

HOW STORE FLYER DESIGN AFFECTS PERCEIVED VARIETY OF RETAILERS' ASSORTMENT¹

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Abstract

Purpose – The purpose of this paper is to investigate the relationship between several aspects of store flyers design (presence of a institutional slogan, type of product (national brand (NB) or store brand (SB)) featured on the cover page, the size of the flyer, number of featured NBs, type of brand (NB vs. SB) on promotion, and price difference between the most expensive (NB) and the cheapest SB) and the consumer's perceived variety of the retailer's assortment, as a dimension of its global image.

Design/methodology/approach – A mixed laboratory experiment that combined a between-subjects experimental design and inter-subject conjoint analysis was conducted. A fictitious flyer from a fictitious supermarket was created that included both real national brands and fictitious store brands. Twelve scenarios (i.e., flyers) were tested using a sample of 406 participants.

Findings – Analysis suggests that longer flyers have the greatest influence on consumers' perceived variety of a retailer's assortment; a greater number of national brands in a category influenced consumers' perceptions positively, and featuring store brands on the cover enhanced perceived variety. If a retailer features store brands on a flyer's cover, longer flyers are recommended, and shorter flyers are recommended if national brands are featured on the cover. A retailer should promote its own brand only if the most expensive national brands are featured with store brands.

Research limitations/implications – This study analyses a single aspect of consumers' purchasing behaviors—variety of a retailer's assortment. Future research should examine other variables related to consumers' purchasing behaviors. This study uses an online

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context to test hypotheses, but many aspects of flyer design are physical. Future research should test current findings in offline contexts to compare results. Research should also explore moderation by consumer variables such as brand and store loyalty.

Practical implications – To researchers, we offer improved understanding of how a flyer’s design affects the first stage of purchasing. To practitioners, results offer better understanding of positive returns on investment of store flyers, and to retailers, results offer a guide to creating and organizing flyers.

Originality/value – This study is first to assess how a flyer’s design influences a dimension of store image. Unlike extant research that examines store flyers using econometric models at the aggregate level, this study uses a laboratory experiment that combines a between-subjects design with conjoint analysis.

Paper type: Research paper

Keywords: Store Flyer, Perceived Variety, Feature Advertising, Retailer

Introduction

Store flyers are paramount to marketing management and contribute to a retailer's performance (Ziliani and Ieva, 2015). Beyond retailers, consumer packaged-goods manufacturers, willing to pay to have their brands featured on flyers, are increasingly using store flyers as a primary vehicle to present their assortments, promote new products, and communicate price specials to consumers (Gázquez-Abad et al., 2014; Gijbrecchts et al., 2003). Store flyers therefore represent a form of quick-response, mass-media advertising (Woo et al., 2015) with a short-term sales objective (Burton et al., 1999) achieved through consumer acceptance (Swoboda et al., 2010). They are also demanding in terms of retailers' promotional decisions (Gijbrecchts et al., 2003), with considerable annual investments. In some countries (e.g., France and Italy), investments in store flyers were over 1 billion € in 2012, more than 50% of retailers' total marketing expenditures (Gázquez-Abad and Martínez-López, 2016). Similar percentages are reported for other European retailers (Infoadex, 2018). In the United States, the amount represented more than 65% of sectorial marketing budgets (Ziliani and Ieva, 2015).

Store flyers influence preferences and behaviors along stages of the buying cycle (Gázquez-Abad and Martínez-López, 2016; Mimouni Chaabane et al., 2010), but they have disparate time differentials (e.g., short, medium, and long). In the short term, most consumers purchase products that meet daily needs, with advertisements in a store flyer as a way to make consumers aware of both products being promoted and price reductions (or not), increasing intentions to visit and improve the flow of consumers in a store and encouraging consumption not only of promoted products, but also unpromoted ones (Burton et al., 1999; van Lin and Gijbrecchts, 2016). One way to meet medium- and long-term goals is to inform consumers about an assortment of products they can purchase at a store (Mimouni Chaabane et al., 2010), which fosters customer loyalty and associates with greater consumer satisfaction (Gázquez-Abad et al., 2015). Offering a wide variety of items is the traditional way retailers add value to assortment, but this traditional objective has been questioned by continual increases in operating costs and inventory management (Chang, 2011), and success of chains that reduce assortments at a good price (e.g., ALDI) (Oppewal and Koelemeijer, 2005).

Despite the economic importance of store flyers in retailers' communication budgets, few studies examine how to design a store flyer (cf. Gijbrecchts et al. 2003; Mimouni Chaabane et al. 2010; Luceri et al. 2014; van Lin and Gijbrecchts 2016).

However, neither of these works has focused on the influence of a flyer's design on the customer's perceived variety of the retailer's assortment. Since a retailer's assortment, especially hypermarkets' and big supermarkets', typically comprises a larger number of categories, products and items, both national brands and private labels, store flyers allow retailers to present dense information more naturally than most other advertising exposure, and there is therefore a need for more in-depth analyses of flyer designs that influence consumers' perceived variety of a retailer's assortment as a dimension of global image (Kunkel and Berry 1968; Lin Thang and Tan 2003). We thus use a mixed laboratory experiment that combines a between-subjects experimental design and inter-subject conjoint analysis. A fictitious flyer² from a fictitious retailer (i.e., supermarket) was created that included both real national brands (NBs) and fictitious store brands (SBs). Several characteristics of the flyer were manipulated, including the (1) presence of an institutional slogan, (2) type of product (NB or SB) promoted on the cover, (3) size of the flyer (i.e., number of pages), (4) number of featured NBs, (5) type of brand (NB versus SB) on promotion, and (6) price difference between the most expensive (NB) and cheapest (normally SB) brand. This method was applied to a sample of 406 shoppers, who after reading the experimental flyer, completed an online survey.

Findings from this study are relevant to both researchers and practitioners. To researchers, we offer improved understanding of how a flyer's design affects the first stage (i.e., looking for information) of purchasing. From a managerial perspective, both manufacturers and retailers can use these insights. To manufacturers, results offer better understanding of positive returns on investment from store flyers. To retailers, results offer a guide to creating and organizing flyers. That flyers have long-term effects on consumers is also an important issue, particularly in Spain, where the most successful supermarket channel, Mercadona, does not use this type of feature advertising, and whose performance is extraordinary (Delgado, 2017). However, other retailers appear incapable of profiting without flyers.

This study contributes to marketing literature in several ways. It is first to analyze how a flyer's design influences customers' perceived variety of a retailer's assortment, a dimension of store image. The study is a laboratory experiment, while most extant studies that assess store flyers use econometric models at the aggregate level (Gijsbrechts et al., 2003; van Lin and Gijsbrechts, 2016; Luceri et al., 2014). Although exceptions use

²A prominent art and advertising designer created the fictitious flyer for this study.

experiments (Gázquez-Abad et al., 2015; Mimouni Chaabane et al., 2010), this paper is first to combine a between-subjects design with conjoint analysis.

The rest of the article is organized as follows. Section 2 introduces the relevant background information on store flyers design that leads up to our research problem. The data and methodology to test these hypotheses are discussed in the section 'Methodology'. The section 'Results and Discussion' presents hypotheses testing and discuss main results. We conclude with conclusions of this study and discussions of its managerial implications, and limitations and directions for further research.

Conceptual background

Research suggests that store flyers influence intentions to visit, which affects buying advertised and unadvertised products (Burton et al., 1999), improves SBs' sales volumes (Gázquez-Abad and Martínez-López, 2016), and contributes to better margins and profits (Volle, 2001). However, most studies assess performance of store flyers in the short-term (Gázquez-Abad et al., 2014; Gázquez-Abad and Martínez-López, 2016; Gijsbrechts et al., 2003; van Lin and Gijsbrechts, 2016), and using this approach, it is easy to ignore long-term effects on dimensions of store image (e.g., perceived variety of a retailer's assortment), effects that are not well known (Oppewal and Koelemeijer, 2005). Consumer satisfaction with a product is influenced by the contrast between expectations derived from image and objective performance (Tse and Wilton, 1988), but few studies examine the most indirect element—the relationship between a flyer's design and perceived variety. Perceived variety and image represent primary attributes that consumers consider during analysis and valuation of a retailer (Chang, 2011; Diallo, 2012; Hoch et al., 1999; Juan Beristain and Zorrilla, 2011; Kahn and Wansink, 2004; Semeijn et al., 2004).

Store flyer design

The design of a store flyer involves three elements—the front cover, interior, and back cover. After consulting extant literature on flyer design, complemented by discussions with researchers, several criteria were selected. The cover of a flyer sends the first signal to customers. On the first page is an advertisement for an NB or SB. A retail company's slogan on the cover serves as an indirect signal of stronger brands, whereas the length of a flyer links to the size of a retailer's assortment. Since preferences are constructed immediately, these three factors send a message to consumers that affect perceived assortment positively. The other three criteria are part of a provider's strategy—the

number of NBs featured in the flyer, which enriches services offered besides SB products, the types of brands under promotion (e.g., 70% discount on a second unit),³ and the range of prices grouped by category (e.g., food, personal care, and home). These three aspects influence a retailer's image positively regarding selling a greater assortment of products. The back cover identifies the retailer.

Cover page (SB versus NB)

On the first page, retailers should use factors that influence consumers the most (Pentus et al., 2018). In the literature, brands are classified as strong or weak, depending on brand equity (Ho-dac et al., 2013), and the strongest brands (NBs) are often part of the choice set, are easier to remember, and attract more buyers than SB products do (Liu et al., 2018). Some authors argue that there is no difference between the degree of recall of SBs and NBs (Ieva et al., 2015), suggesting that consumers give some SBs the same degree of trust and perceived value as they do to NBs (Gázquez-Abad et al., 2015). The strength of a brand comes from both recall and recognition (Romaniuk and Gaillard, 2007), and the presence of NBs affects consumers' perceptions of a store's assortment's size (Lourenço and Gijsbrechts, 2013). Therefore:

H1: Promoting an NB on the cover page of a flyer has a greater influence on a consumer's perceived variety of a retailer's assortment than an SB does.

Presence of retailer slogan on the cover

Theory suggests that a slogan attracts attention and influences recall of a brand (Kohli et al., 2013), affects image (e.g., increases affinity and fidelity), expresses primary benefits (e.g., product quality, differentiated financial conditions, and variety) (Boush, 1993), affects existing beliefs, and increases consumer preferences and convictions regarding purchasing (Smith et al., 2008). Therefore:

H2: The presence of a slogan will have a positive influence on the consumer's perceived variety of the retailer's assortment.

Store flyer size

Hoch et al. (2002) and Luceri et al. (2014) argue that increasing the number of pages in a flyer is a signal to consumers regarding variety and has a positive effect on a retailer's

³ This is the most common format in Spain. Van Lin and Gijsbrechts (2016) report that in the Netherlands, the format is different; apart from showing the package and discounted price, a flyer also shows the regular price.

performance. Considering that a flyer is a vehicle that communicates image, a longer flyer allows a retailer to improve communication of the assortment and variety of its products (Luceri et al., 2014), making adjustment to consumers' needs and wants easier (Mimouni Chaabane et al., 2010). From a consumer perspective, the size of a flyer transmits a direct signal that a store has a wide assortment of products. Therefore:

H3: The number of pages in a flyer correlates positively with a consumer's perceived variety of a retailer's assortment.

Variety of featured brands

For better understanding and to enhance searching, flyers are commonly organized into sections—food, personal care, cleaning products, clothing, etc. Sections with greater rotation products (e.g., milk, yogurt, frozen pizzas, fruit juices, oil, shower gel, etc.) normally include several brands of the same product. Since brand strength is important during consumers' decision-making under uncertainty (i.e., purchases during which a product's quality is difficult to perceive) (Montgomery and Wernerfelt, 1992), a greater number of (national) brands increases perceptions of a retailer's assortment in the absence of other references (Mimouni Chaabane et al., 2010). Oppewal and Koelemeijer (2005) argue that even if the size (i.e., number of pages) of an assortment remains unchanged, the presence of NBs improves consumers' overall perceptions of the attractiveness of the assortment and its variety. Therefore:

H4: The number of NBs featured in a category correlates positively with a consumer's perceived variety of a retailer's assortment.

Type of brand in promotion

Findings conflict in the literature regarding results obtained from promotions developed by NBs and SB, and their effects on generating greater flows and influencing consumers' decisions (Gijsbrechts et al., 2003; Olbrich et al., 2017). Given the role of strong brands in the effectiveness of retail stimuli (Aqueveque, 2006), promoting NBs might send a positive signal to consumers that operates contextually, so consumers interpret that if a retailer promotes NBs, it is because it has a superior assortment than if it promotes its own brands. Hence:

H5: NBs promotions influence a consumer's perceived variety of a retailer's assortment greater than SB promotions do.

Price difference between items

(Simonson, 2008b) argues that just as a judgment is sensitive to the amplitude of an inferred stimulus, decision-making is sensitive to the amplitude of observed differences between stimulus alternatives. According to Biswas and Blair (1991), the influence of the magnitude of price difference in consumer behavior is explained by the contrast theory of assimilation (Sherif, 1963), in which consumers use a scheme of price range of acceptance when they must decide in contact with promotional advertisements, or through the acceptance level, in which a stimulus' judgment is performed by comparing the magnitude of perceived prices. There is no consensus in the literature regarding whether price is most important during image formation, at the stage of consideration, while choosing, or at the time of purchase. Nevertheless, price is relevant to consumers, and it therefore generates a contextual effect in the sense that a higher price range communicates greater assortment (Simonson, 2008b). Similar contributions have been proposed from attribute-based variety measures; perceived variety is smaller if items show less difference on relevant attributes (van Herpen and Pieters, 2002). Therefore:

H6: The price difference between products/brands correlates positively with a consumer's perceived variety of a retailer's assortment.

Methodology

To test the hypotheses, a conjoint study combined with a between-subjects experiment was conducted using the Internet. A conjoint design enabled us to isolate causal effects from evaluations of store flyers' design characteristics and obtain multiple observations from each respondent. Although researchers and practitioners increasingly use conjoint analysis (Gustafsson et al., 2007), using it combined with a between-subjects experiment is uncommon (Wuyts et al., 2009). The research approach was organized in two steps. During the first, a review of extant studies that analyze feature advertising in general and store flyers was conducted. A sample of store flyers distributed by the largest food retailers—hypermarkets, supermarkets, and discounters—that operate in Spain⁴ was identified. Both analyses provided primary aspects and levels of specifications included in this study. A fictitious retailer with a fictitious own brand was created, so bias due to consumers who participated in the experiment showing strong preferences for a retailer

⁴ Retailers included Carrefour, Alcampo (Auchan), Eroski, El Corte Inglés, El Árbol, Día and Lidl. Mercadona, the largest Spanish food retailer in terms of store area, does not print flyers since it follows an everyday-low-prices strategy.

and its own brands was avoided. National brands included in the flyers were real, selected according to market share. To enhance external validity and as Ainslie & Rossi (1998) recommend, we used two product categories—yogurt and gel.

Factors and levels were encoded in a pattern vector: (1) number of national brands featured among private labels (1=three national brands, -1=one national brand), (2) brands under promotion (1=national brand, -1=store brand), and (3) difference between the highest (national brand) price and the lowest (store brand) price (1=more than 20%, -1=less than 20%). Manipulation of the factorial design resulted in eight profiles (2³) and three second-order interactions (Yang and Draper, 2003) (Table 1). Based on information and characteristics collected during an exploratory study of real flyers, an arrangement was developed using procedures and instructions from Huertas-Garcia et al. (2016). The procedure allowed estimation of main effects and all two-factor interactions using the least number of profiles.

Table 1 – Assortment profiles (vector coding)

Profile	Main Factors			Second order interactions		
	F1 - N.º National Brands	F2 - Brand in promotion	F3 - Price difference range	F1 x F2	F1 x F3	F2 x F3
1	-1	-1	-1	+1	+1	+1
2	+1	-1	-1	-1	-1	+1
3	-1	+1	-1	-1	+1	-1
4	+1	+1	-1	+1	-1	-1
5	-1	-1	+1	+1	-1	-1
6	+1	-1	+1	-1	+1	-1
7	-1	+1	+1	-1	-1	+1
8	+1	+1	+1	+1	+1	+1

Similar to real flyers distributed in Spain, each page of the fictitious flyer used a product theme. Yogurt brands appeared under a snacks and pastries theme, and gel brands were presented under homecare and deodorant. Page 1 was the cover page, and the remainder of the pages contained other categories, including both NBs and SBs. Advertisements provided a picture of a promoted product, its brand name, a promotional technique, and a price (Appendix 1). Comparisons among pages in a store flyer are easy, but comparisons among different store flyers is more difficult for respondents. Since task difficulty is detrimental to the accuracy of results (Huffman and Kahn, 1998), we evaluate disparate designs of store flyers using a between-subjects experiment, which allows us to test whether different store flyer designs moderate people’s assessments. Table 2 describes the four scenarios, defined by three variables: (1) type of brand on cover page (i.e., NB versus SB), (2) including a slogan (e.g., “Better service, better deals”) (presence

or absence), and (3) number of pages in a store flyer (8 versus 20 pages). Respondents were assigned randomly to these four conditions.

Table 2 – Between-subject manipulations made on store flyers (vector coding)

# Scenario	Profile
1	National brand on cover page, not including slogan, 8 pages in the store flyer
2	Store brand on cover page, not including slogan, 20 pages in the store flyer
3	Store brand on cover page, including slogan, 8 pages in store flyer
4	National brand on cover page, including slogan, 20 pages in the store flyer

During a second step, a conjoint experiment was conducted. Such experiments involve a fractional factorial design that is arranged in blocks of two. Customer’s answers to the different stages of questions create a volume of variability that is not explained by the model that we want to adjust. Such variability is called consistency of the election (Louviere et al. 2008). Using blocks reduces the variability of people’s answers due to several circumstances (e.g., time between experiments, space, and personnel) (Rosenbaum, 1999). When researchers use blocks, they assume that block effects are additive, generating change only in dependent variable, and that there are no block-factor interactions (Yang and Draper, 2003). Following Huertas-Garcia et al. (2016), we use a design that groups the full factorial into blocks of two for each scenario. Four scenarios were considered, and inside of each, three blocks of two profiles were constructed (i.e., one each for yogurt and gel) for 12 alternative designs of flyers (Table 3).

Table 3 – Design of the experiment

Scenario 1: Brand in cover national, 8 pages, without slogan.									Scenario 3: Brand in cover retail, 8 pages, with slogan								
Block	Profile	F1	F2	F3	F1xF2	F1xF3	F2xF3	Product	Block	Profile	F1	F2	F3	F1xF2	F1xF3	F2xF3	Product
1	1	-1	-1	-1	+1	+1	+1	Yogurt	1	3	-1	+1	-1	-1	+1	-1	Yogurt
	7	-1	+1	+1	-1	-1	+1	Gel		5	-1	-1	+1	+1	-1	-1	Gel
2	2	+1	-1	-1	-1	-1	+1	Yogurt	2	4	+1	+1	-1	+1	-1	-1	Yogurt
	5	-1	-1	+1	+1	-1	-1	Gel		7	-1	+1	+1	-1	-1	+1	Gel
3	5	-1	-1	+1	+1	-1	-1	Yogurt	3	1	-1	-1	-1	+1	+1	+1	Yogurt
	8	+1	+1	+1	+1	+1	+1	Gel		4	+1	+1	-1	+1	-1	-1	Gel
Estimations U= 2 2 2 2 2 2 2									Estimations U= 2 2 2 2 2 2 2								
Scenario 2: Brand in cover retail, 30 pages, without slogan									Scenario 4: Brand in cover national, 30 pages, with slogan								
Block	Profile	F1	F2	F3	F1xF2	F1xF3	F2xF3	Product	Block	Profile	F1	F2	F3	F1xF2	F1xF3	F2xF3	Product
1	2	+1	-1	-1	-1	-1	+1	Yogurt	1	4	+1	+1	-1	+1	-1	-1	Yogurt
	8	+1	+1	+1	+1	+1	+1	Gel		6	+1	-1	+1	-1	+1	-1	Gel
2	3	-1	+1	-1	-1	+1	-1	Yogurt	2	1	-1	-1	-1	+1	+1	+1	Yogurt
	8	+1	+1	+1	+1	+1	+1	Gel		6	+1	-1	+1	-1	+1	-1	Gel
3	6	+1	-1	+1	-1	+1	-1	Yogurt	3	2	+1	-1	-1	-1	-1	+1	Yogurt
	7	-1	+1	+1	-1	-1	+1	Gel		3	-1	+1	-1	-1	+1	-1	Gel
Estimations U= 2 2 2 2 2 2 2									Estimations U= 2 2 2 2 2 2 2								

A sample of 5,426 individuals who expressed making purchases at home participated in an online experiment. Each participant received an explanatory message and request for participation, which was endorsed by two Spanish universities. The

message communicated the general objectives of the study without specifying concrete objectives to avoid conditioning respondents' answers. Participants were assigned randomly to each of 12 flyers, and they received a link that allowed access to a flyer and a questionnaire. Four hundred six⁵ complete responses were obtained, an average of 34 questionnaires per block/flyer design, with a minimum of 26 and maximum of 42. 78.6% of participants were female, 84.1% were between 26 and 40 years old, 86.2% held a Bachelor's degree, and 75.3% lived with another person.⁶ The study was conducted between September and November 2012. The dependent variable was consumers' perceived variety of a retailer's assortment, measured using Chowdhury, Reardon, & Srivastava (1998) scale (Table 4).⁷ All items were assessed on 7-point, Likert-type scales. Three items were subjected to confirmatory factor analysis using SPSS 21.0. Fit statistics (i.e., Cronbach's alpha coefficient, KMO, and Bartlett's test) supported internal consistency and dimensionality of items comprising the scale (Hair et al., 1998) (Table 4).

Table 4 – Dependent variable measures

	Component	Explained variance	Reliability α :	KMO	Bartlett's Test		
					Approx. Chi-Square	df	Sig.
It seems that this establishment has a great variety of products	0.884						
Everything I need seems to be at this establishment	0.841	73.93%	0.824	0.711	891.915	3	0.000
This establishment seems to have a wide variety of brands	0.853						

The perceived variety function is second-order polynomial model:

$$\mu = \beta_0 + \sum_{i=1}^q \beta_i X_i + \sum_{i=1}^{q-1} \sum_{j=i+1}^{q-1} \beta_{ij} X_i X_j + \sum_{m=1}^b \delta_m (Z_{um} - \bar{Z}_m) + \varepsilon$$

where μ is perceived variety of each treatment, β_0 a dummy variable that measures differences between yogurt and gel, β_i the values of the vector slope for each main factor, β_{ij} the interaction effects of the two factors, and δ_m a coefficient that reflects the block effect. Z_{um} is a dichotomous variable that equaled 1 if the u_{th} observation is in the m_{th}

⁵ This figure represents 7.5% of the initial sample.

⁶ More details about the sample are available from the authors.

⁷ Analyses provided in this paper are part of a larger research project. More details about the remainder of variables included on the questionnaire are available from the authors.

block, and \bar{Z} is the average of the dummy variables used to remove one and not make the coefficient matrix singular. \mathcal{E} is an error term.

Generalized linear regression was used to identify factors and scenarios with the greatest influence on consumers' perceived variety. Parameters were estimated using maximum-likelihood, and a robust covariance matrix estimator. A significant adjustment of the model was observed through a chi-square likelihood ratio of 382.86 (df=16, Sig.=<0.000). Since the coding used with the factors was a vector, β 's estimate represents the slope of the function. When it is positive, the higher the value, the stronger a consumer's perceived variety, and vice versa. Due to the experimental design, it was possible to estimate all main factors and two-factor interactions without confusion. All main factor effects would have been interpretable only individually if they had no significant interactions with other factors (Box et al., 2005).

Results and discussion

Table 5 shows final estimations after testing models in which non-significant variables were eliminated. Five of the six hypotheses and nine interactions were significant. The relationship (Y&G) between the two product categories, yogurt and gel, was non-significant, suggesting the external validity of the model. Regardless of whether the item featured on the cover page was an NB or SB, the flyer did not induce consumers to perceive greater or lesser variety in the retailer's assortment; H1 was not supported. Using a slogan communicated a positive signal to consumers, which they associated with a larger assortment ($\beta_{SL}=0.162$, Wald $\chi^2=10.04$, Sig.= 0.00). Therefore, H2 was supported. H3 was also supported ($\beta_{NP}=0.493$, Wald $\chi^2=86.97$, Sig.=<0.00), suggesting that the greater the number of pages, the greater a consumer's perceived variety of retailer assortment.

Table 5 – Test of the hypotheses about the perceived variety

Parameter	β	Hypothesis Testing	
		Wald χ^2	Sig.
N.º of national brands - F1	0.159	9.00	0.00
Brand in promotion - F2	-0.074	2.75	0.09
Price difference range - F3	0.129	6.44	0.01
F1 x F2	-0.081	2.90	0.09
F1 x F3	0.163	6.61	0.01
F2 x F3	0.096	3.83	0.05
Brand in cover - BC	-0,057	1,17	0,28
N.º Pages - NP	0.493	86.97	0.00
Slogan - SL	0.162	10.04	0.00
F1 x NP	-0.086	5.13	0.02
F1 x SL	0.119	4.43	0.04
F2 x NP	0.106	4.02	0.04
F2 x SL	0.084	3.31	0.07
F3 x NP	-0.184	11.14	0.00
F3 x SL	-0.113	8.88	0.00
Y&G	-0.031	0.37	0.55

Suggesting a positive influence of featuring NBs inside a flyer, H4 was supported ($\beta_{F1}=0.159$, Wald $\chi^2=9.00$, Sig. ≤ 0.00), which indicates that the greater the number of NBs featured in the flyer, the greater a consumer's perceived variety of retailer assortment. Promoting NBs associated negatively ($\beta_{F2}=-0.074$, Wald $\chi^2=2.75$, Sig. ≤ 0.09) in terms of perceived variety of assortment, so H5 was not supported. However, H6 was supported ($\beta_{F3}=0.129$, Wald $\chi^2=6.44$, Sig. ≤ 0.01), which suggests that the larger the featured price difference between an SB and the most expensive NB, the greater a consumer's perceived variety.

All two-factor interactions were analyzed exploratorily. Regarding interactions between content factors, number of NBs (F1), brands under promotion (F2), and difference in price (F3), and their influence on consumers' perceived variety, three interactions were significant. The interaction between a larger number of NBs featured on a flyer (F1) and NB special promotions (F2) resulted in a negative signal of perceived variety ($\beta_{F1 \times F2}=-0.081$, Wald $\chi^2=2.90$, Sig. ≤ 0.09). The interaction between the number of NBs featured (F1) and price difference (F3) communicated a positive signal of perceived variety ($\beta_{F1 \times F3}=0.163$, Wald $\chi^2=6.61$, Sig. ≤ 0.01). The interaction between NB special promotion (F2) and the price difference between the SB and the most expensive NB (F3) related positively to perceived variety ($\beta_{F2 \times F3}=0.096$, Wald $\chi^2=3.83$, Sig. ≤ 0.05).

Interactions between content factors (F1, F2 and F3) and flyer design, number of pages (NP), and the presence of a slogan (SL), and their influence on perceived variety, were also analyzed. Six interactions were significant. Interactions involving brands on the cover page (BC) were eliminated because they were non-significant and had the lowest significance among other interactions. Contrary to expectations, the interaction between the number of NBs (F1) and the number of pages (NP) communicated a negative signal ($\beta_{F1 \times NP} = -0.086$, Wald $\chi^2 = 5.13$, Sig. ≤ 0.02). An interaction between the number of NBs (F1) and the presence of a slogan on the cover page (SL) ($\beta_{F1 \times SL} = 0.119$, Wald $\chi^2 = 4.43$, Sig. ≤ 0.04) suggested synergy between these aspects.

The interaction of NB special promotion (F2) and flyer size (NP) affected perceived variety positively ($\beta_{F2 \times NP} = 0.106$, Wald $\chi^2 = 4.02$, Sig. ≤ 0.04). A similar positive result was obtained for the interaction between NB special promotion (F2) and the presence of slogan on the cover page (SL) ($\beta_{F2 \times SL} = 0.084$, Wald $\chi^2 = 3.31$, Sig. ≤ 0.07). Finally, a price difference (F3) suggested a negative interaction with two factors—flyer size (NP) ($\beta_{F3 \times NP} = -0.184$, Wald $\chi^2 = 11.14$, Sig. ≤ 0.00) and the presence of a slogan on the cover page (SL) ($\beta_{F3 \times SL} = -0.113$, Wald $\chi^2 = 8.88$, Sig. ≤ 0.00)—which suggests that these aspects counteracted each other.

Discussion

Regarding a flyer's cover page, results accord with Marco Ieva et al., (2015:48), who argue that “featuring SB is as effective as NB in terms of flyer space allocation.” This result might be a consequence of SBs being considered a brand at the same level as well-known NBs; consumers no longer differentiate the two groups of brands, at least not intensely. Similarly, results corroborate extant studies that suggest using slogans on cover pages to attract attention, reinforce recall, and affect a consumer's image of a retailer (Kohli et al., 2013; Smith et al., 2008). Flyer size had the strongest positive effect on consumers' perceived variety of retailer assortment, which corroborates extant studies (Luceri et al., 2014; Ziliani and Ieva, 2015). Whether these pages feature a greater number NBs, such perceived variety will also be stronger. According to Mimouni Chaabane et al. (2010), this is an intuitive conclusion, but the current study's negative result related to greater influence of perceived variety on promoting SBs suggests incompatibility between these two factors (i.e., featuring a greater number of NBs but promoting SBs). Findings support the idea that greater differences between the price of the SBs and the

most expensive NBs influence perceived variety positively (Gijbrecchts et al., 2003; Simonson, 2008a).

Results suggest that the aspects assessed in this study affect consumers' perceived variety of a retailer's assortment differently when they are simultaneously influenced by other aspects (i.e., interactions). The interaction between factors F1, F2, and F3 was surprising. We observed a negative interaction between the number of NBs being featured in a flyer (F1) and the NB under promotion (F2), suggesting that the positive influence from offering a greater number of NBs per category is offset partially when one brand is under promotion (e.g., buy 2 get 1 free). Therefore, it might be better to promote SBs if a store wants to improve consumers' perceived variety of its assortment while strengthening the availability of NBs, which represents consumers' traditional preferences (Gázquez-Abad and Martínez-López, 2016).

The second interaction underpins the roles of F1 and F3 in the sense that when both factors are met (i.e., a greater number of NBs are featured [F1] and there is a greater difference in price [F3]), a synergy of variety perceptions arises. Nevertheless, both factors communicate an indirect signal, so practitioners should consider them when improving a store's image. Although a greater number of NBs (F1), combined with a special promotion of NB (F2), generated a negative signal, the interaction between the latter and a price difference (F3) communicated a positive signal. In line with behavioral decision theory, this is an example of the framing effect (Fagley, 1993) and how it alters consumers' assessments. Thus, consumers respond disparately to diverse but objectively equivalent descriptions of the same problem (Kühberger, 1998). During independent analysis of main factors, consumers valued signals F1 and F3 similarly, but when they interact with F2 (i.e., an NB special promotion), the result was different.

During analysis of main factors, a greater number of NBs (F1) communicated positive signals of assortment variety perceptions, and a similar result was found during analysis of flyer size (NP) and use of a slogan (SL). However, in interactions of these factors, results suggested a different interpretation. The interaction between a greater number of NBs (F1) and use of a slogan was positive and generated greater perceived variety, but the interaction between F1 and NP was negative, suggesting that when promoting a store with a wide variety of items, a shorter flyer that displays a greater number of featured NBs should be used. The effect of NB special promotions (F2) was negative; promoting an SB might improve perceptions of assortment variability much

more than doing so for an NB. Contrarily, both a larger flyer (NP) and a slogan on the cover page (SL) affected perceived variety positively. Therefore, the result of the interaction was unexpected but suggests some correspondence between a special promotion of an NB and use of a first-page slogan (SL) in the case of a larger flyer and promoting SB with no slogan on the cover page for flyers with a small number of pages, whether a retailer desires to enhance consumer's perceived variety. Price difference (F3), flyer extension (NP), and a slogan on the cover page (SL) were positive regarding main effects, but counteracted during interactions. The negative value suggests contradictions between factors; a greater difference in prices between SBs and NBs in each category and absence of a slogan on the cover page of a short flyer improved consumers' perceptions of assortment variety, and the same result was obtained when a long flyer that had a slogan on the cover page featured brands with similar prices.

Conclusions, managerial implications and limitations

The goal of this research has been to examine the effect of several store flyers' design aspects on the shoppers' perceived variety of the retailer's assortment. The experimental results reveal some surprising and challenging conclusions though.

We find that longer flyers have the greatest influence on consumers' perceived variety of a retailer's assortment. A greater number of NBs in a category also influenced perceptions positively. These two findings are good for retailers since they can garner revenue from fees charged to manufacturers whose brands appear in an extensive flyer (Ieva et al., 2018). Advertising a greater number of manufacturers' brands helps retailers strengthen relationships among them. Results suggest that featuring a store's brand on the cover page enhances consumer's perceived assortment variety. Such advertising enables retailers to strengthen their image since including private label offers a flexible means to convey positive price positioning, which is an essential attribute of a retailer's store image in price-sensitive contexts (Volle, 2001), building store traffic (Burton et al., 1999) and thereby reinforcing store loyalty.

We argue that if a retailer features its own brands on the cover page, better results are obtained on longer flyers, but if NBs are used on the cover, shorter flyers are prudent. The latter finding is profitable to retailers since more extensive flyers increase featured promotion expenses. This conclusion also has environmental benefits since store flyers comprise large portions of household paper waste (Simon, 2016:12). Printing shorter

flyers, combined with an NB featured on the cover page, offers both social and environmental benefits. Once retailers decide on distributing a large flyer that contains SBs on the cover or a shorter one with NBs, they should promote their own brands only if the most expensive NBs are featured along with their brands. If NBs appearing beside private labels are similar in price (i.e., a small price difference), promoting them increases consumers' perceived variety of the retailer's assortment.

Limitations and future research

Several limitations arise from the study. The limitations derived from analyzing a single aspect of consumers' purchasing behaviors (i.e., perceived assortment variety) should be highlighted. Future research should assess variables related to purchasing behaviors, such as intentions to visit a store and buy. One limitation derives from the experiment being conducted in an online context. Many characteristics of store flyers relate to physical aspects. Future research should replicate this study in an offline context to compare results. Considering other design characteristics would also be prudent. Research should also explore moderation by consumer variables such as brand and store loyalty, differentiate popular and unpopular NBs, and include a greater number of product categories.

References

- Ainslie, A. and Rossi, P.E. (1998), "Similarities in choice behavior across product categories", *Marketing Science*, Vol. 17 No. 2, pp. 91–106.
- Aqueveque, C. (2006), "Extrinsic cues and perceived risk: the influence of consumption situation", *Journal of Consumer Marketing*, Vol. 23 No. 5, pp. 237–247.
- Biswas, A. and Blair, E.A. (1991), "Contextual Effects of Reference Prices in Retail Advertisements", *The Journal of Marketing*, Vol. 55 No. 3, pp. 1–12.
- Boush, D.M. (1993), "How Advertising Slogans Can Prime Evaluations of Brand Extensions", *Psychology and Marketing*, Vol. 10 No. 1, pp. 67–79.
- Box, G.E., Hunter, J.S. and Hunter, W.G. (2005), *Statistics for Experimenters: Design, Innovation, and Discovery*, 2a ed., John Wiley & Sons, Inc., Hoboken, New Jersey.

Burton, S., Lichtenstein, D.R. and Netemeyer, R.G. (1999), "Exposure to sales flyers and increased purchases in retail supermarkets", *Journal of Advertising Research*, Vol. 39 No. 5, pp. 7–14.

Chang, C. (2011), "The Effect of the Number of Product Subcategories on Perceived Variety and Shopping Experience in an Online Store", *Journal of Interactive Marketing*, Vol. 25 No. 3, pp.159–168.

Chowdhury, J., Reardon, J. and Srivastava, R. (1998), "Alternative Modes of Measuring Store Image: An Empirical Assessment of Structured versus Unstructured Measures", *Journal of Marketing Theory and Practice*, Vol. 6 No. 2, pp. 72–86.

Delgado, C. (2017), "Mercadona bate récord de ventas y beneficios y crea 4.000 empleos en un año", *El País*, available at:

https://elpais.com/economia/2017/03/02/actualidad/1488449317_920751.html.

Diallo, M.F. (2012), "Effects of store image and store brand price-image on store brand purchase intention: Application to an emerging market", *Journal of Retailing and Consumer Services*, Vol. 19 No. 3, pp. 360–367.

Fagley, N.S. (1993), "A note concerning reflection effects versus framing effects.", *Psychological Bulletin*, Vol. 113 No. 3, pp. 451–452.

Gázquez-Abad, J.C. and Martínez-López, F.J. (2016), "Understanding the impact of store flyers on purchase behaviour: An empirical analysis in the context of Spanish households", *Journal of Retailing and Consumer Services*, Vol. 28, pp. 263–273.

Gázquez-Abad, J.C., Martínez-López, F.J. and Barrales-Molina, V. (2014), "Profiling the flyerprone consumer", *Journal of Retailing and Consumer Services*, Vol. 21 No. 6, pp. 966–975.

Gázquez-Abad, J.C., Martínez-López, F.J., Mondéjar-Jiménez, J.A. and Esteban-Millat, I. (2015), "Mixed assortments vs. store brand-only assortments: The impact of assortment composition and consumer characteristics on store loyalty", *Revista Española de Investigación En Marketing ESIC*, Vol. 19 No. 1, pp. 24–45.

Gijsbrechts, E., Campo, K. and Goossens, T. (2003), "The impact of store flyers on store traffic and store sales: a geo-marketing approach", *Journal of Retailing*, Vol. 79 No. 1, pp. 1–16.

Gustafsson, A., Herrmann, A., and Huber, F. (2007), "Conjoint measurement: methods and applications, 4th ed., Springer: Berlin.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006), *Multivariate Data Analysis*, 6th ed., Pearson Prentice Hall, Upper Saddle River, NJ.

Ho-dac, N.N., Carson, S.J. and Moore, W.L. (2013), "The Effects of Positive and Negative Online Customer Reviews : Do Brand Strength and Category Maturity Matter?", *Journal of Marketing*, Vol. 77 No. November, pp. 37–53.

Hoch, S.J., Bradlow, E.T. and Wansink, B. (1999), "The Variety of an Assortment", *Marketing Science*, Vol. 18 No. 4, pp. 527–546.

Hoch, S.J., Bradlow, E.T. and Wansink, B. (2002), "Rejoinder to 'the variety of an assortment: An extension to the attribute-based approach'", *Marketing Science*, Vol. 21 No. 3, pp. 342–346.

Huertas-Garcia, R., Gázquez-Abad, J.C. and Forgas-Coll, S. (2016), "A design strategy for improving adaptive conjoint analysis", *Journal of Business & Industrial Marketing*, Vol. 31No. 3, pp. 328–338.

Huffman, C. and Kahn, B.E. (1998), "Variety for sale: Mass customization or mass confusion?", *Journal of Retailing*, Vol. 74 No. 4, pp. 491–513.

Ieva, M., Ziliani, C. and Gázquez-Abad, J.C. (2015), "Memory for Private Label Versus National Brand in Feature Advertising", *Advances in National Brand and Private Label Marketing*, Springer International Publishing, pp. 43–50.

Ieva, M., Ziliani, C., Gázquez-Abad, J.C. and D'Attoma, I. (2018), "Online versus Offline Promotional Communication. Evaluating the Effect of Medium on Customer Response", *Journal of Advertising Research*, in press (<http://www.journalofadvertisingresearch.com/content/early/2017/10/05/JAR-2017-040>).

Infoadex (2018), "Estudio de la Inversión Publicitaria en España en 2017", [Study of Advertising Investment in Spain in 2017], Retrieved July 5, 2018, from Infoadex's website: <http://www.infoadex.es/home/wp-content/uploads/2018/02/Estudio-InfoAdex-2018.pdf>

- Juan Beristain, J. and Zorrilla, P. (2011), "The relationship between store image and store brand equity: A conceptual framework and evidence from hypermarkets", *Journal of Retailing and Consumer Services*, Vol. 18 No. 6, pp. 562–574.
- Kahn, B.E. and Wansink, B. (2004), "The Influence of Assortment Structure on Perceived Variety and Consumption Quantities", *Journal of Consumer Research*, Vol. 30 No. 4, pp. 519–533.
- Kohli, C., Thomas, S. and Suri, R. (2013), "Are You In Good Hands? Slogan Recall: What Really Matters", *Journal of Advertising Research*, Vol. 53 No. 1, pp. 31–42.
- Kühberger, A. (1998), "The Influence of Framing on Risky Decisions: A Meta-analysis", *Organizational Behavior and Human Decision Processes*, Vol. 75 No. 1, pp. 23–55.
- Kunkel, J.H. and Berry, L.L. (1968), "A Behavioral Conception of Retail Image", *Journal of Marketing*, Vol. 32 No. 4, p. 21.
- Lin Thang, D.C. and Tan, B.L.B. (2003), "Linking consumer perception to preference of retail stores: An empirical assessment of the multi-attributes of store image", *Journal of Retailing and Consumer Services*, Vol. 10 No. 4, pp. 193–200.
- Liu, R.L., Sprott, D.E., Spangenberg, E.R., Czellar, S. and Voss, K.E. (2018), "Consumer preference for national vs. private brands: The influence of brand engagement and self-concept threat", *Journal of Retailing and Consumer Services*, Vol. 41, pp. 90–100.
- Lourenço, C.J.S. and Gijbrecchts, E. (2013), "The impact of national brand introductions on hard discounter image and share-of-wallet", *International Journal of Research in Marketing*, Vol.30 No. 4, pp. 368–382.
- Louviere, J., Islam, T., Wasi, N., Street, D. and Burgess, L. (2008) "Designing Discrete Choice Experiments: Do Optimal Designs Come at a Price?", *Journal of Consumer Research*, Vol. 35 No. 2, pp. 360-375.
- Luceri, B., Latusi, S., Tania Vergura, D. and Lugli, G. (2014), "The impact of store flyers on store performance: a format and customer related approach", *International Journal of Retail & Distribution Management*, Vol. 42 No. 3, pp. 219–234.
- Mimouni Chaabane, A., Sabri, O. and Parguel, B. (2010), "Competitive advertising within store flyers: A win-win strategy?", *Journal of Retailing and Consumer Services*, Vol. 17 No. 6, pp. 478–486.

- Montgomery, C.A. and Wernerfelt, B. (1992), "Risk Reduction and Umbrella Branding", *The Journal of Business*, Vol. 65 No. 1, pp. 31–50.
- Olbrich, R., Jansen, H.C. and Hundt, M. (2017), "Effects of pricing strategies and product quality on private label and national brand performance", *Journal of Retailing and Consumer Services*, Vol. 34, pp. 294–301.
- Oppewal, H. and Koelemeijer, K. (2005), "More choice is better: Effects of assortment size and composition on assortment evaluation", *International Journal of Research in Marketing*, Vol. 22 No. 1, pp. 45–60.
- Pentus, K., Ploom, K., Kuusik, A. and Mehine, T. (2018), "How to optimize sales flyers – novel experiment design", *Baltic Journal of Management*, Vol. 13 No. 2, pp. 191–208.
- Romaniuk, J. and Gaillard, E. (2007), "The relationship between unique brand associations, brand usage and brand performance: analysis across eight categories", *Journal of Marketing Management*, Vol. 23 No. 3–4, pp. 267–284.
- Rosenbaum, P. (1999), "Blocking in compound dispersion experiments", *Technometrics*, Vol. 41 No. 2, pp. 125–134.
- Semeijn, J., van Riel, A.C.R. and Ambrosini, A.B. (2004), "Consumer evaluations of store brands: effects of store image and product attributes", *Journal of Retailing and Consumer Services*, Vol. 11 No. 4, pp. 247–258.
- Sherif, C.W. (1963), "Social categorization as a function of latitude of acceptance and series range.", *Journal of Abnormal and Social Psychology*, Vol. 67 No. 2, pp. 148–156.
- Simon, F. (2016), "Consumer adoption of No junk mail stickers: an extended planned behavior model assessing the respective role of store flyer attachment and perceived intrusiveness", *Journal of Retailing and Consumer Services*, 29, pp. 12–21.
- Simonson, I. (2008), "Will I like a 'medium' pillow? Another look at constructed and inherent preferences", *Journal of Consumer Psychology*, Vol. 18 No. 3, pp. 155–169.
- Smith, R.E., Chen, J. and Yang, X. (2008), "The Impact of Advertising Creativity on the Hierarchy of Effects", *Journal of Advertising*, Vol. 37 No. 4, pp. 47–62.
- Swoboda, B., Elsner, S., Foscht, T. and Schramm-Klein, H. (2010), "Doing the Right Things and Doing the Things Right - Endorsers in Retail Store Flyer Advertising", *Advances in Consumer Research*, Vol. 37, pp. 594–595.

Tse, D.K. and Wilton, P.C. (1988), "Models of consumer satisfaction formation: an extension", *Journal of Marketing*, Vol. 25 No. May, pp. 204–212.

van Herpen, E. and Pieters, R. (2002), "The Variety of an Assortment: An Extension to the Attribute-Based Approach", *Marketing Science*, Vol. 21 No. 3, pp. 331–341.

van Lin, A. and Gijsbrechts, E. (2016), "The battle for health and beauty: What drives supermarket and drugstore category-promotion lifts?", *International Journal of Research in Marketing*, Vol. 33 No. 3, pp. 557–577.

Volle, P. (2001), "The short-term effect of store-level promotions on store choice, and the moderating role of individual variables", *Journal of Business Research*, Vol. 53 No. 2, pp. 63–73.

Woo, J., Ahn, J., Lee, J. and Koo, Y. (2015), "Media channels and consumer purchasing decisions", *Industrial Management & Data Systems*, Vol. 115 No. 8, pp. 1510–1528.

Wuyts, S., Verhoef, P. and Prins, R. (2009), "Partner selection in B2B information service markets", *International Journal of Research in Marketing*, Vol. 26 No. 1, pp. 41–51.

Yang, Y.J. and Draper, N.R. (2003), "Two-Level Factorial and Fractional Factorial Designs in Blocks of Size Two", *Journal of Quality Technology*, Vol. 35 No. 3, pp. 71–75.

Ziliani, C. and Ieva, M. (2015), "Retail shopper marketing: the future of promotional flyers", *International Journal of Retail & Distribution Management*, Vol. 43 No. 6, pp. 488–502.