumption choice may harm the consumer's self-esteem or may have a negative effect on his or her peace of mind. It is a matter of how consumers actually see themselves in relation to products user image. Thus, it can be seen as anxiety or psychological disappointment arising out of anticipated post hoc affective reactions, such as worry or regret (Mitchell and Harris, 2005).

While SI may serve to mitigate social risks, it may not alleviate those psychological risks. It may fail to transmit the symbolic identity and emotional meanings (such as warmth, friendliness, compatibility, reputation and innovativeness) that are more typical of manufacturers' brand images. As store brands do little to project an image beyond the basic themes of quality and price (Goldsmith *et al.*, 2010), they may reinforce psychological risk by raising buyers doubts as to whether they are feasible alternatives to manufacturers' brands and the best options to satisfy self-esteem or self-image. As a result, the feeling of psychological discomfort with a store's own brand may be increased, especially among less value-conscious consumers, because they rely more on heuristic information-processing to make their judgements. In contrast, the effect on psychological risk is lower among their highly value-conscious counterparts, who accord less importance to heuristics.

Thus:

*H3.* A positive SI increases consumers' perceptions of the psychological risk of buying stores' own brands to a greater (lesser) degree with diminishing (rising) levels of consumer value-consciousness.

*Effects of perceived risk on perceived price unfairness of manufacturers' brands*

The corollary of the price discount for a store's own brands is that manufacturers' brands command a price premium. Consequently, the notion of the "unfairness" of the latter's pricing is a central issue in the battle of manufacturers' brands vs store brands. Manufacturers place emphasis on the argument that their higher prices are justified by the higher functional and symbolic values their brands offer consumers (Sethuraman, 2003). Retailers stress the idea that shoppers buying manufacturers' brands are paying more for the same product. In such a setting, an interesting issue arising is the effect that the perceived riskiness of store brands has on perceptions of the price unfairness of manufacturers' brands.

Drawing on the Principle of Dual Entitlement (Kahneman *et al.*, 1986), we are of the opinion that the different dimensions of perceived risk associated with store brands contribute to the lessening of consumers' perceptions that the price premium to be paid for manufacturers' brands is unfair. Xia *et al.* (2004) assert that the unfairness of that

pricing is judged relative to another referenced transaction and is, therefore, a function of the characteristics of alternatives. Therefore, we propose that when consumers believe that stores' own and manufacturers' brands entail different degrees of riskiness, they may accept that as an explanation for the price discrepancy and the higher price may be judged as less unfair.

Thus:

*H4.* Perceptions of (a) functional, (b) financial, (c) social and (d) psychological risks associated with a store's own brand will diminish the perception of the price unfairness of an alternative manufacturer's brand.

### Methodology
*Data collection*
A mall intercept consumer survey was judged to be the most appropriate method to achieve the research objective. Respondents were adults in charge of household shopping. A quasi-random sample was selected by systematically intercepting potential interviewees at various times of day and on different days of the week outside Carrefour and Éxito supermarkets in Bogotá, Colombia. These two chains were chosen because they are the largest players in food retailing in the country and own the leading store brands in that sector, which include for example Marca 1, Basic Days, Tex, Firstline, Bluesky and Les Cosmetiques from Carrefour and Finlandek and Simply from Éxito.

Intercepted individuals were screened to ascertain that they had, within the past two months, bought at least one of the stores' own brands in one of six product categories chosen. These product categories represent a broad cross-section of regularly bought supermarket products:

(1) sugar;
(2) shampoo;
(3) facial cream;
(4) fabric conditioner;
(5) antibacterial gel; and
(6) sunflower oil.

It was reasoned *a priori* that the level of risk associated with choosing a store brand over a manufacturer's brand would vary across that range. Furthermore, Carrefour and Éxito carry own-brand alternatives to manufacturers' brands in all of those categories.

Respondents answered interview questions with respect to a store brand of the two chains and the first manufacturer's brand they mentioned when given a product category as a prompt. The category-prompt was varied systematically throughout the interviews.

In total, 600 useable questionnaires were secured, 100 for every product category and 300 each relating to Carrefour and Éxito. Almost exactly half the sample was female (50.7 per cent) and the mean age was 36.6 years, with an SD of 13.5.

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*Measures*
Measures for all constructs consisted of multiple items scored on a scale ranging from
$0 =$ do not agree at all to $10 =$ completely agree. The individual items in the
questionnaire are listed in Table I.

| Confirmatory factor analysis Scales | Factor loadings ($t$-value) | Mean | Descriptives SD | Skewness |
|---|---|---|---|---|
| *Store image (composite reliability (CR) = 0.887;* | | | | |
| *Average variance extracted (AVE) = 0.530)* | | | | |
| The store is a pleasant place to shop | 0.736 (20.121) | 8.398 | 2.165 | −1.448 |
| The store carries high quality merchandise | 0.739 (20.260) | 7.406 | 2.489 | −0.955 |
| Sales people are helpful | 0.765 (21.269) | 7.292 | 2.451 | −0.878 |
| The store's merchandise charges competitive prices | 0.682 (18.169) | 6.816 | 2.389 | −0.660 |
| The store has convenient opening hours | 0.735 (20.076) | 8.133 | 2.169 | −1.223 |
| The store offers broad assortment | 0.710 (19.180) | 8.199 | 2.014 | −1.203 |
| Good overall service | 0.726 (19.760) | 7.292 | 2.598 | −0.971 |
| *Functional risk (CR = 0.875; AVE = 0.703)* | | | | |
| The two brands of (category) are not basically the same in quality | 0.689 (18.644) | 3.411 | 2.455 | 0.599 |
| The ingredients and components of these two brands of (category) do not deserve the same confidence | 0.882 (26.374) | 3.418 | 2.244 | 0.442 |
| SB[a] of (category) is not going to give me the same result as NB[b] | 0.925 (28.399) | 3.487 | 2.181 | 0.408 |
| *Financial risk (CR = 0.823; AVE = 0.610)* | | | | |
| Buying SB of (category) instead of NB is not a wise way of spending money | 0.832 (23.314) | 3.284 | 2.271 | 0.493 |
| I think that buying SB of (category) instead of NB is a waste of money | 0.825 (23.048) | 3.476 | 2.391 | 0.482 |
| I am more concerned with the money spent in SB of (category) than in NB | 0.678 (17.698) | 3.270 | 2.431 | 0.457 |
| *Social risk (CR = 0.974; AVE = 0.903)* | | | | |
| Buying SB of (category) instead of NB may negatively affect what others think of me | 0.934 (30.314) | 3.177 | 3.031 | 0.735 |
| Buying SB of (category) instead of NB may drop the esteem my family or friends have for me | 0.974 (32.788) | 3.278 | 3.022 | 0.668 |
| Buying SB of (category) instead of NB may make others see me the way I do not want them to | 0.957 (31.723) | 3.323 | 2.961 | 0.618 |
| I am afraid that, if I buy SB of (category) instead of NB, others may look down on me | 0.935 (30.382) | 3.400 | 3.048 | 0.594 |
| *Psychological risk (CR = 0.912; AVE = 0.775)* | | | | |
| Buying SB of (category) instead of NB will make feel unhappy or frustrated | 0.838 (24.647) | 2.577 | 2.175 | 0.692 |
| Buying SB of (category) instead of NB does not fit in well with the concept I have of myself | 0.915 (28.198) | 2.488 | 2.202 | 0.783 |
| Buying SB of (category) instead of NB makes me doubt whether I was right in buying it | 0.886 (26.835) | 2.685 | 2.218 | 0.581 |

Table I.
List of items, descriptives
and confirmatory factor
analysis

(*continued*)

| Confirmatory factor analysis | Factor loadings | Descriptives | | |
|---|---|---|---|---|
| Scales | (*t*-value) | Mean | SD | Skewness |
| *Price unfairness (CR = 0.92; AVE = 0.78)* | | | | |
| The prices of NB of (category) are really unfair | 0.897 (27.435) | 4.453 | 2.783 | 0.132 |
| The prices of NB of (category) are unacceptably high | 0.937 (29.419) | 4.260 | 2.852 | 0.205 |
| The prices of NB of (category) are "rip-offs" | 0.815 (23.770) | 3.532 | 2.707 | 0.383 |
| *Value consciousness (CR = 0.832; AVE = 0.501)* | | | | |
| I am very concerned about low prices, but I am equally concerned about product quality | 0.708 (18.525) | 8.684 | 1.675 | −1.572 |
| When shopping, I compare the prices of different brands to be sure I get the best value for the money | 0.800 (21.832) | 8.510 | 1.657 | −1.316 |
| When shopping, I always try to maximize the quality I get for the money I spend | 0.740 (19.638) | 8.612 | 1.475 | −1.245 |
| When I buy products, I like to be sure that I am getting my money's worth | 0.693 (18.010) | 8.795 | 1.571 | −1.771 |
| I always check prices at the grocery store to be sure I get the best value for the money I spend | 0.579 (14.377) | 8.157 | 2.087 | −1.389 |

**Notes** [a]SB: the name of the store brand (e.g. Carrefour and Exito); [b]NB: the name of the national brand

**Table I.**

*Store image* was measured by the respondents' scores on the seven underlying dimensions that have been identified in previous studies (Mazursky and Jacoby, 1986; Hopkins and Alford, 2001):

(1) merchandise;
(2) quality;
(3) pricing;
(4) product assortment;
(5) general service;
(6) personnel; and
(7) convenience and atmosphere.

Four dimensions of *perceived risk* were measured by 14 items, adapted from Stone and Grönhaug (1993) and Gonzalez *et al.* (2006). They assess the perception of the risk associated with buying a store brand against the manufacturer's brand nominated by the respondent in the same category.

Respondents' subjective evaluation of the *price unfairness* of the manufacturer's brand was measured by a three-item scale proposed by Sinha and Batra (1999).

Finally, *value-consciousness* was measured by five items adapted from Burton *et al.* (1998) and Bao *et al.* (2011). Together, those measure the emphasis placed by respondents during evaluation of product choices on both price and quality information, as well as their intention to secure the best value-for-money.

*Psychometric characteristics of the scales*
The unidimensionality of each construct was assessed by confirmatory factor analysis of the 28 items measuring the seven constructs.

The maximum likelihood method was applied to estimation of the parameters in both the factor analysis and the subsequent structural model. Analysis of the distribution of data showed that the variables were non-normally distributed. This suggests that other estimation methods might have been more advisable, such as, for example, generalised least squares, weighted least squares, asymptotically distribution-free or robust maximum likelihood. However, Schermelleh-Engel *et al.* (2003) cite a number of studies that showing that maximum likelihood "seems to be quite robust against the violation of the normality assumption" (Schermelleh-Engel *et al.*, 2003, p. 26), while Cortina *et al.* (2001) recommend its use "unless there is extreme non-normality in the data" (Cortina *et al.*, 2001, p. 327). Olsson *et al.* (2000) propose triangulation of the results for the same model specification obtained by different methods as a means of analysing the robustness of the results and their sensitivity to deviance from multivariate normality. Following their recommendation, we estimated the models by both the maximum likelihood and robust maximum likelihood methods, the latter being preferred to all other alternatives to the maximum likelihood method (Boomsma and Hoogland, 2001). The results were very comparable, probably due to the large size of the sample and the number of indicators per factor in the model (Schermelleh-Engel *et al.*, 2003). We, therefore, proceeded with analysis by the maximum likelihood method.

The fit of the measurement model was tested by Lisrel 8.5, which found a reasonable fit to the data [$\chi 2$ (329) = 1,084.700, $p < 0.001$; Goodness-of-fit statistic (GFI) = 0.881; Root mean square error approximation (RMSEA) = 0.063; Comparative fix index (CFI) = 0.955; Non-normed fit index (NNFI) Tucker-lewis index (TLI) = 0.948; Incremental fit index (IFI) = 0.955]. The reliability of the measures was assessed by the composite reliability and average variance extracted indexes (Bagozzi and Yi, 1988; Fornell and Larcker, 1981). Detailed results are reported in Table I.

Discriminant validity among the concepts was stringently examined by three tests recommended by Anderson and Gerbing (1988) and Fornell and Larcker (1981). First, we calculated the 99.9 per cent confidence intervals ($\pm$ 3 standard errors) around the correlation estimate, finding that none between any two latent indicators included the value 1. Second, we restricted factor intercorrelations pairwise to unity and carried out the chi-squared difference test (CDT). All model comparison statistics were significant. The minimum value was 610.16, which is highly significant for one df at $p < 0.000$. Thus, the null hypotheses of equal fit can be rejected and discriminant validity is confirmed. Finally, for each scale, the average variance extracted by the underlying construct is larger than the shared variance with any other latent construct. These tests collectively show that the measures possess adequate levels of reliability and validity.

Because each interviewee provided data for every concept to be measured, common-method variance was a potentially serious source of bias that could have artificially inflated the parameter estimates of the relationships between the different concepts (Podsakoff *et al.*, 2003). The Harman single-factor test was, accordingly, used to check for common-method variance. It did not seem to be present in so far as the non-rotated factor solution in an exploratory factor analysis showed the presence of multiple factors, none of which accounted for the majority of the covariance (the first factor explained only 23 per cent). A more sophisticated test, confirmatory factor analysis with a single-factor model

measured by all of the observable variables used in this research, yielded a $\chi^2$ result of 9,551.6 with 350 dfs, compared with $\chi^2 = 1,084.7$ with 329 dfs for the measurement model. A CDT suggested a considerably worse fit for the one-dimensional model. This is a further confirmation that common-method bias was not a serious source of bias in this study. Table II presents the descriptive statistics of the measures.

### Analysis and results

The model proposed in Figure 1 was tested by structural equation modelling with Lisrel 8.5. Interaction terms were operationalized by calculating the products of the mean-centred variables of SI and the consumer's value-consciousness, recommended by Ping (1995) as an appropriate method for estimating path models with latent variable interactions. Table III shows fit of the data, path estimates and $t$-values.

The moderating effect of value-consciousness on the relationships between SI and perceived risk is significant in three of the four dimensions of risk evaluated. The nature of these effects was examined by application of the formulae proposed by Aiken and West (1991, pp. 19-20). It tests for the significance of the coefficient estimates at one SD below and above the mean of the moderating variable.

With regard to *H1a*, it was found that SI more significantly reduces perceptions of functional risk in the presence of low levels of value-consciousness (b = $-0.289 \, p <$ 0.001)[1] than when the levels are high (b = $-0.193 \, p < 0.001$).

Figure 2(a) depicts these differential effects graphically. The significance of the interaction terms at *p < 0.05* provides evidence of the change in the effect of SI on functional risk when the consumer has low value-consciousness compared to the impact when value-consciousness is high.

A positive SI significantly reduces the perception of financial risk by consumers with both high and low levels of value-consciousness, as shown by the negative, and significant coefficient estimate for low and high levels of value-consciousness: b = $-0.306 \, p < 0.001$ and b= $-0.290 \, p < 0.001$, respectively. Estimation of the interaction term results in a non-significant value, demonstrating that the effect of SI on financial risk does not vary significantly across levels of value-consciousness, as shown in Figure 2(b).

Taken together, these results partially confirm *H1*, in that a positive SI significantly reduces the perception of functional and financial risks, but this main effect is moderated by value-consciousness only in the case of functional risk (*H1a*).

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Store image | | | | | | | |
| Functional risk | $-0.336^c$ | | | | | | |
| Financial risk | $-0.376^c$ | $0.722^c$ | | | | | |
| Social risk | $-0.181^c$ | $0.087^b$ | $0.285^c$ | | | | |
| Psychological risk | $0.136^c$ | $-0.096^b$ | $0.037$ | $0.273^c$ | | | |
| Price unfairness | $0.114^c$ | $-0.167^c$ | $-0.127^c$ | $0.073^a$ | $0.244^c$ | | |
| Value consciousness | $0.296^c$ | $-0.110^b$ | $-0.204^c$ | $-0.243^b$ | $-0.123^c$ | $0.073$ | |
| Mean | 7.648 | 3.442 | 3.344 | 3.295 | 2.573 | 4.082 | 8.554 |
| SD | 1.800 | 2.034 | 2.028 | 2.902 | 2.011 | 2.568 | 1.301 |

**Table II.**
Descriptive statistics and correlations

**Notes:** $^c p < 0.01$; $^b p < 0.05$; $^a p < 0.10$

| Linkages in the Model | Unstandardized estimate | Completely standardized estimate | $t$-value |
|---|---|---|---|
| *SI (Perceived risk)* | | | |
| SI (functional risk) | −0.241 | −0.351 | −7.164*** |
| SI (financial risk) | −0.298 | −0.378 | −7.628*** |
| SI (social risk) | −0.123 | −0.132 | −2.924*** |
| SI (psychological risk) | 0.145 | 0.173 | 3.630*** |
| CVC (perceived risk) | | | |
| CVC (functional risk) | 0.018 | 0.027 | 0.524 |
| CVC (financial risk) | −0.072 | −0.091 | −1.734* |
| CVC (social risk) | −0.244 | −0.261 | −5.125*** |
| CVC (psychological risk) | −0.201 | −0.240 | −4.476*** |
| *SI × CVC (interaction) (perceived risk)* | | | |
| SI × CVC (functional risk) | 0.037 | 0.100 | 2.079** |
| SI × CVC (financial risk) | 0.006 | 0.014 | 0.288 |
| SI × CVC (social risk) | −0.054 | −0.108 | −2.268** |
| SI × CVC (psychological risk) | −0.055 | −0.123 | −2.465** |
| Perceived risk (price unfairness) | | | |
| Functional risk (price unfairness) | −0.128 | −0.098 | −2.234** |
| Financial risk (price unfairness) | −0.101 | −0.089 | −1.967** |
| Social risk (price unfairness) | 0.046 | 0.048 | 1.148 |
| Psychological risk (price unfairness) | 0.240 | 0.225 | 5.182*** |

**Notes:** $\chi^2_{(359)}$ = 1475.077; Goodness-of-fit statistic (GFI) = 0.856; RMSEA = 0.071; CFI= 0.935; NNFI(TLI) = 0.927; IFI = 0.935; ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$
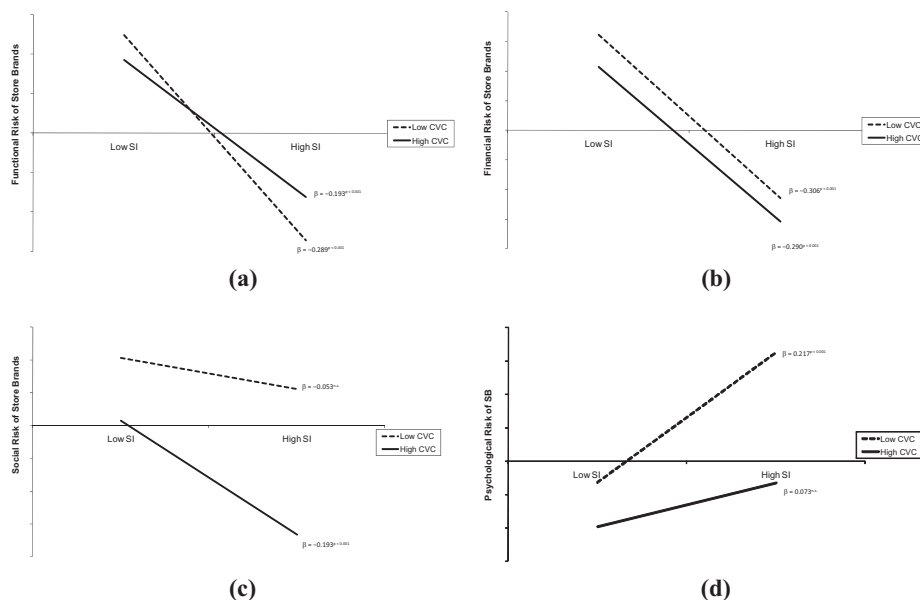
**Table III.**
Results



**Figure 2.**
Effect of store image (SI)
on each dimension of
perceived risk across
levels of consumer value
consciousness (CVC)

With regard to *H2*, the effect of SI on social risk is b $= -0.053\,p = not\,significant$ for low levels of value-consciousness, and b $= -0.193\,p < 0.001$ for high levels. Thus, it reduces the perception of this risk only for consumers whose value-consciousness is high. The change in the effect SI has on social risk when value-consciousness changes from one level to the other is significant at $p < 0.05$. This confirms the hypothesised moderating role of value-consciousness, as shown in Figure 2(c).

The results support *H3* that SI heightens the perception of psychological risk more significantly for consumers with low value-consciousness (b $= 0.217\,p < 0.001$) than for those in whom it is high (b $= 0.073\,p = not\,significant$). They also show a significant change in the effect of SI on psychological risk when value-consciousness changes from one level to the other ($p < 0.05$). *H3* is thus confirmed, as shown graphically in Figure 2(d).

Estimation of the model requires the inclusion of the main effect of value-consciousness on consumers' perceptions of the riskiness of buying store brands. It is worth noting that we also found consumer's value-consciousness to have a direct effect on perceptions of risk. It diminished the perception of financial risk ($-0.091\,p < 0.10$), social risk ($-0.261\,p < 0.01$) and psychological risk ($-0.240\,p < 0.01$), while its effect on functional risk was not significant ($p = 0.524$). The implications of these extra findings are discussed in the next section.

As shown in Table III, perceptions of the price unfairness of manufacturers' brands were diminished by the evaluation of functional risk ($-0.090, p < 0.05$) and financial risk ($-0.089\,p < 0.05$), supporting *H4a* and *H4b*. With regard to the effects of social and psychological risks postulated by *H4c* and *H4d*, the coefficient estimates indicate that both types of risk increase perceptions of price unfairness, but to a significant extent only in the case of psychological risk ($0.225\,p < 0.01$). *H4* is, thus, partially supported by the results.

Finally, to provide greater confidence in our model specification with risk perceptions as mediator of the effect of SI on price unfairness, we test our theoretical model ($M_T$) against alternative model specifications ($M_A$). Anderson and Gerbing (1988) recommend this procedure and suggest the use of a CDT to test the null hypothesis: $M_T - M_A = 0$. Compared to a less parsimonious $M_A$, a nonsignificant CDT would lead to the acceptance of the more parsimonious $M_T$. A first comparison is made between the theoretical model ($\chi_{359} = 1,475.077$) and an alternative where the path from SI and prices unfairness is estimated, yielding a $\chi_{358} = 1,474.597$ (chi-squared difference of 0.48 for one df, $p = 0.488$). This and the fact that the structural parameter is not significant ($\gamma_{51} = 0.031$; *t*-value $= 0.655$) shows that compared to $M_A$, our theoretical model is a better specification. A second comparison is made by estimating the direct paths between SI, value consciousness and their interaction, with price unfairness as the dependent variable. Again, none of the coefficients are significant, neither is the CDT, yielding a chi-squared difference of 3.971 (three dfs, $p = 0.265$). As a result of these model comparisons, we can be confident about our theoretical model specification.

## Discussion

The study reported focused on the moderating effect that consumers' value-consciousness exerts on the relationship between SI and the perceived risks attached to store brands. It also analysed how these perceptions, in turn, affect the perceived unfairness of the prices of manufacturers' brands. It has provided answers to

several important research questions that have not been addressed so far in the literature.

Our findings demonstrate that SI significantly influences risk perceptions by improving the positioning of store brands as less functional, financial and socially riskier alternatives. As also expected, SI does not reduce consumers' psychological risk.

Interestingly, SI does not have the same effect on perceived risks for all consumers because value-consciousness exerts a moderating effect on the relationships between SI and three of the four dimensions of risk evaluated. Specifically, it is a more powerful determinant when value-consciousness is relatively low because it decreases perceptions of functional and psychological risks to a greater extent than in the case of more value-conscious consumers. In contrast, SI is a more decisive factor in affecting social risk when value-consciousness is high.

Furthermore, observing the direct effect of consumers' value-consciousness on their perception of the risk of buying a store brand has shown that it reduces risk perceptions related to the symbolic value of consumption (that is, the social and psychological risks) more than it does those related to financial risk. This may suggest that, despite being more prone to the buying of store brands, consumers who are highly value-conscious are sufficiently rational in their decision-making to recognise that those are not necessarily the best choice in terms of their financial characteristics. In contrast, they see store brands as the alternative that can best reduce social risk by bolstering their perception of themselves as "smart shoppers". By fitting their personality and inner values, the psychological risk of the purchase is reduced.

We have already seen that past research has more or less ignored psychological risk or failed to distinguish it clearly from social risk. Our findings refute the existence of the often-presumed halo effect of a positive SI on all the dimensions of risk because it does not reduce perceptions of psychological risk. This result conflicts with the findings of a study by Liljander *et al.* (2009) that there is negative relationship between SI and psychological risk. The reason for the contradiction may be that their study did not discriminate between social and psychological risks, as ours did, describing both classes as "psychosocial" risk. Furthermore, the content validity of the scale they used to measure psychosocial risk is called into question by the fact that it assessed only the social consequences of using store brands and failed to take account of the psychological aspects.

We, finally, found that the view of manufacturers' brands as the safer alternative was not always seen as justifying their premium prices. Specifically, it were only the functional and financial risks associated with store brands that attenuated perceptions of the unfairness of manufacturer-brand prices. Though this finding contradicted our original suppositions, it is, in fact, consistent with a body of evidence from past studies that price differences are interpreted in terms of quality differences, as consumers frequently assume that price and quality are highly correlated: "you get what you pay for". It was also found that the perception of social and psychological risks significantly increases the feeling that manufacturers' brand prices are unfairly high. This phenomenon may be explained by the fact that social and psychological benefits are not important enough to make consumers willing to pay the higher prices. Past research studies have finally provided empirical evidence that promotional and advertising campaigns for manufacturers' brands can actually increase the feeling of unfairness because consumers know that these activities generate high costs, which consumers

regard as avoidable and unacceptable and yet expect to be passed on to them in the price. In so far as store brands are low-priced and barely advertised while manufacturers' brands are high-priced and heavily advertised, it would be surprising if consumers did not attribute their perceptions of the social and psychological risks associated with the former to the advertising budgets of the latter. Thus, consumers may believe that the social and psychological benefits of buying a manufacturer's brand do not represent genuine value for money, and consequently consider the price differential to be unfair.

Overall, these findings suggest that consumers perceive the higher prices of manufacturers' brands more favourably when the price inequality is interpreted in terms of quality and functional differences.

*Managerial implications*
First, retailers need to invest in the creation and maintenance of a positive SI in consumers' minds because it has a significant attenuating effect on the perceived risks of buying store brands.

Retailers must also base their choice of optimal strategies on what is known about potential customers' value-consciousness because that conditions the effectiveness of SI as a cue affecting perceptions of the store brands. In particular, investments in the functional attributes of the store will be worthwhile to the extent that a better image with respect to those choice dimensions will help to neutralise some of the functional and financial risks associated with store brands. Such functional appeals can be expected to be especially effective in the less value-conscious market segment. Store image will still an important and effective determinant of choice among more value-conscious consumers, but to a lesser extent. To strengthen the appeal to this valuable segment in terms of the functional and financial attributes of the store brand, we recommend retailers provide in-store information about products and pricing policy via point-of-sale and advertising.

Retail strategists should also take note that SI has different effects on the social and psychological risks associated with store brands across market segments. By stressing the basic utilitarian and practical aspects of the store, retailers can reduce perceptions of social risk among highly value-conscious consumers, but will not thereby reduce the perception of a psychological risk. Consequently, to manage that particular aspect of risk perception among the segment at which store brands are normally targeted, retailers need to focus beyond the functional dimension and pay special attention to other characteristics of the store.

Where the market segment characterised by low value-consciousness is concerned, SI is likely to be ineffective in reducing perceptions of social risk and effective in increasing perceived psychological risk. To those retailers who want to reach these consumers, we recommend allocate particular effort on motivating their choices by offering the prospect of conferred prestige or status. For example, by stressing other claims relating to user imagery may convey the psychological benefits that appeal mainly to less value-conscious consumers by helping them to construct their self-identity.

Our finding that the perceived functional and financial riskiness of store brands may lead consumers to reason that the premium prices of manufacturers' brands are not, in fact, unfair has important implications for both retailers and manufacturers. Actively promoting store brands as the cheaper alternatives may invoke the concomitant risks in

consumers' minds and, thereby, predispose them to acceptance of the premium-priced manufacturer brand.

To maintain their leadership positions, manufacturer's brands should maintain investments that contribute to the tangible product differentiation that is a dominant factor in perceptions of the fairness or unfairness of the price. Advertising campaigns could, for example, emphasise the functional superiority of the manufacturer's brand and, thereby, contribute to differentiation. It is also desirable to take steps to counter the popular belief that store brands are the re-packaged products of the main manufacturers and to make the case that producing a product in that category demands special expertise.

To minimise the belief, it was already noted that advertising campaigns are superfluous costs that are passed on to consumers, and the consequent perception of unfair pricing, communication must be combined with innovation directed at focusing consumers' minds on the risks associated with choosing the store brand alternative. In that respect, we are of the opinion that the most innovative manufacturers can feel less threatened by competition from stores' own brands because those will always be perceived as riskier alternatives unless they can, on their limited budgets, match the strengths of the manufacturer's brands.

*Future research implications*
This research has several limitations that also provide possible avenues for future research. First, caution is needed when drawing conclusions from the heuristic effect of SI because there is no check in the survey whether consumers use heuristics or a more elaborate information processing. Future studies could validate the theoretical arguments provided in this study by checking for the consumer's amount of processing. Second, the results obtained are only valid to the specific products and stores analysed. This may limit the generalizability of the results to other product categories and stores.

Furthermore, Stern *et al.* (2001) confirm that at least three distinct perspectives on SI are to be found in the definitions offered in the literature:

(1) functional;
(2) psychological; and
(3) complex gestalt.

These are accompanied by contrasting approaches to its measurement. In the study reported here, we adopted the functional perspective because attributes such as convenience, price and merchandise are of natural concern to consumers. Our results may, therefore, not be directly comparable with other studies that have adopted other perspectives.

Two significant consequences can be recognised. First, our measurement of SI is less powerful in capturing intangible and psychological attributes (such as friendliness, attractiveness of the décor and style of the store, atmosphere or congruence with self-image), which are also considered to be key components of SI in the seminal work of Martineau (1958). Later research – for example, that by Lindquist (1974) and Hopkins and Alford (2001) – has also emphasised the notion that SI consists of a combination of tangible-functional and intangible-psychological factors. If that is so, future studies need to take both classes of factor into account and examine the extent to which they exert different effects on the various categories of perceived risk.

Second, although there may be some commonality of attributes across retail sectors, their precise mix and relative importance may be determined by the motivation of consumers. Davies (1998) asserted that the factors that will be of concern in a particular context, such as grocery retailing, are very likely to be different from those in other retail sectors, such as department stores or fashion chains, where the intangible social and psychological attributes of a store's image may be more influential. Consequently, our findings may not be generally applicable to other sectors or types of shopping experiences, and future studies should take account of that fact.

To further confirm the unexpected positive relationship found between perceived price unfairness and both social and psychological risk, further research should incorporate into its conceptual framework such additional explanatory as perceptions of promotional and advertising expenditure.

A recent study by Goldsmith *et al.* (2010) suggests that buyers of manufacturers' brands generally limit themselves to that choice because they are more conscious of the significance of branding than buyers of store brands are. Therefore, the degree of engagement with brands could have affected the validity of our results. Future studies need to investigate if and how this kind of engagement with a brand affects the relationship between perceived risk and the price unfairness of manufacturers' brands because high-engagement consumers have been found to be less price-sensitive in their choice of favourite brands than their low-engagement counterparts.

Finally, the perception of store brands may and probably will vary across countries and cultures, which implies that cross-cultural comparative studies of store branding will be interesting. For instance, Steenkamp *et al.* (2010) have provided empirical evidence that the perceived quality gap between manufacturers' brands and stores brands tends to be smaller in North America and Western Europe than in the developing economies of Latin America, Eastern Europe and the Asia-Pacific region. Our own study could accordingly be extended beyond the present single source of data, Colombia in South America, to more countries in different stages of the store-brand life cycle and valid generalisations drawn.

### Note

1. The effect is calculated as $b = \dfrac{\partial\,Functional\ Risk}{\partial\,Store\ Image} = -0.241 + 0.037 \times - 1.301 = 0.289$. Because estimators were calculated with mean centred data, minus one SD of the consumer's value, consciousness is the level given for calculating the size of the effect at low levels of the moderator. Following Aiken and West (1991), the significance of b is calculated as $t = \dfrac{b}{b's\ standard\ error} = \dfrac{0.289}{\sqrt{(S_{\gamma 11} + 2 \times 0.037 \times s_{\gamma 11 \gamma 13} + 0.037^2 \times s_{\gamma 13}}} = -9.139$, where $s_{\gamma 11}$ is the variance of the parameter $\gamma_{11}$ (store image –> functional risk), $s_{\gamma 13}$ is the variance of the parameter $\gamma_{13}$ (store image x consumer's value consciousness –> Functional risk) and $s_{\gamma 11 \gamma 13}$ is the covariance between both parameters' estimators; all the information is extracted from the LISREL program's output.

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