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The impact of private labels on consumer store loyalty: An integrative perspective

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ABSTRACT

This research studies the role of private labels (PLs) on consumers' store loyalty. It offers an integrative approach that comprises several store loyalty drivers (in-store and economic factors), analyzing the role that PLs play among different types of retailers. Data were collected through an online survey. Using structural equation modeling, we run our analysis across different retail formats, assessing which factors lead to store loyalty and to what extent PLs contribute to it. Findings suggest that depending on retailers' market positioning, different factors contribute to loyalty and that the impact of PLs is mostly significant for medium-cost and premium supermarkets.

1. Introduction

Private labels (PLs) have been gaining increasing importance throughout the world (Sethuraman and Gielens, 2014) with store brands being present in almost every product category (Geyskens et al., 2010; Nielsen, 2014). Some of the advantages referred to explain this phenomenon is that private labels offer retailers a mechanism to reach differentiation in the consumers' market by providing a set of distinctive products to its customers (Sayman et al., 2002), as well as to help retailers strengthen consumer loyalty (Ailawadi et al., 2008; Corjstens and Lal, 2000). However, despite all the previous research on this topic, the relationship between private labels and store loyalty is still quite uncertain (Martos-Partal and Gonzaléz-Benito, 2011; Seenivasan et al., 2015) and can be quite complex (Koschate-Fischer et al., 2014).

In the present research we aim to address this gap, following an integrative approach to determine the level of importance of private labels loyalty on store brands loyalty. We include in our model not only the consumers' loyalty towards the private labels, but also control for other factors that can significantly influence consumers' store loyalty and that are not so commonly analyzed: a variety of in-store driven factors (e.g., stores' convenience, and stores' appearance, Maruyama and Wu, 2014), as also several economic factors (e.g., store pricing policy and store loyalty programs; Bridson et al., 2008). Moreover, because each retailer can invest in specific differentiating factors, we run our analysis across different types of retailers, following a classification that combines both pricing policies as well as levels of services offered (Low-cost: EDLP strategy, minimum level of services-; Medium-cost: hi-low pricing strategy, medium level of services; and Premium: high pricing policy, high level of services), in order to assess which factors lead to store loyalty and to what extent PLs contribute to them. To the best of our knowledge, no previous studies adopted before such an integrative perspective when analyzing the impact of PLs on consumers store loyalty.

2. Theoretical background

2.1. Store loyalty

Regarding the conceptualization of store loyalty, there is no universal agreement on its definition (Blut et al., 2007; Kumar and Shah, 2004), with customer loyalty remaining a topic of great interest for companies (Martos-Partal and González-Benito, 2013). While some authors propose it can be measured focusing on consumers' intentions to continue purchasing (Meyer-Waarden, 2015; Sirohi et al., 1998), others suggest it can also be measured focusing on consumers' behavioral characteristics as frequency of store visits or relative volume spent (Ailawadi et al., 2008; Bustos-Reyes and González-Benito, 2008; Seenivasan et al., 2015).

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Moreover, loyalty is also often defined as a pattern of repeated purchase behavior of a specific brand that can lead to the development of a relationship with it (Blut et al., 2007), generating purchase routines. Despite all efforts from previous studies interested in analyzing the store loyalty construct and factors that lead to it, the findings so far are not conclusive (Martos-Partal and Gonzaléz-Benito, 2013; Meyer-Waarden, 2015).

In the present research we define store loyalty as the propensity for consumers to use a store with this propensity translating simultaneously into consumers' both attitudinal and behavioral characteristics (Blut et al., 2007), building on Oliver (1999) four-stage loyalty model.

2.2. Store loyalty driving factors

A set of store loyalty driving factors is related with specific characteristics of the stores. In fact, product assortment, location service quality, and store atmosphere, can also affect consumers' store evaluations and store choices (Maruyama and Wu, 2014; Mesquita and Lara, 2007; Pan and Zinkhan, 2006). We build on this idea and include in our integrative analysis, six of the most commonly cited in-store factors: (1) *appearance and environment* of the store, typically associated with store comfort and its physical aspects, such as its layout (Dabholkar et al., 1996; Shukla and Babin, 2013); (2) *store convenience*, which encompasses store characteristics that facilitate consumers interaction with it such as delivery services and multi-payment alternatives (Dabholkar et al., 1996; Orel and Kara, 2014; Maruyama and Wu, 2014); (3) *store employees*, often considered as a main motivating factor for consumers to visit stores (Odekerken-Schroder et al., 2001) and that help strengthen consumers' confidence in the supplier; (4) *merchandising quality perception,* influenced by the assortment characteristics (e.g., number of brands and type of products offered; Briesch et al., 2009; Maruyama and Wu, 2014); (5) *service quality*, which includes an adequate and proactive employees response to consumers' needs and directly influences customer satisfaction and shopping experience (Odekerken-Schroder et al., 2001; Martos-Partal and Gonzaléz-Benito, 2013), and finally (6) *social groups*, which refer to consumers' level of empathy and recognition with the *other* consumers that share the store environment (Wood and Hayes, 2012), and that have been suggested to play a role when choosing in which store to shop (Child et al., 2002).

Additionally, previous studies have identified that there are also economic drivers that can influence consumers' store choice (Meyer-Waarden, 2015; Nagengast et al., 2014). Four economic factors seem to be of special relevance in terms of ability to influence customers' loyalty. First, the importance of stores *pricing policy* as a determinant factor of loyalty is well documented (Bell et al., 1998), with prices having a negative influence on store choice (Pan and Zinkhan, 2006), being critical that stores are aligned with customers' pricing expectations in order to enhance loyalty (Dabholkar et al., 1996; Koschate-Fischer et al., 2014). Second, *switching costs*- the inherent cost associated with switching to a different store- are also reported by several studies as potential store loyalty influencing factor (Blut et al., 2014; Jones et al., 2000; Nagengast et al., 2014; Tsai et al., 2010), including a high variety of costs such as new product adoption costs, shopping/search costs, and psychological costs (Dubé et al., 2009). Third, also the influence of *loyalty schemes* on store loyalty is often referred as a potential critical driving-factor (Bridson et al., 2008; Demoulin and Zidda, 2008; Dorotic et al., 2012). Loyalty rewarding programs, based on collection and redemption rules (Meyer-Waarden, 2015) and/or frequency reward programs (Dorotic et al., 2012), offer retailers the opportunity to accelerate consumers' loyalty life cycle (Liu, 2007), encouraging enduring repeat purchase. Finally, also store *promotional policies* can act as short-term loyalty instruments, since the promotional mix of products offered by stores can influence store patronage (Martos-Partal and Gonzaléz-Benito, 2013), affecting consumers' store perceived value (Maruyama and Wu, 2014).

2.3. Private labels' loyalty driving factors

When referring to *private labels*, since they are exclusively sold and advertised by retailers (Kumar and Steenkamp, 2007) they can play a critical and distinctive role on consumer loyalty behavior (Koschate-Fischer et al., 2014). In fact, private labels are retailer-specific and cannot be purchased elsewhere (Ailawadi et al., 2008), being likely to affect loyalty towards the retailing chain itself (Martos-Partal and González-Benito, 2009). Therefore, and according to the integrative approach followed in the present research, it is also relevant to determine which store and PLs assortment characteristics can enhance consumers' loyalty towards the store brand, since this one is likely to have a positive influence on consumers' store loyalty (Martos-Partal and González-Benito, 2011). Previous research has identified four main critical factors of PLs loyalty: (1) store brand image (Liu and Wang, 2008), (2) trust in retailer's store brand (Chaniotakis et al., 2009), (3) PLs quality perception (Steiner, 2004), and (4) PLs price (Koschate-Fischer et al., 2014).

Regarding *store image,* it is defined as the manner in which stores are perceived by shoppers (Pan and Zinkhan, 2006). According to Collins-Dodd and Lindley (2003), a strong relationship between store image and store brand image is a fundamental requirement for a successful differentiating private label strategy, since it influences store brand evaluation. Also findings from Liu and Wang (2008) reveal that store image is a strong predictor of positive attitudes towards private labels. Moreover, it is also likely that the level of loyalty towards private labels is dependent on the level of *trust* in the retailers' store brand. As shown by Chaniotakis et al. (2009), the higher the level of trust in the chain, the bigger the benefits consumers perceive they can get from its store branded products. In fact, a high level of trust on the store brand can make consumers more motivated to buy private labels exclusively (Miquel-Romero et al., 2014) and to become more aware of the private labels oriented-marketing activities. Also the overall *perceived quality of the store brand products* can play an important role on private labels loyalty (Chaniotakis et al., 2009), with high-quality PLs helping retailers to differentiate their stores (Kumar and Steenkamp, 2007). Lastly, the *pricing positioning* of store brand products is often referred to as one of the most important explanatory factors for the purchase of private labels (Collins-Dodd and Lindley, 2003; Dawes and Nenycz-Thiel, 2013). In fact, results from a recent study (Koschate-Fischer et al., 2014) revealed that consumers' price sensitivity play a major moderating role on the relationship between PLs market share and store loyalty. However, as outlined by Hansen et al. (2006) when consumers perceive PLs as being of high quality, price considerations may be a less important driver for PLs purchase.

According to the insights obtained with this literature revision, the relationship between private labels and consumers' store loyalty is increasingly relevant for both practitioners and academics being important the offer of a comprehensive empirical analysis. Previous studies have identified several moderating factors (e.g., Koschate-Fischer et al., 2014; Sethuraman and Gielens, 2014) being important a more detailed and integrative analysis of this relationship.

3. Conceptual framework and hypotheses

In order to assess the impact of private labels on consumer store loyalty we opted for an integrated approach where multiple

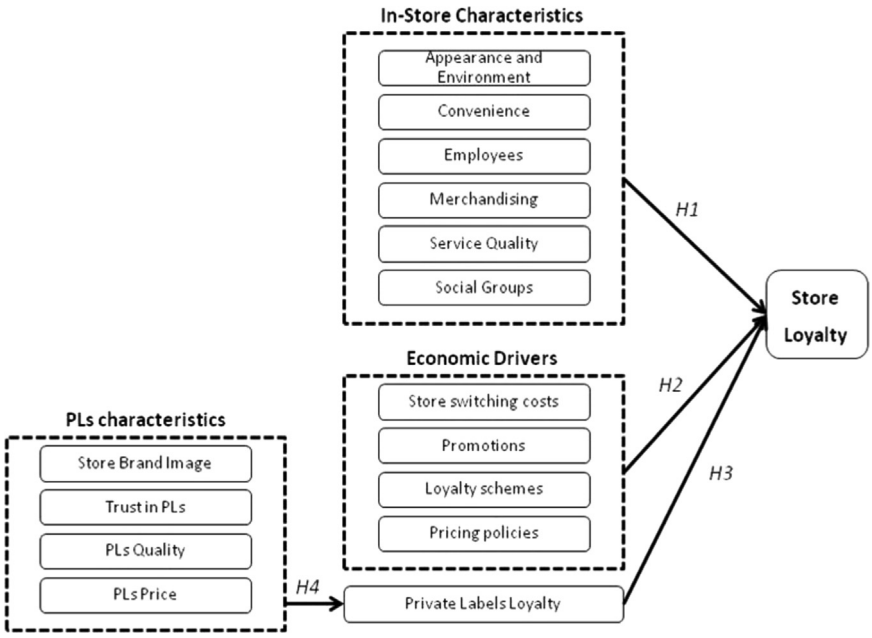

Fig. 1. Conceptual framework linking in-store, economic, private label and store loyalty constructs.

other factors are included and controlled for (in-store and economic factors). This approach offers an overall perspective of store-loyalty driving factors, simultaneously assessing the relevance of private labels on store loyalty (See complete model in Fig. 1).

As described previously, different factors related to the store's physical characteristics can play an important role when determining the customers' store choices, positively influencing consumers' store loyalty (Mesquita and Lara, 2007). Previous research on this topic has highlighted the relevance of some store characteristics on consumers overall store loyalty/patronage (Maruyama and Wu, 2014; Pan and Zinkhan, 2006; Shukla and Babin, 2013). We build on this and propose the following hypothesis:

H1. : The higher the consumers' evaluation of retailers' in-store characteristics (store appearance and environment, store convenience, store employees, merchandising, services quality, and store social groups) the higher their loyalty towards the store.

Economic factors may also play an important role in consumers' store choice process (Dubé et al., 2009, Meyer-Waarden, 2015; Nagengast et al., 2014), with competitive pricing policies and promotions policies not being the only relevant factors to take into consideration. As proposed before, also loyalty programs (Dorotic et al., 2012, Meyer-Waarden, 2015; Walsh et al., 2008), and switching costs (Bridson et al., 2008) can influence store loyalty. Thus, we build on these previous insights and hypothesize that:

H2. : The higher the consumers' evaluation of retailers' distinctive store economic drivers (store pricing policy, store switching costs, store loyalty schemes/programs, and store promotions), the higher the consumers' loyalty towards the store.

Additionally, since PLs are exclusive products of a specific retailer (Kumar and Steenkamp, 2007), we propose that when consumers are loyal to PLs, they are also likely to be loyal to the store (González-Benito and Martos-Partal, 2012; Koschate-Fischer et al., 2014). This happens because customers know that they cannot find the same brand in other store, with PLs being an additional way of store differentiation (Ailawadi et al., 2008). Consequently, private labels can represent a differentiation tool for retailers helping them to engender customer loyalty (Martos-Partal and González-Benito, 2011). Therefore, we hypothesize that:

H3. : The higher the consumers' loyalty towards retailers' store brand, the higher their loyalty towards the store.

Moreover, due to the fact that PLs have gained increasing importance throughout the world (Sethuraman and Gielens, 2014) with store brands present in almost every product category (Geyskens et al., 2010; Nielsen, 2014), we also include in our integrative framework, the underlying factors that can influence consumers' loyalty towards the store brands. Previous research identified store image (Liu and Wang, 2008), trust in retailers store brand (Chaniotakis et al., 2009), PLs quality perception (Nies and Natter, 2012), and PLs competitive price (Collins-Dodd and Lindley, 2003; Steenkamp and Geyskens, 2014) as possible contributing factors of PLs loyalty. We therefore hypothesize that:

H4. : The higher the store brand products' image, the level of trust in PLs, the PLs perceived quality and PLs price competitiveness, the higher the consumers' loyalty towards the private label products.

Finally, we propose that depending on the type of retail formats that consumers are loyal to, different factors may be perceived as relevant by consumers when deciding where to shop. For example, when consumers are price driven and loyal to a low–cost supermarket, it is likely that they will value different factors than, for example, a consumer who is service-driven and loyal to a premium supermarket. Few previous studies highlighted that retailers can adopt different market positioning strategies and that this may have an impact on consumers' store choice behavior (Gauri et al., 2008, González-Benito and Martos-Partal, 2012), with Sethuraman and Gielens (2014) stressing the importance of research that empirically tests results across retailers. Therefore, in a similar vein to the work developed by Gauri et al. (2008), who classified retailers based on a combination of pricing and format strategies, in the present research we propose to classify supermarkets' positioning based on a services and pricing strategy combination, analyzing to what extent this will lead to the identification of different loyalty-driving factors. We classify as *low-cost retailers* all those that tend to follow an everyday low price strategy (EDLP) and offer minimum level of services, *medium-cost*

Table 1
Survey items and descriptive statistics (mean and standard deviation).

Construct	Code	Items	Mean	Std. dev.
Appearance and Environment	app1	[a]It is easy to circulate in the store	5.29	1.51
	app2	[b]The products sections are well defined and organized	5.44	1.24
	app3	[b]The aisles are wide and open	4.70	1.66
	app4	[c]The aspect of materials used by this store (such as shopping bags, catalogs, or statements) are visually appealing	4.92	1.45
	app5	[b]There is a pleasant shopping environment	5.14	1.33
	app6	[a]The lighting and air conditioning are pleasant and comfortable	5.28	1.33
	app7	[c]The physical facilities at this store are visually appealing	4.93	1.39
	app8	[c]This store has modern-looking equipment and fixtures	4.91	1.46
	app9	[c]This store has clean, attractive, and convenient public areas (restrooms, fitting rooms)	4.48	1.43
	app10	[a]The appearance of the store makes shopping pleasant	4.74	1.44
Convenience	conv1	[a]The store has a good home-delivery service	4.22	1.57
	conv2	[a]The store is close to my home or workplace	5.75	1.63
	conv3	[a]The store is close to other services of my interest (e.g., pharmacy and bank agency)	5.01	1.80
	conv4	[b]The store has enough employees to meet customers' needs.	4.99	1.44
	conv5	[c]The layout at this store makes it easy for customers to find what they need	5.32	1.29
	conv6	[c]This store has operating hours convenient to all their customers	6.03	1.16
	conv7	[c]This store provides plenty of convenient parking for customers.	5.78	1.58
	conv8	[c]This store accepts multiple payment options (cash and major debit and credit cards).	6.44	0.90
	conv9	[c]The size of this store makes it easy for customers to find everything they need.	5.67	1.48
	conv10	[*]This store allows the placement of orders by phone and/or internet	4.35	1.99
Employees	empl1	[c]Employees in this store are consistently courteous with customers	5.34	1.28
	empl2	[c]Employees in this store give prompt service to customers	5.10	1.39
	empl3	[c]Employees in this store have the knowledge to answer customers' questions	5.25	1.33
	empl4	[c]The behavior of employees in this store instill confidence in consumers	5.26	1.28
Merchandising	merc1	[b]The overall quality of merchandising offered by this store is good	5.89	0.97
	merc2	[b]This store had high rotation of perishables, so that they are always displayed fresh	5.66	1.18
	merc3	[b]This store offers a good variety of grocery items	5.65	1.22
	merc4	[b]In this store all the section are well-stocked	5.43	1.25
	merc5	[b]This store offers a wide brand selection of grocery items	5.25	1.48
	merc6	[a]This store offers innovative products, new in the market.	4.88	1.52
	merc7	[d]This store offers my favorite brands	5.41	1.38
Service	serv1	[c]Customers feel safe in their transactions with this store	5.84	1.11
	serv2	[c]Employees of this store are able to handle customer complaints directly and immediately	5.13	1.35
	serv3	[c]This store willingly handles returns and exchanges	2.22	1.36
	serv4	[c]When a customer has a problem, this store shows a sincere interest in solving it	5.09	1.36
	serv5	[e]The store provides a very high quality service	5.40	1.24
Social Groups	sg1	[f]The store has customers with whom I identify myself.	4.55	1.49
	sg2	[g]This store is frequented mostly by wealthy people.	3.66	1.62
	sg3	[f]This store is chosen based on the opinions of those I trust.	3.38	1.64
Switching Costs	sc1	[h]I cannot afford the time to get the information to fully evaluate other stores.	3.96	1.91
	sc2	[h]Switching to a new store will probably involve hidden costs/charges	4.00	1.92
	sc3	[h]Learning to shop in any other store would take time	3.36	1.92
	sc4	[h]Switching to a new store would mean losing or replacing points, credits, or services that I have accumulated in my current store	2.74	1.89
Promotions	prom1	[b]The store offers a discounts and promotions on a large number of products	4.86	1.75
	prom2	[b]There are always items on promotion	4.86	1.71
	prom3	[b]The store offers special sales or promotions, that I cannot find in other stores	4.05	1.77
Store Loyalty Programs	prog1	[a]This store offers appealing loyalty programs (e.g., prizes or discounts, frequency reward programs, and points cards)	4.47	2.21
	prog2	[i]I frequently benefit from the advantages offered by the loyalty programs of this store (e.g., free rewards, points, special promotions)	4.08	2.32
Pricing Policies	efp1	[b]This store offers good price compared to other supermarkets	5.00	1.44
	efp2	[b]This store offers a good price-quality relation	5.44	1.25
	efp3	[b]The prices charged by this store match with what I was expecting to pay	5.26	1.31
PL Loyalty	pll1	[*]I like to purchase the PL of this store	5.29	1.71
	pll2	[*]If a private label item is missing I feel upset	4.12	1.95
	pll3	[*]I often buy PLs from this store	5.10	1.87
	pll4	[*]There are some categories in which I just consume the PL of this store	4.76	2.18
PL Quality	qual1	[j]The store offers private label products of good quality	5.62	1.23
	qual2	[j]This store offers private label products with quality as good as that of national brands	5.53	1.35
PL Price	plp	[k]This store's private labels prices are attractive	5.75	1.23
Trust in PL	trust1	[*]The store brand has good reputation	5.37	1.29
	trust2	[l]Customers can trust in this store's private label	5.60	1.23
PL Image	si1	[*]The store brand name inspires confidence	5.83	1.09
	si2	[*]The store brand has a very positive image/reputation	5.72	1.16
Store Loyalty	sl1	[m]From the group of stores I know, this store is the one with better quality/price ratio.	5.16	1.46
	sl2	[m]Based on all my experience with this store, I am very satisfied.	5.70	1.13
	sl3	[m]Given your experience with this store, please indicate the probability to recommend it to someone else.	5.55	1.40
	sl4	[m]Out of each 10 times you choose a store to shop, please indicate how many times on average you choose this store.	3.05	1.16

Notes: Items adapted from

[a] Mesquita and Lara, 2007
[b] Sirohi et al., 1998

[c] Dabholkar et al., 1996
[d] Briesch et al., 2009
[e] Brown, 2004
[f] Wood and Hayes, 2012
[g] Child et al., 2002
[h] Burnham et al., 2003
[i] Liu, 2007
[j] Steiner, 2004
[k] Steenkamp and Dekimpe (1997)
[l] Chaniotakis et al., 2009
[m] Blut et al., 2007
[*] Items created by authors.

retailers are those that follow a high-low pricing strategy (Hi-Low) and offer medium level of services and *premium retailers* are categorized as those that follow a high level pricing policy, offering simultaneously high level of services. This classification will allow to assess if store loyalty factors are retailer's market positioning specific. Thus we propose that:

H5. : The impact of each of the factors proposed in H1, H2, and H3, on store choice behavior, will differ depending on the type of retailers' market positioning strategy (Low-cost, Medium-cost, and Premium).

4. Methodology and data

4.1. Data and sample

Data was collected through an online survey in Portugal (available upon request), where the retailing market is moderately concentrated and where PLs market share represent about 33% (Nielsen, 2014). 1403 participants opened the link, 824 started the survey, and 560 completed it (response rate of 67.96%). Out the completed surveys, only 469 participants reported to be the household member who had primary responsibility for grocery shopping, constituting the final sample of analysis (M_{age}=42, 69.9% of the female). 59.9% of the respondents indicated to shop primarily on two top retailing chains which together represent about 50% of the market, indicating that our sample was representative of the grocery purchase patterns of the market under analysis.

In the first section of the survey participants were asked to indicate the name of the retailing chain where they spent the highest amount on monthly grocery purchases and were informed that they should answer all questions bearing this supermarket in mind. This procedure assured that all the data collected was related to the retailing chain consumers were more loyal to.

4.2. Measurement of main constructs

To assess each construct we adapted both items from previous studies and also created some new items (8 out of 66). These last ones were created to encompass retailers' technological adaptation (e.g., "This store allows the placement of orders by phone and/or internet") and/or surpass the lack of pre-existent scales in the literature, mainly related with private labels loyalty (e.g., "If a private label item is missing I feel upset"). All items were measured using 7-point scales (1=totally disagree; 7=totally agree). Following the collaborative-iterative approach proposed by Douglas and Craig (2007), all items adapted from previous literature were subject to double translation (i.e., two translated versions) and then reviewed by a committee to assure the adequate meaning and equivalence of translations, selecting the most correct ones.

The survey items and descriptive statistics (mean and standard deviation) are provided in Table 1.

4.3. Measurement model

We used structural equation modeling (SEM), to analyze the relationship between in-store characteristics, economic drivers, private label loyalty factors and store loyalty, using a two-stage procedure as suggested by Acock (2013) and Hair et al. (2006). First, we conducted a measurement model which specifies the rules of correspondence between latent and observed (measured) variables, followed by the analysis of the structural path model, which examines all the relationships among the constructs or latent variables.

In the first stage, we performed a confirmatory factor analysis (CFA) estimating the factor loadings by the maximum likelihood method, and analyzing convergent validity. Large values of the factor loadings indicate convergent validity. We computed the Raykov's reliability coefficient (Raykov, 1997), also known as the composite reliability (CR), to assess the internal consistency of the constructs. The composite reliability should be equal to or greater than 0.7 (Hair et al., 2006). We performed the Harman's one factor test to assess the presence of common method bias (Podsakoff et al., 2003). The coefficient of determination (CD) and the standardized root mean squared residual (SRMR) were also computed. Hu and Bentler (1999) suggest values of SRMR close to 0.08 or below for a good fit.

In the second stage, we performed the analysis of data using the structural path model, by specifying the relationships between the in-store, economic, private label loyalty factors and store loyalty constructs, just including the variables with significant loadings identified by the CFA.

Following Hair et al. (2006), we computed four types of global fit measures: Chi-square (χ^2) statistic; root mean squared error of approximation (RMSEA); comparative fit index (CFI), and Tukey-Lewis index (TLI) for baseline model comparison. The criterion for adequate fit between the hypothesized model and the structural model was a relative chi-square (RCS), that is the chi-square fit index divided by degrees of freedom, of 5 or less; and one of the two goodness-of-fit indices measures (CFI and TLI) should be equal to or greater than 0.9.

We used local fit measures to assess convergent and discriminant validity: the average variance extracted (AVE); inter-construct correlations; the maximum shared variance (MSV) and the average shared variance (ASV). The AVE should be equal to or greater than 0.5 to support convergent validity, and AVE should be greater than its shared variance (squared correlation) with any other construct to support discriminant validity (Fornell and Larcker, 1981; Hair et al., 2006).

Lastly, we checked modification indices and parameter change statistics for error covariance weights, identifying any additional paths that could be specified to improve model fit (Bagozzi and Yi, 2012).

5. Statistical analysis and results

We ran separately the measurement models for each of our latent variables within each relevant construct (in-store

Table 2
Confirmatory factor analysis (CFA) for in-store measurement model: Loadings and reliability.

Construct	Variable	Loadings	Error variances	Error covariance
Appearance and environment	app1	0.62	0.61	
	app2	0.71	0.50	
	app3	0.60	0.64	
	app4	0.74	0.46	
	app5	0.84	0.30	
	app6	0.73	0.46	
	app7	0.89	0.21	
	app8	0.82	0.33	
	app9	0.57	0.68	
	app10	0.83	0.32	
	app1,app3			0.58
Composite reliability (CR)				0.906
Harman's one-factor test (% variance)				62.6%
Convenience	conv4	0.63	0.61	
	conv5	0.78	0.39	
	conv6	0.54	0.71	
	conv7	0.49	0.76	
	conv8	0.45	0.80	
	conv9	0.61	0.62	
Composite reliability (CR)				0.761
Harman's one-factor test (% variance)				50.3%
Employees	empl1	0.84	0.29	
	empl2	0.85	0.27	
	empl3	0.88	0.23	
	empl4	0.89	0.20	
Composite reliability (CR)				0.923
Harman's one-factor test (% variance)				81.4%
Merchandising	merc1	0.67	0.55	
	merc2	0.58	0.66	
	merc3	0.82	0.32	
	merc4	0.74	0.46	
	merc5	0.78	0.39	
	merc6	0.73	0.47	
	merc7	0.79	0.37	
	merc1, merc2			0.52
Composite reliability (CR)				0.880
Harman's one-factor test (% variance)				54.9%
Service	serv1	00.59	0.65	
	serr2	0.80	0.36	
	serv3	0.79	0.37	
	serv4	0.88	0.23	
	serv5	0.85	0.27	
	serv1,serv5			0.19
Composite reliability (CR)				0.889
Harman's one-factor test (% variance)				69.8%
Social Groups	sg1	0.74	0.45	
	sg2	0.72	0.48	
	sg3	0.51	0.74	
Composite reliability (CR)				0.695
Harman's one-factor test (% variance)				62.2%
		RMSEA		0.070
		SRMR		0.065
		CD		1.000

Table 3
Confirmatory factor analysis (CFA) for economic measurement model: Loadings and reliability.

Construct	Variable	Loadings	Error variances
Switching costs	sc1	0.60	0.64
	sc2	0.66	0.57
	sc3	0.77	0.41
	sc4	0.54	0.71
Composite reliability (CR)			0.739
Harman's one-factor test (% variance)			55.5%
Promotions	prom1	0.95	0.10
	prom2	0.88	0.23
	prom3	0.74	0.45
Composite reliability (CR)			0.894
Harman's one-factor test (% variance)			82.2%
Store loyalty programs	prog1	0.90	0.20
	prog2	0.94	0.12
Composite reliability (CR)			0.916
Harman's one-factor test (% variance)			92.1%
Pricing policies	efp1	0.82	0.33
	efp2	0.96	0.07
	efp3	0.83	0.31
Composite reliability (CR)			0.902
Harman's one-factor test (% variance)			83.9%
		RMSEA	0.084
		SRMR	0.099
		CD	0.999

Table 4
Confirmatory factor analysis (CFA) for private label measurement model: Loadings and reliability.

Construct	Variable	Loadings	Error variances
Store image	si1	0.92	0.15
	si2	0.89	0.22
Composite reliability (CR)			0.898
Harman's one-factor test (% variance)			90.8%
Trust in PL	trust1	0.82	0.33
	trust2	0.94	0.22
Composite reliability (CR)		0.869	
Harman's one-factor test (% variance)			88.4%
PL Quality	qual1	0.92	0.16
	qual2	0.88	0.23
Composite reliability (CR)			0.890
Harman's one-factor test (% variance)			90.2%
PL Price	plp		
Composite reliability (CR)			
Harman's one-factor test (% variance)			
Private label loyalty	pll1	0.90	0.19
	pll2	0.64	0.59
	pll3	0.92	0.16
	pll4	0.71	0.50
Composite reliability (CR)			0.865
Harman's one-factor test (% variance)			72.8%
		RMSEA	0.089
		SRMR	0.041
		CD	0.999

characteristics, economic drivers, private label loyalty factors and store loyalty measure). We then solved the measurement models simultaneously for the sets of items representing each construct. The standardized results are presented in Tables 2–5. Using the threshold of ± 0.5 to identify significant loadings, we identified that all but four items from the convenience measurement model have significant loadings, having these been deleted from the underlying measurement model. One variable (SL4) also has a non-significant loading on the store loyalty measurement model and was deleted from original model. After considering the suggestions provided by the modification indices, we fitted the final CFA model and estimated scale reliability (CR).

We removed the measurement error from our latent variables to obtain a stronger predictive power and estimated the structural model. We then used modification indices for the covariances of the error terms to improve our fit. The standardized results of SEM estimation and global fit statistics in the final model are shown in Fig. 2. Path model contains two endogenous latent variables (store loyalty and private label loyalty) and five exogenous latent variables (price, quality, convenience, service and social groups).

Significant loadings (path coefficients) are summarized in Table 6. Inter-construct correlations, average variance extracted and shared variance estimates of the constructs are shown in Tables 7 and 8. The global fit measures indicate a good model fit (RCS=3.48, RMSEA=0.063; CFI=0.957 and TLI=0.940). As we can observe in this table, from the initial proposed 11 latent constructs that could influence store loyalty, the final model indicates that only five constructs are statistically significant at conventional levels (all $p < 0.01$), being the private label loyalty one of the constructs that reveals to have a significant influence. On the basis of the composite reliability (CR) and average variance extracted (AVE) estimates, we may conclude that the convergent validity for all the constructs is adequate. The AVE was found to be greater than the maximum shared variance (MSV) and the average shared variance (ASV) for all the constructs, supporting discriminant validity.

Although previous research highlighted the importance of appearance and environment, employees and merchandising on store loyalty, our results do not confirm its importance. This may be due to the fact that the retailing market has increasingly become more competitive, with the majority of players offering similar facilities and assortment, with these factors being considered *sine qua non*, not constituting anymore a differentiation attribute when deciding which store to go to. Therefore, in terms of differentiating in-store characteristics, the convenience associated to the store seems to be the one most valued by consumers (β=0.282), followed by the service provided by the retailer (β=0.210) and the characteristics of consumers shopping in that store (β=0.152), partially supporting our hypothesis 1.

Regarding economic driving-factors, with the exception of stores' pricing policy (β=0.377), all other factors are not relevant when trying to understand store loyalty. Not only did the promotion policies and the loyalty programs not reveal a significant relationship with store loyalty, likewise the switching costs also seemed to not play a role, suggesting that consumers do not perceive these as a barrier to move to a better service provider. Therefore, the only economic factor that seems of relevance to explain store loyalty are the pricing policies followed by retailers, just partially supporting our hypothesis 2.

Importantly, H3 is fully supported, highlighting the importance of private labels' development as a differentiation strategy. In our final model, loyalty towards the private label offered by each retailer revealed to be a relevant explanatory factor associated with store loyalty (β=0.153). This is in line with the growing importance of private labels in the majority of countries, with most retailers investing heavily in their own store brand development (Sethuraman and Gielens, 2014). When store brands are introduced, retailers are able to offer unique and exclusive products that customers cannot find elsewhere (Ailawadi et al., 2008; Koschate-Fischer et al., 2014), helping retailers to build and strengthen its image (Kumar and Steenkamp, 2007).

Interestingly, when testing H4, findings reveal that the private labels perceived quality is the only factor explaining consumers' loyalty towards PLs. Previous research has already suggested

Table 5
Confirmatory factor analysis (CFA) for store loyalty measurement model: loadings and reliability.

Construct	Variable	Loadings	Error variances
Store loyalty	sl1	0.64	0.59
	sl2	0.84	0.30
	sl3	0.79	0.38
Composite reliability (CR)			0.786
Harman's one-factor test (% variance)			71.0%
		RMSEA	0.000
		SRMR	0.000
		CD	0.822

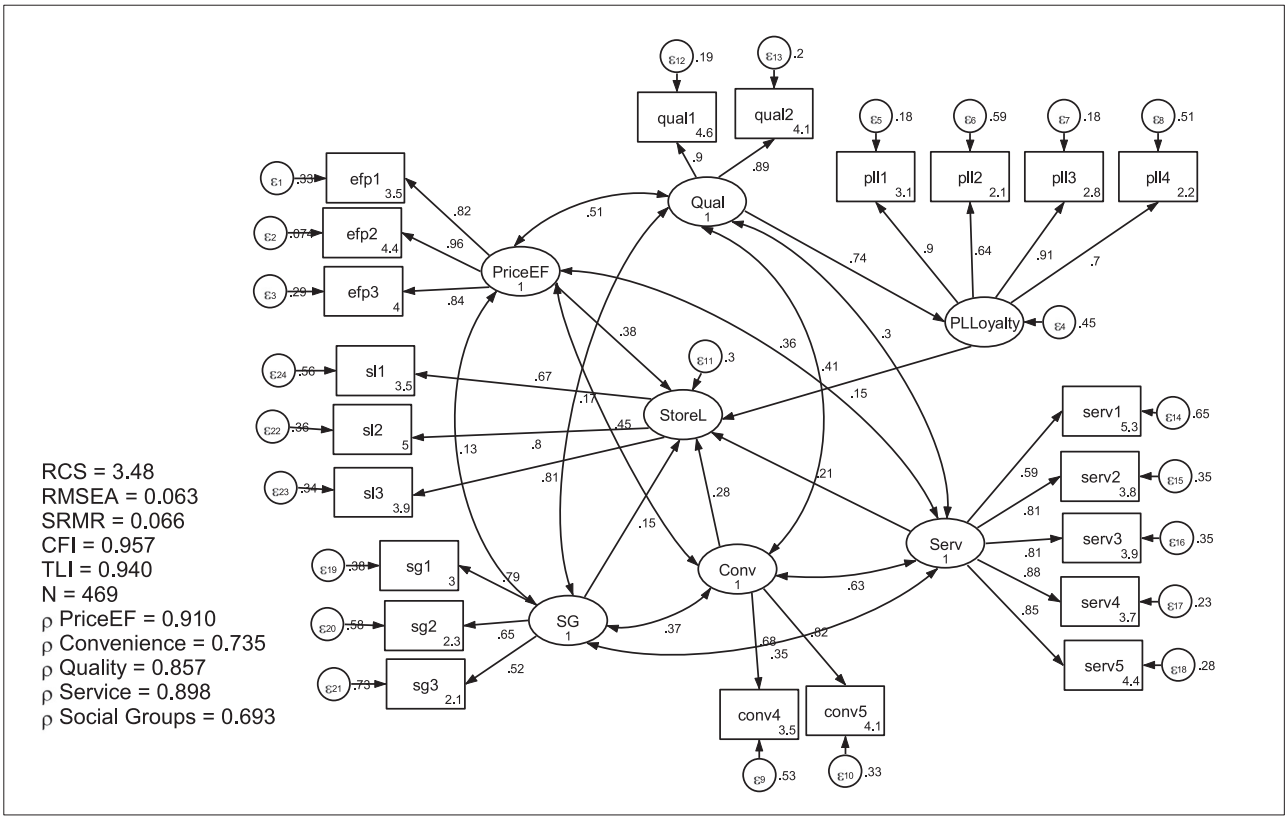

Fig. 2. Final model of causal structure linking in-store, economic, private label and store loyalty constructs.

Table 6
Standardized estimates in the final model.

Path	Estimate	Standard error	z-statistic
Store Loyalty ← Private Label Loyalty	0.153	0.039	3.95*
Store Loyalty ← Price	0.377	0.044	8.50*
Store Loyalty ← Convenience	0.282	0.066	4.27*
Store Loyalty ← Service	0.210	0.055	3.81*
Store Loyalty ← Social Groups	0.152	0.046	3.30*
Private Label Loyalty ← Quality	0.743	0.027	27.98*
		RCS	3.48
		RMSEA	0.063
		SRMR	0.066
		CFI	0.957
		TLI	0.940
		CR PriceEF	0.910
		CR Convenience	0.735
		CR Quality	0.857
		CR Service	0.898
		CR Social Groups	0.693

Notes:
* Significant at the 1% level; **Significant at the 5% level.

Table 7
Inter-construct correlations.

	Price	Convenience	Service	Social groups	Quality
Price					
Convenience	0.45				
Service	0.36	0.63			
Social groups	0.13	0.37	0.35		
Quality	0.51	0.41	0.30	0.17	

Table 8
Convergent and discriminant validity.

	AVE	MSV	ASV
Price	0.77	0.26	0.15
Convenience	0.57	0.40	0.23
Service	0.63	0.40	0.18
Social groups	0.44	0.14	0.08
Quality	0.80	0.26	0.14

Note: AVE is the average variance extrated, MSV is the maximum shared variance and ASV is the average shared variance.

Table 9
Standardized estimates for multi-group path analysis.

Path	Low cost	Medium cost	Premium
Store Loyalty ← Private Label Loyalty	−0.086	0.141*	0.256**
Store Loyalty ← Price	0.538*	0.418*	−0.316
Store Loyalty ← Convenience	0.843***	0.221*	0.193
Store Loyalty ← Service	−0.335	0.203*	0.440*
Store Loyalty ← Social Groups	−0.074	0.138*	0.153
Private Label Loyalty ← Quality	0.833*	0.788*	0.558*
N	36	371	62
SRMR	0.120	0.064	0.229
CR PriceEF	0.923	0.917	0.811
CR Convenience	0.840	0.744	0.668
CR Quality	0.916	0.870	0.810
CR Service	0.849	0.890	0.846
CR Social Groups	0.743	0.692	0.444

Notes:
* Significant at the 1% level;
** Significant at the 5% level;
*** Significant at the 10% level.

that PLs only contribute to store loyalty when perceived as high/acceptable quality (Corjstens and Lal, 2000; Nies and Natter, 2012) and our results support these findings. Both the direct effect of quality on private label loyalty (β= 0.743) and the indirect effect of quality on store loyalty are positive and significant (β=0.114), revealing that PLs quality is a critical factor for PLs sustainable penetration.

In order to test H5, where we proposed that the relationship between the explanatory factors and store loyalty could differ depending on each retailers' market positioning, we performed a multi-group analysis dividing the sample into three different groups of retailers (Low-cost, Medium-cost, and Premium) We fit the model constraining the measurement coefficients of all the indicator variables, along with their covariances to be equal across groups (for more details see Acock, 2013). Table 9 contains the coefficient estimates, composite reliability (CR) and standardized root mean squared residual (SRMSR) for each group. This analysis is of great relevance since it allows to distinguish across different types of supermarkets those factors that contribute more to customers' store loyalty.

In terms of groups size, 7.7% of the participants indicated to purchase the majority of their groceries in low-cost retailers, 79.1% in medium cost retailers, and 13.2% in premium retailers. As proposed in our hypothesis 5, findings suggest that depending on the type of retail format participants are loyal to, different factors determine their choice. Findings indicate that consumers' loyalty towards the private labels is not always a critical store loyalty factor, depending on the type of supermarket of consumers' election. In fact, for low-cost supermarkets (4 retailers in our sample), price (β=0.538, $p<0.01$) and convenience (β=0.843, $p<0.1$) seem to be the only influencing factors on store loyalty, with private labels, service offered and social groups not playing a significant role.

Moreover, when analyzing the premium supermarket (one single retailer in our sample), the factors that seem to be more determinant in terms of store choice are the loyalty towards the private labels (β=0.256, $p<0.05$) and service offered by retailing chain (β=0.440, $p<0.01$). With regards to the medium-cost supermarkets (5 retailing chains in our sample), all previously defined factors at aggregate level are relevant, with price being apparently the most relevant factor (β=0.418, $p<0.01$), immediately followed by convenience (β=0.221, $p<0.01$), then by service (β=0.203, $p<0.01$), and the loyalty towards private labels offered by retailers in this group (β=0.141, $p<0.01$). Once more, findings suggest that the main factor leading to private label loyalty is its perceived quality, supporting the idea that private labels are no longer competing exclusively on price.

6. Discussion and future research

Despite the notorious increase in penetration of private labels throughout the majority of markets and retailers, with few exceptions, little extant research has focused on analyzing its influence to store loyalty. We contribute to this body of knowledge offering an integrative framework of analysis, which besides encompassing a construct that assesses consumers loyalty towards the private labels offered by retailers, also includes in one single model all the main loyalty-driving factors identified in the literature. Moreover, we classify sample of retailers in three strategic groups, combining pricing and service policies, analyzing which factors mostly contributed to store loyalty, in each of these groups.

The contributions of this paper are threefold. First, when analyzing at aggregate level all the different supermarkets in the sample, we identify that the most relevant in-store and economic driving-factors that contribute positively to consumers' store loyalty are the level of convenience, the service offered by each

store, the level of identification with other consumers shopping in that store (social groups) and also the pricing policies adopted. These results are aligned with findings from previous research which indicated store convenience, the level of service offered, and pricing policies adopted (Maruyama and Wu, 2014; Pan and Zinkhan, 2006), as critical loyalty factors. Interestingly, although few previous research suggested that customers tend to be loyal to stores where people like them or where groups they aspire to join shop (Child et al., 2002), in our current framework this factor reveals to be significant, specially for medium-cost retailers.

Second, findings suggest that consumers' loyalty towards private labels is mostly driven by its quality, in line with recent results from Nies and Natter (2012). This is interesting because the initial positioning strategy of store brands was based on low price, while our results provide empirical evidence that the adoption of private labels is no longer dependent on its initial pricing strategy, but has shifted towards quality, as suggested by Kumar and Steenkamp (2007). The increasing change registered in consumers' attitudes towards PLs, also creates incentives for retailers to continue investing in PLs quality, reducing the quality gap between national brands and private labels (Steiner, 2004). This shift can be of major relevance, having direct implications in terms of market dynamics, since the closer the private labels are to national brands, the more retailers move from simpler suppliers of shelf space, to direct competitors of manufacturing brands.

Lastly, results stress the importance of consumers' loyalty towards the PLs offered by each retailer on consumers' store loyalty, when taking into consideration all the other proposed driving factors. However, when analysis is run across different retailing strategic groups, private labels seem to play a relevant role only on those supermarkets belonging to the medium-cost and premium group. This result is of major relevance for retailers since it highlights that despite the growing importance of PLs in retailers' assortment, its impact on loyalty may not always be significant, depending on retailers' market positioning.

Future research can allow a better understanding of this phenomenon. First, we propose that consumers' characteristics (e.g., age, social class, net income) can also play a role on their preferences towards specific types of stores, being important its inclusion as potential moderating variables. Moreover, in line with the recent work developed by Koschate-Fischer et al. (2014), it is also relevant the analysis of moderating effects across different categories of private labels and stores.

Additionally, since data was collected in one country (Portugal) the collection of similar data in different countries would be of great relevance to assess to what extent these results prevail in cultural contexts that differ from the one addressed in the present study. Moreover, we stress the importance of a longitudinal analysis in order to determine the true worth of continued investment in private labels in terms of innovation and differentiation strategies (e.g., multi-tier segmentation), since different levels of private label penetration may have different impact on consumers' satisfaction and loyalty (Ailawadi et al., 2008). It is therefore important to continue monitoring to what extent private labels are indeed contributing to store loyalty, and to what extent that is generalizable across supermarkets with different market positioning.

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