Multi-tiered private labels portfolio strategies: Effects on consumer behavior

Abstract

Retailers wish to expand their standard private label (PL) adopting a multi-tiered portfolio. We study the effects produced by the introduction of two new PLs quality-tiers (economy and premium) on the market share of various national brands (NB; premium-quality and second-tier) and the standard PL. This study proposes a model that accommodates three effects (similarity, attraction and compromise) for understanding how the introduction of economy and premium PL may affect market incumbents. This study also analyzes the effects of introducing new PL quality-tiers for customer segments. Our results indicate that when economy and premium PL are introduced in the market, the choice probability of standard PL decreases, especially for high purchase quantity customers and PL loyal customers. In addition, introduction of a premium PL decreases the choice probability of second-tier NB and premium-quality NB, especially for PL loyal customers and high purchase quantity customers.

Keywords: Private label, National brand, Brand choice, Consumer behavior

INTRODUCTION

Private labels (PL), also known as store brands, constitute a strategic decision made by a retailer. In general, their market share has increased in the last decade and retailers are increasingly adopting a multi-tiered PL to differentiate from their competitors and to increase customer loyalty. Nowadays, a product is often offered with different PL to reflect different quality and price tiers (Ailawadi & Keller, 2004; Palmeira & Thomas, 2011). Apart from the traditional standard PL strategies (known as copycat PL or imitate PL), economy PL strategies and premium PL strategies also exist in the market (Gielens, 2012; Ter Braak et al., 2014).

These private labels portfolio strategies allow the retailer to satisfy the desires of more specific customer groups (Choi & Coughlan, 2006; Hökelekli et al., 2017). It is not any more about designing a segmentation strategy based on price (Srivastava, 2015; Olbrich et al., 2016), it is also about positioning in the market through a strategy based on quality (Kelting et al., 2017). In this new competitive scene, it is necessary to know the effects of introducing new PL quality-tiers. In other words, to understand how the introduction of economy and premium PLs affects not only the choice of the retailer's existing PL, but also the choice of national brands (NB) or manufacturers brands.

Following an extensive review of the PL literature, the majority of papers do not draw a distinction between different PL tiers (Keller et al., 2016; Hökelekli et al., 2017). These studies regard PLs as one group (e.g. Lamey et al., 2012; Steenkamp & Geyskens, 2014), or consider one specific PL tier (e.g. Sayman & Raju, 2007; Sethuraman & Gielens, 2014; Nenycz-Thiel & Romaniuk, 2016; Choi, 2017; Hara & Matsubayashi, 2017; Kelting et al., 2017). Although some studies are adopting a multi-tiered PL strategy (Table 1), the effects of introducing new PL tiers (economy and premium) on the customer brand choice (NB and standard PL) need to be further investigated. The main research in this sense was made by Geyskens et al. (2010), who suggest that their conclusions should be extended to other countries, retail formats, products' categories, and fundamentally customer segments, providing insights for retail executives in an increasingly competitive marketplace. There is therefore a gap of empirical research in this area we try to fill with our study.

PLACE TABLE 1 ABOUT HERE

With multi-tiered PL strategy, retailers can satisfy the heterogeneous nature of consumers, and further create differentiation compared to their competitors. These PLs portfolio strategies allow the retailer to offer different price-quality tiers and to segment the market to satisfy the desires of more specific customer groups. The goal of the retailer is not only to develop segmentation strategy based on price. They also want a positioning in the market through a strategy based on quality and the benefits provided to the customer. By offering multi-tiered PLs portfolio, retailers seek to increase their market share and margins, as well as improve their store image perceived by targeted consumers. However, with this strategy retailers also can cannibalize the current PL-NB offer that in the end causes erosion in category sales and profit. Therefore, from an

academic and managerial perspective, it is important to assess what is the impact of this further proliferation within PLs quality-tiers on consumer demand and on buying behavior of different customer segments.

As a result, the purpose of this research is to answer two questions. First, what impact does the introduction of two new PL quality-tiers (economy and premium) have on the market share of various NBs (premium-quality and second-tier) and the retailer's standard PL? Second, does the impact of two new PL quality-tiers on the market share of NBs and standard PL vary for different consumer segments (i.e., those with high versus low levels of PL loyalty and high versus low purchase quantity levels of PL?). Answers to this question will provide information to retailers on how the introduction of economy and premium PLs may affect the choice of an existing retailer PLs and NBs offering. It also allows analyze which customers are more suitable for different PL quality-tiers.

To sum up, our investigation offers contributions to the marketing literature in several ways. First, in line with Geyskens et al. (2010), it establishes several hypotheses on the effects that are the consequence of adding new PL quality-tiers to the portfolio strategies of a retailer. In other words, it analyzes how the introduction of economy and premium PL affects not only the choice of NB, but also the choice of the retailer's existing standard PL. Second, it explores the effects of introducing new PL quality-tiers for different customer segments (a question not studied to date) that were obtained from indicators of their PL loyalty and their purchase quantity for the product category.

THEORETICAL DEVELOPMENT

Nowadays retailers can offer the customer a wide range of brands. The PL portfolios strategies include (Kumar & Steenkamp, 2007): (a) economy PL, which refer to products at the lowest possible price and that are usually offered in only one size and

one variety; (b) standard PL, which imitate the main NB and is positioned as a medium quality alternative; (c) premium PL, which offer the same or a superior quality as NB. In this last case, the customer's concerns about the environment and the intake of ecological products, the demand of gourmet type products, the desire for products that are synonymous of good, and the need to have products that fulfil the need of new experiences (Chou & Wang, 2017), constitute an opportunity to segment PL.

The company under analysis in this investigation is a hypermarket chain in Spain. This company currently offers the customer choice options involving three PL tiers (standard, economy and premium) and two NB tiers (premium-quality NB and second-tier NB). Traditionally the company has had standard PL. In recent years it has incorporated to its portfolio strategy the economy PL and premium PL (Figure 1). The economy PL was introduced before the premium PL. Standard PL is positioned as equal price and quality as second-tier NB and premium PL is positioned as products with a high quality level. Finally, economy PL is introduced to satisfy the desires of different customer segments in a situation of economic crisis (Lamey et al., 2007). They offer a basic and acceptable quality level at the best price and present a quality level lower than standard PL and second-tier NB.

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Context effects of introducing PLs

An important issue in marketing is to understand how the introduction of a new brand into a market will be reflected in choice probabilities or market shares. Literature on context effects allows us to explain how news brands affect other brands that are already sold in the market. Context effects are among the most important and robust phenomena documented in behavioral research in marketing (Simonson, 1989; Kivetz et al., 2004).

Context effects imply that consumer preferences between choice options are influenced by which other products are in the choice set. Three context effects have been researched in marketing: the similarity effect, the attraction effect, and the compromise effect. However, these three effects need to be analyzed in the context of the interactions between PLs and NBs (Geyskens et al., 2010). Therefore, drawing on the context effects literature, we analyze how the introduction of economy PL and premium PL may affect the choice probability of an hypermarket's existing PLs and NBs offering.

Effects of introducing an economy PL

First we present the effects of introducing an economy PL when there are other competitors in the market: premium-quality NB, second-tier NB and standard PL. The marketing literature has investigated three effects (Simonson, 1989; Kivetz et al., 2004; Geyskens et al., 2010): *similarity, attraction and compromise*.

The *similarity effect*, also referred to as the substitution effect, predicts that adding an economy PL decreases the utility and, thus, the choice probability of products similar to it. In this investigation, the similarity effect does not operate along the quality-tier dimensions because economy PL extend the choice set along these dimensions through the addition of a new low-quality tier. With respect to the brand-type dimension, the similarity effect indicates that choice probability will decrease more for standard PL than for NB. We identify two possible explanations for this similarity. First, Geyskens et al. (2010) argue that similar products can be viewed as dividing the loyalty of a potential user. Thus, introducing an economy PL may merely lead to a customer "shift" (customers moving from one PL tier to another). Second, introducing an economy PL may even lead to a decrease in total PL market share by diluting the standard PL's quality image (Choy & Kim, 2013). Dilution of brand strength may arise

not only from a "step-down" effect but also from a "quality-variation" effect (Pullig et al., 2006). According to the "step-down" effect, the introduction of a product of inferior quality creates negative associations with the core brand (i.e., the standard PL) (Morrin et al., 2006). As for the "quality-variation" effect, it implies uncertainty as a new entry deviates from past experiences with the product (Choy & Kim 2013). The inconsistency between the new economy PL and the incumbent standard PL in terms of quality may cause customers to re-evaluate the standard PL, resulting in a less favourable evaluation of the standard PL than before the economy PL introduction (Geyskens et al., 2010). Thus:

Hypothesis 1: The introduction of an economy PL will cause a negative brand-type similarity effect, which decreases the choice probability of standard PL.

The *attraction effect* predicts that adding a new product enhances the utility and the choice probability of the most similar but relatively superior option (Geyskens et al., 2010). The standard PL is the option which is both most similar and superior to the economy PL, since both only differ in the quality dimension; whereas the second-tier NB is less similar, since it differs from the economy PL both in the quality level and in the brand-type dimension. Thus, the attraction effect predicts that the standard PL's utility will increase after the introduction of the economy PL. The theoretical justification for the attraction effect is that, when the customers have doubts about their preferences, they simplify the decision-making process by employing the new economy PL to make comparisons between products. In short, the attraction effect predicts the opposite outcome from the brand-type similarity effect (Geyskens et al., 2010), and it would be necessary to test which effect will dominate when a retailer introduces economy PL products. Therefore:

Hypothesis 2: The introduction of an economy PL will cause a positive attraction effect, which increases the choice probability of standard PL.

The *compromise effect* predicts that a product obtains a relatively larger choice probability when it becomes an intermediate option in the assortment after the addition of a new product. In this investigation, this implies that, as a result of the introduction of the economy PL, second-tier NB and standard PL will increase in utility and, therefore, choice probability because they become a compromise or middle option in the assortment on the quality-tier dimension (Geyskens et al., 2010). Therefore:

Hypothesis 3: The introduction of an economy PL will cause a positive compromise effect, which increases the choice probability of (a) second-tier NB and (b) standard PL.

Effects of introducing a premium PL

Below we present the effects of introducing a premium PL when there are other competitors in the market: premium-quality NB, second-tier NB, standard PL and economy PL.

The *similarity effect* can be analyzed with respect to brand-type and quality-tier. With respect to brand-type, the similarity effect predicts that the introduction of a premium PL will decrease the choice probability more for other PLs (economy and standard) than for NBs (Gielens, 2012). This effect can have different explanations (Geyskens et al., 2010). First, similar products can be viewed as dividing the loyalty of a potential customer. Second, because the retailers' PL expertise is centred on the sale of price-based products, to move toward strategies that are related to greater price and quality levels may not be believable to the customer, creating PL "fatigue" (Ter Braak et al., 2014). Third, the introduction of a premium PL increases "quality-variation" within the brand-type (Hökelekli et al., 2017). As "quality-variation" increases, the

customer is less able to consider PL as a signal of a given level of quality (Nevo & Bergh, 2017). Thus, the introduction of a top-quality premium PL can also adversely affect customer trust (Geyskens et al., 2010).

Hypothesis 4: The introduction of a premium PL will cause a negative brand-type similarity effect, which decreases the choice probability of (a) economy PL and (b) standard PL.

With respect to the quality-tier dimension, the similarity effect predicts that adding a premium PL will decrease the choice probability for the second-tier NB and premium-quality NB. Thus, Gielens (2012) finds that new products introduced by premium PLs are sometimes able to boost category sales, and to shrink NB rivals' shares. Therefore:

Hypothesis 5: The introduction of a premium PL will cause a negative quality-tier similarity effect, which decreases the choice probability of (a) premium-quality NB and (b) second-tier NB.

The *attraction effect* predicts that adding a premium PL will increase the choice probability of the superior option to which it is most similar (i.e., premium-quality NB). Customers are likely to place greater trust in premium-quality NB, due to the cumulative effect of past marketing-mix strategies. It is leading to higher choice probability of the premium-quality NB. In general, the attraction effect predicts the opposite outcome from the quality-tier similarity effect (Geyskens et al., 2010), and it would be necessary to test which effect will dominate when a retailer introduces premium PL products. Thus:

Hypothesis 6: The introduction of a premium PL will cause a positive attraction effect, which would increase the choice probability of premium-quality NB.

METHOD

Sample

The market share of PLs and the strategy of PLs quality-tiers varies according to the category of products (food, drugstore products, textile and fashion, sports, food and other products for pets, products for the automobile, health and beauty products, perfumery and cosmetic, electronics) and the type of retailer (e.g., generic versus specialized). We analyze exclusively "the food retailing sector", where both hypermarkets and supermarkets have a high market share in private labels. This hypermarket chain was selected because is one of the three largest retailer of food in Spain and one of the leading distribution groups in the world, with sales of $MM 74,149 (Kantar Retail's 2017 Top 50 Global Retailers). This distribution group not only operated with hypermarkets but also with supermarkets. Their PLs quality-tiers strategy is applied to both hypermarkets and supermarkets. This enables us to test our ideas in a representative retailer of the European market, which wish to expand their standard PL, adopting multi-tiered private labels portfolio strategies.

We employed a panel data with information provided by a hypermarket chain situated in Spain. Each purchase situation (observation) set in the panel has a code that identifies the customer and his/her socio-demographic characteristics (age, sex, social class and family size), as well as a wide range of information about the products' category and the purchase situation: purchased brand, sale format of the purchased brand, purchased quantity, sale price, whether or not the product was on promotion, assortment size, and date of the purchase. We grouped the purchases data by brand level. We chose the jam product category (marmalade, confiture). In the jam product category, PLs reach a market share in value of 48.9% in Spain (IRI Group, 2016). Considering the volume of sales, PLs have a market share of 64.4%. Given the high market share of the PLs in the jam product category, retailer do feel the need to

introduce three PLs quality tiers (economy, standard and premium), causing a shift in their assortments. These actions improve the consumer's shopping experience.

Thus, the study includes three PLs tiers (standard, economy and premium) and all NBs with a market share greater than 5%. The data set spans 187 weeks. Economy PL introduction occurred after 30 weeks. Premium PL was launched subsequently, the introduction occurred after 93 weeks. Two managers from the retailer classified the NBs in two quality levels: premium-quality (two NBs) and second-tier (two NBs). The other NBs were grouped under the category "other brands". We discarded those customers who did not purchase the selected brands at least ten times per year, as well as those customers for whom the selected brands did not represent at least 70% of their purchases in the product category. After employing these selection criteria, the sample is made of 254 customers who are representative (with regards to the socio-demographic profile) of the retailer's regular customer, as the company's management verified.

Research model

We employ a multinomial logit model. As in Geyskens et al. (2010) study, we incorporate control variables (Table 2). This leads to the following specification:

$$P(ijt) = \exp(Uijt) / \sum_j \exp(Uijt)$$

$$U(ijt) = \alpha_{ij} + \beta_{1i}COM_{econ_{jt}} + \beta_{2i}SIM_{typebAT\_econ_{jt}} + \beta_{3i}SIM_{typeb\_prem_{jt}} + \beta_{4i}SIM_{tierqAT\_prem_{jt}} + \gamma_{1i}LPUR_{ijt} + \gamma_{2i}PR_{jt} + \gamma_{3i}PROM_{jt} + \gamma_{4i}ASSOR_{jt} + \eta_{1i}OTHER\_econ_{jt} + \eta_{2i}OTHER\_prem_{jt}$$

Where

j = brand (NBp1, NBp2, NBs1, NBs2, standard PL, economy PL and premium PL)

P(ijt) = probability that customer i will choice brand j at the time t

U(ijt) = the utility of brand j at occasion t to customer i

By setting α_{NBp1} to zero, we can identify and estimate the mean utilities of all other brands relative to NBp1. Furthermore, SIMbtypeAT_econ, SIMbtype_prem, SIMqtierAT_prem, COM_econ, represent the similarity, attraction and compromise effects, which capture shifts in the relative utilities of incumbent brands after the introduction of a new PL tier.

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RESULTS AND DISCUSSION

We employ maximum likelihood to estimate the parameters α, β, γ and η, which are normally distributed. Table 3 presents the parameter estimates.

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A first finding for the economy PL introduction is that the (negative) brand type similarity effect in Hypothesis 1 always outweighs the possible (positive) attraction effect in Hypothesis 2. Thus, decreases the choice probability of standard PL. Second, in line with Hypothesis 3, the economy PL introduction exerts a positive and significant compromise effect, which is beneficial to the standard PL and to the second-tier NB.

A third finding is that the premium PL introduction produces the expected negative brand-type similarity effect (Hypothesis 4). This effect implies that the introduction of premium PL negatively affects the economy PL and the standard PL. Finally, with respect to the quality-tier similarity (Hypothesis 5) versus attraction (Hypothesis 6) effect following the premium PL introduction, we observe a predominance of the quality-tier similarity effect. Thus, in line with Hypothesis 5, the introduction of a premium PL causes a negative quality-tier similarity effect, which

decreases the utility of premium-quality NB and second-tier NB. Furthermore the findings in Table 3 show that the premium PL introduction decreases the choice probability of economy PL and standard PL significantly more than that of the premium-quality NB.

Estimation of alternative models[1]

We ran three other alternative models to increase confidence in the findings. First, to understand which of the two compromise effects in Hypothesis 3a and Hypothesis 3b dominates, we ran a model in which, instead of estimating brand-tier pooled compromise effects, we only allow shifts in the utilities of each set of brands (standard PL and second-tier NBs) after the economy PL introduction. We find positive effects on the utilities of the second-tier NBs. In contrast, the utility of standard PL is not significantly affected. This nonsignificant intercept shift for standard PL can be explained by a positive compromise effect being nullified by a negative brand-type similarity effect. In summary, the introduction of an economy PL causes a positive compromise effect, which increases exclusively probability of second-tier NBs.

Second, to understand which of the two similarity effect in Hypothesis 4a and Hypothesis 4b dominates we ran a model in which, instead of estimating brand-tier pooled similarity effects, we allowed shifts in the utilities of each set of brands (economy PL and standard PL) after premium PL introduction. We find negative effects on the utilities of standard PL and economy PL. Both effects are similar. In summary, the introduction of a premium PL will cause a negative brand-type similarity effect, which decreases the choice probability of both the economy PL and the standard PL.

Third, to understand which of the two similarity effect in Hypothesis 5a and Hypothesis 5b dominates we ran a model in which, instead of estimating quality-tier

[1] We ran three other alternative models for total sample and for different customer segments that were obtained from indicators of their PL loyalty and their purchase quantity for the product category.

pooled similarity effects, we allowed shifts in the utilities of each set of brands (premium-quality NBs and second-tier NBs) after the premium PL introduction. We find negative effects on the utilities of the second-tier NBs and premium NBs. However, the effects on the utilities of the second-tier NBs are superior to the effects on the utilities of the premium-quality NBs. In summary, the introduction of a premium PL will cause a negative quality-tier similarity effect, which implies a greater decrease in the choice of second-tier NBs than of the premium-quality NBs.

Analysis of customer segments

Existing PL research has focused on the role of customer characteristics as moderating factors the private label brand share-store loyalty link (e.g. Koschate-Fischer et al., 2014; Muruganantham & Pryadharsini, 2017). However, very little is known about the following research gap: does the impact of two new PL quality-tiers on the market share of NBs and standard PL vary for different consumer segments? Answers to this question will provide retailers with information regarding which customers are more critical to target with PL quality-tiers.

As a result, our research explore the effects of introducing new PL quality-tiers for different customer segments that were obtained from indicators of their PL loyalty and their purchase quantity for the product category. PL loyalty customers and high purchase quantity customers can be more inclined to appreciate economy and premium PL introduction. The awareness/familiarity, purchase quantity and perceived quality of PL loyal customers are keys in reducing the perceived risk and increasing perceived value of economy and premium PL (Girard et al., 2017; Reinders & Bartels, 2017). The PL loyal customers and PL high purchase quantity customers may have greater involvement with retailer, to be more sensitive to quality and willing to pay for PL. Thus, when economy and premium PL are introduced in the market, choice probability

of standard PL decreases, especially for PL high purchase quantity customers and PL loyal customers. In addition, introduction of a premium PL can decrease the choice probability of second-tier NBs and premium-quality NBs, especially for PL loyal customers and high purchase quantity customers (Hara & Matsubayashi, 2017; Hökelekli et al., 2017).

In short, we speculate that the effects (*similarity, attraction and compromise*) indicated in Hypothesis 1 to 6 are best modeled by using a range of customer segments. These effects are greater for PL loyal customers and high purchase quantity customers. Therefore this research contributes to practice analysing whether the effects of introducing economy and premium PL vary depending on the customer segment.

To determine PL loyalty we employ the following expression:

LT (ij) = N (i) / TOTAL (i)
LT (ij) = Loyalty-tier of customer i toward PL (j = PL)

N (i) = Number of product units purchased (with PL) by customer i
TOTAL (i) = Number of product units purchased (with PL and NB) by customer i
A customer is classified as PL loyal when LT (ij)>0.6.

We also use a new expression to assign a customer to the high purchase quantity segment:

PURCHASE QUANTITY (i) = TOTAL (i) / MEAN

PURCHASE QUANTITY (i) = Product purchase rate for customer i
TOTAL (i) = Number of product units purchased (with PL and NB) by customer i
MEAN = Average number of product units purchased (with PL and NB) by the sample individuals
A customer is assigned to the high purchase quantity segment when PURCHASE QUANTITY (i)>1.

Table 3 presents the results by customer segments. When an economy PL is introduced in the market, the negative brand-type similarity effect, proposed in Hypothesis 1, is greater for PL loyal customers and for high purchase quantity customers. Thus, it decreases the choice probability of standard PL, especially for PL

loyal customers. This conclusion supports the argument that suggests a strong competition between economy PL and standard PL, since both are product types that fit into the same kind of brand. A second conclusion for an economy PL introduction is that, as proposed in Hypothesis 3, the introduction of an economy PL exerts a positive and significant compromise effect that mainly benefits second-tier NBs. However, its impact is lower for high purchase quantity customers and for PL loyal customers.

On the other hand, the launch of a premium PL exerts a negative brand-type similarity effect, in line with Hypothesis 4. This implies that the introduction of a premium PL decreases the choice probability of economy and standard PL. This negative impact is greater for high purchase quantity customers and, mainly, for PL loyal customers. With respect to the quality-tier similarity effect, we observe that the introduction of a premium PL decreases mainly the choice of second-tier NBs and to a lesser extent for premium-quality NBs, in line with Hypothesis 5. Furthermore the findings in Table 3 show that the premium PL introduction decreases the choice probability of economy and standard PL significantly more than that of premium-quality NB. The impact of this quality-tier effect is greater for high purchase quantity customers and, especially, for PL loyal customers.

CONCLUSIONS

From an academic perspective our study responds to Geyskens et al. (2010) call for further research to examine whether their findings of "how introducing economy and premium PLs influences brand choice" can be extended to other countries, retail formats and products' categories. In this paper we have investigated the effects of economy and premium PL introduction on standard PL and NBs choice. We use data from a retailer for one product category over several years and estimate a multinomial logit model where we include context effects (similarity, attraction and compromise). In addition,

our research offers results to PL research exploring the effects of introducing new PL quality-tiers for different customer segments (a question not studied to date) that were obtained from indicators of their PL loyalty and their purchase quantity. Several important findings and contributions related to the marketing theory and real-world practice can be drawn.

THEORETICAL IMPLICATIONS

A first contribution of this paper is that it shows that standard PL lose market share when an economy PL is introduced as well as when a premium PL is introduced. More specifically, we find that economy PL cannibalise standard PL. Moreover, premium PL cannibalise to economy PL and standard PL. Following Geyskens et al. (2010), these finding are consistent with the "divided loyalty", but they also support the notion of "brand strength dilution through quality variation". On the one hand, introducing an economy or premium PL may merely lead to a customer "shift" (customers moving from one PL quality-tier to another). On the other hand, the introduction of an economy or premium PL increases "quality-variation" within the PL brand-type. As "quality-variation" increases, the customer is less able to consider PL as a signal of a given level of quality. Thus, the introduction of a top-quality premium PL can also adversely affect customer trust.

A second contribution of our investigation is that the economy PL introduction may benefit to the second-tier NBs because there are middle options in the retailer's assortment on the quality-tier dimension. The introduction of a premium PL also decreases the choice of second-tier NBs and to a lesser extent the choice of premium-quality NBs, because of the negative quality-tier similarity effect. Furthermore, premium PL introduction decreases the choice probability of economy and standard PL significantly more than that of premium-quality NB.

Finally, a third contribution of this study, which has not been analyzed by any previous investigation, is that we carry out an empirical analysis that tries to understand how the effects of introducing economy and premium PL vary depending on the customer segment. Thus, from the results of our investigation several contributions can also be drawn. On the one hand, when economy and premium PL are introduced, the choice probability of standard PL decreases, especially for high purchase quantity customers and PL loyal customers. On the other hand, the economy PL introduction increases the choice probability of second-tier NBs, especially for PL loyal customers and high purchase quantity customers. Furthermore, the introduction of a premium PL will cause a greater decrease in the choice of second-tier NBs than of the premium-quality NBs, especially for PL loyal customers and high purchase quantity customers. In addition, PL loyal customers and high purchase quantity customers are more inclined to appreciate economy and premium PL introduction.

MANAGERIAL IMPLICATIONS

The retailers, can position their economy PL as discount brands, creating stand-alone brand names (i.e. pseudo-brands) instead of brands under the retailer brand name (umbrella brands), and using different and prominent shelf areas, showing only discount products. This could make the direct price comparison of the PL quality-tiers more difficult for the customer. These marketing strategies not only try to reduce the cannibalising effects, but also try to help the retailer attract new segments of customers that are likely to purchase lower priced products and, thus, increase share of wallet and share of shopping trips or store traffic.

Furthermore, for the retailer, premium PL introduction may cause two beneficial effects that compensate for the cannibalisation of the standard PL: (1) more high unit margins on the premium PL itself and (2) it represents an investment in quality and

image that facilitates the retailer's differentiation and creates loyalty to PL. Overall it may produce greater customer loyalty for retailers, which implies that the retailer indeed strengthened its bargaining position vis-à-vis NBs manufacturers. In summary, the retailer can compete by introducing premium PL that offers the customer new products, experiences and concepts that national brand manufacturers do not offer. If retailers are able to produce premium-PL products that offer something different, unique or new to a category, they will obtain greater market share and better performance.

Finally, indicate that before cutting back NBs in favor of PLs it is also important to examine the effects of the introduction of different PLs quality-tiers (premium PL or economy PL) on share of wallet and store traffic or category sales, retail margins and revenue and profits. For example, a manufacturer that can obtain economies of scale will reduce his/her costs by producing large quantities of product. Excess production may then be negotiated with a retailer so that the latter could introduce an economy PL in the market and gain share from others competitors such as shops discount. On the other hand, premium PL could be employed to generate higher retail margins provided that the product category does not have NBs that offer the desired value to customers. For example, if the customer wants a variety of product in a new packaging and with other flavours and ingredients not offered by any NB, the retailer can launch a premium PL so that he/she can obtain sales and profits from this premium PL while maintaining the sales and benefits derived from the premium-quality NBs.

In any case, we should not forget that the threat of introducing PLs can be used to negotiate better retail margins with second-tier NBs and premium-quality NBs manufacturers. Thus, the cannibalization between premium PLs and NBs (second-tier premium-quality) could be avoided without risking the retailer's benefits. Furthemore

retailers also analyze whether or not a higher turnover of second tier or premium-quality NBs could offset the lower retail margin.

LIMITATIONS AND OPPORTUNITIES FOR FUTURE RESEARCH

Based the previous conclusions, we notice the possibility of developing several future investigations, most of which are consequences of the limitations of our study.

First, to analyze the issues raised in this paper in other geographical areas, other category of products (drugstore products, textile and fashion, sports, food and other products for pets, products for the automobile, health and beauty products, perfumery and cosmetic, electronics), other types of retailers (e.g. service-oriented and value oriented retailers) and customer segments (e.g. customers with higher versus lower involvement product category and customers with greater versus less conscious about price an value), and to study how category characteristics (e.g. utilitarian and hedonic products) affect the number of PL quality-tiers offered by retailers, can help generalise the obtained conclusions.

Second, in our investigation, the economy PL had been introduced before the premium PL. Modifying the entry order of the new PL quality-tiers or introduce only one additional category of PLs (economy or premium) could influence the estimation and interpretation of (similarity, attraction and compromise) effects. Hence, more studies on this topic are needed. For example, new studies could answer the following questions: what if the premium PL is introduced before that the economy PL? What if the retailer only wishes to introduce either premium PL or economy PL? What is the better option?

Finally, further research could enrich findings and improve the paper. For example, is not only interesting to analyze the effects of the introduction of economy and premium PLs on brand choice, but it is also important to carry out investigations to

examine the effects of the introduction of different PLs quality-tiers on share of wallet and store traffic or category sales, retail margins and revenue and profits. Also it would be advisable to study the specific effects of changes in marketing strategies (price, promotion and assortment) after the introduction of economy and premium PL and how these changes are perceived.

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FIGURE 1
Private Label (PL) and National Brand (NB) (Portfolio Strategy)

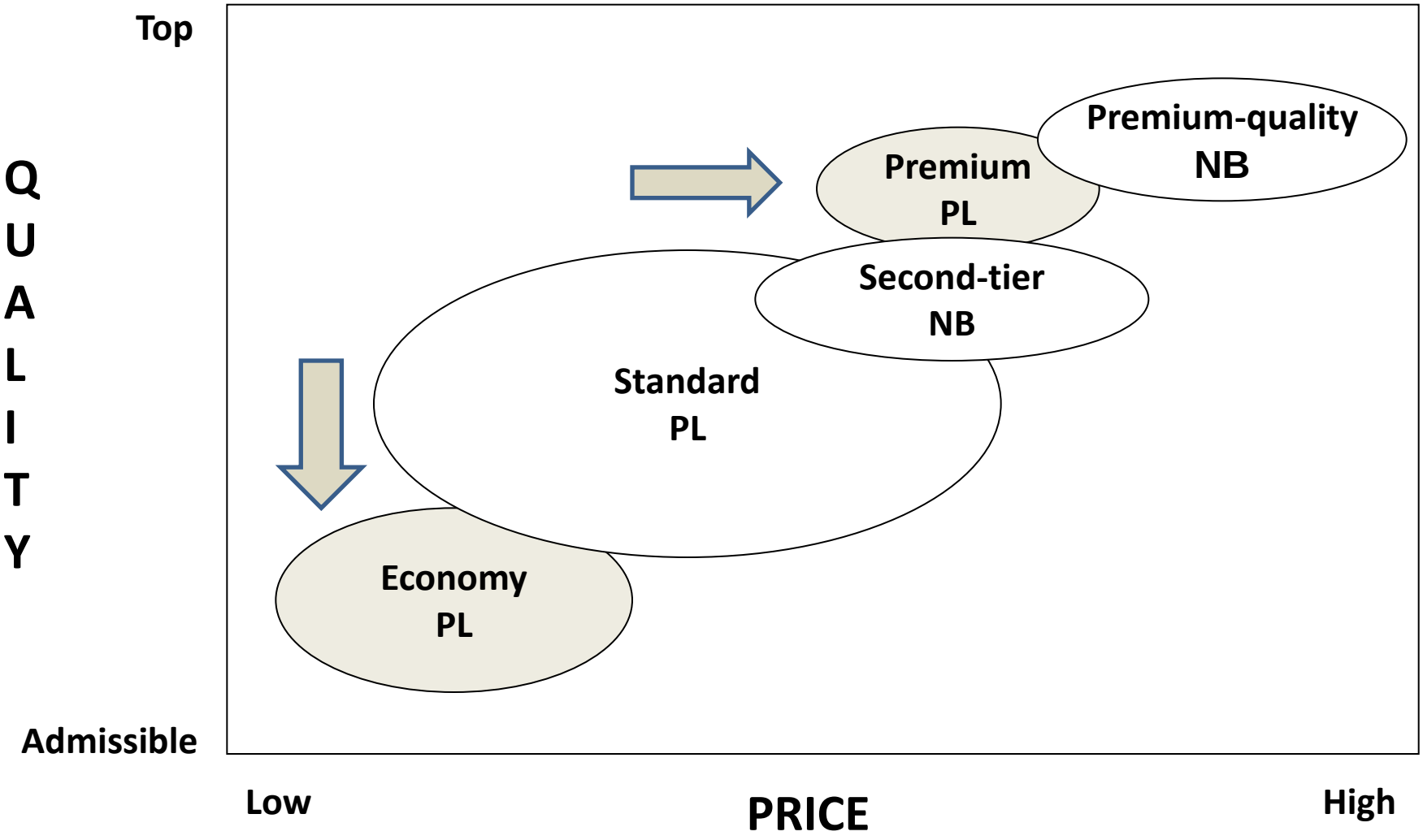

TABLE 1
Review of Research on Multi-tier PL Strategy

Publication	Research objective
Geyskens et al. (2010)	Investigates how the introduction of economy and premium PL may affect the choice of mainstream-quality and premium-quality national brands and the choice of the retailer's existing PL offer.
Palmeira & Thomas (2011)	Investigates a recent trend in the retail industry: the emergence of multi-tier PL. The study contrast consumers' expectations in a retailing context in which a single PL is present to one in which two PL are offered in the same category.
Gielens (2012)	Investigates the impact of PL and NB introductions on category sales and the share of the top-3 NBs and the three PL tiers (economy, standard and premium).
Ter Braak et al. (2013)	Investigates how new realities in the PL landscape, including differential PL-sourcing relationships and differentiated, three-tiered PL portfolios, affect the gross margins that retailers realize on their PLs.
Ter Braak et al. (2014)	Investigates how various category characteristics affect retailers' proneness to introduce a premium PL variant in a category next to their standard PL.
Schnittka (2015)	This paper analyze the moderating impact of store, category, and PL characteristics on consumer preferences for premium versus economy PLs.
Keller et al. (2016)	Investigates the drivers and performance implications of retailers' branding strategies for their premium and economy private label tiers.
Hökelekli et al. (2017)	Investigates the impact of PL (economy, standard and premium) proliferation and pricing on consumer demand and derive profit implications for different scenarios: (i) dropping or adding a line within a PL tier and (ii) changing the PL tier prices.
Sutton-Brady *et al.* (2017)	A key contribution of this study has been to highlight the ability of supermarket chains to increase existing dominance by utilizing their ever-increasing PL portfolio. Investigates the effect these PL have had on the relationship between the supermarkets and their suppliers (manufacturers).
This paper	Investigates how the introduction of economy and premium PL affects NB and standard PL for different customer segments (a question not studied to date) that were obtained from their PL loyalty and purchase quantity.

TABLE 2
Measurement of Variables Used in the Empirical Investigation

VARIABLE	MEASUREMENT
W_{econ}	Introduction week of the economy PL
W_{prem}	Introduction week of the premium PL
NBp	National brand (quality-premium)
NBs	National brand (second-tier)
Effects	
SIMbtypeAT_econ	Similarity effect on the brand-type dimension (-) or attraction effect (+) for the economy PL introduction. It is equal to 1 for j=standard PL and $t \geq W_{econ}$ and 0 otherwise
COM_econ	Compromise effect on the quality-tier dimension (+) for the economy PL introduction. It is equal to 1 for j=NBs1, NBs2 or standard PL and $t \geq W_{econ}$ and 0 otherwise
SIMbtype_prem	Similarity effect on the brand-type dimension (-) for the premium PL introduction. It is equal to 1 for j=standard PL or economy PL and $t \geq W_{prem}$ and 0 otherwise
SIMqtierAT_prem	Similarity effect on the quality-tier dimension (-) or attraction effect (+) for the premium PL introduction. It is equal to 1 for j=NBp1, NBp2, NBs1 or NBs2 and $t \geq W_{prem}$ and 0 otherwise
Control Variables	
$LPUR_{ijt}$	Last purchase. It is equal to 1 when customer also bought brand j on the previous shopping trip and 0 otherwise
PR_{jt}	Price for brand j on shopping trip t
$PROM_{jt}$	Promotion for brand j on shopping trip t (price discount). It is equal to 1 if brand j is on promotion on shopping trip t and 0 if otherwise
$ASSOR_{jt}$	Logarithm of assortment size (number of stock keeping units available) for brand j on shopping trip t
$OTHER\_econ_{jt}$	Dummy variable equal to 1 for j=other brands and $t \geq W_{econ}$ and 0 otherwise
$OTHER\_prem_{jt}$	Dummy variable equal to 1 for j=other brands and $t \geq W_{prem}$ and 0 otherwise

TABLE 3
Multinomial Logit Model for the Entire Sample and by Customer Segments

VARIABLES	COEFFICIENTS		
	GLOBAL MODEL	HIGH LOYALTY	HIGH PURCHASE QUANTITY
EFFECTS			
Economy PL introduction			
• Brand-type similarity effect (-) *versus* attraction effect (+)	**- 0,432** (*- 4,81*)	**- 0,487** (*- 5,12*)	**- 0,596** (*- 7,35*)
• Compromise (+)	**0,212** (*2,34*)	**0,189** (*1,98*)	**0,190** (*2,00*)
Premium PL introduction			
• Brand-type similarity effect (-)	**- 0,297** (*- 3,96*)	**- 0,388** (*- 4,67*)	**- 0,369** (*- 4,22*)
• Quality-tier similarity effect (-) *versus* attraction effect (+)	**- 0,253** (*- 3,69*)	**- 0,344** (*- 4,75*)	**- 0,326** (*- 4,26*)
BRAND CONSTANTS			
Standard PL	**- 2,918** (*- 7,86*)	**- 2,245** (*- 6,74*)	**- 2,813** (*- 7,25*)
Economy PL	**- 3,567** (*- 9,29*)	**- 2,932** (*- 8,96*)	**- 3,456** (*- 9,04*)
Premium PL	**- 1,963** (*- 6,38*)	**- 1,612** (*- 5,66*)	**- 1,894** (*- 6,17*)
NBp1	BASE	BASE	BASE
NBp2	**- 2,135** (*- 7,26*)	**- 2,104** (*- 7,12*)	**- 2,128** (*- 7,16*)
NBs1	**- 3,146** (*- 8,40*)	**- 3,252** (*- 8,61*)	**- 3,198** (*- 8,60*)
NBs2	**- 3,414** (*- 9,14*)	**- 3,483** (*- 9,27*)	**- 3,484** (*- 9,29*)
Other brands	**- 3,738** (*- 9,86*)	**- 3,792** (*- 9,98*)	**- 3,799** (*- 9,88*)
CONTROL VARIABLES			
Last purchase	**1,668** (*9,53*)	**1,896** (*6,36*)	**1,721** (*9,58*)
Price	**-11,567** (*- 9,93*)	**-11,478** (*- 9,45*)	**-12,849** (*- 8,25*)
Promotion	**0,876** (*4,61*)	**0,801** (*4,22*)	**0,995** (*4,07*)
Assortment size	**0,655** (*2,29*)	**0,623** (*2,14*)	**0,668** (*2,35*)
Shift in "other brands" coefficient after economy PL introduction	**- 0,197** (*- 2,01*)	**- 0,188** (*- 1,98*)	**- 0,191** (*- 2,00*)
Shift in "other brands" coefficient after premium PL introduction	**- 0,146** (*- 1,75*)	**- 0,134** (*- 1,61*)	**- 0,131** (*- 1,58*)
Goodness of fit (ρ^2)	0,53	0,42	0,48