Journal of Business Research 133 (2021) 98–115

Contents lists available at ScienceDirect

Journal of Business Research

journal homepage: www.elsevier.com/locate/jbusres

What factors moderate the effect of assortment reduction on store switching? Insights and implications for grocery brands☆

Juan Carlos Gázquez-Abad [a,*], Francisco J. Martínez-López [b,c], Raj Sethuraman [d]

[a] School of Economics and Business, University of Almería, Almería and Agrifood Campus of International Excellence, ceiA3, Spain
[b] School of Business, University of Granada, Granada, Spain
[c] EAE Business School, Barcelona, Spain
[d] Edwin L. Cox School of Business, Southern Methodist University, Dallas, USA

ARTICLE INFO

Keywords:
Retailing
Assortment
Retail Strategy
Field Experiment
Grocery Products

ABSTRACT

To delist or not to delist? Retailers such as Wal Mart in the USA and Mercadona in Spain resorted to extensive delisting (discontinuation) of national brands to cut costs, only to face a backlash from consumers who switched stores to find better alternatives. In this research, we offer insights and implications for retailers wishing to engage in assortment reduction through delisting. We investigate 14 moderators of store switching due to assortment reduction using a comprehensive survey of 2240 consumers in the USA and Spain. Some key findings are: (i) consumers in the USA are more prone to switching stores when faced with smaller assortments than those in Spain; (ii) having consumers' favored brand in the reduced assortment is one of the strongest drivers that inhibit store switching due to assortment reduction in both countries; and (iii) rich, educated consumers are more likely to switch in the USA due to assortment reduction while older consumers with large families are likely to switch in Spain. These and other findings call for some common and some distinct delisting strategies in the two countries.

1. Introduction

Strategically, grocery supermarket retailers are real estate managers. Their real estate is the shelves on which they place grocery items and obtain revenues and profits from the sale of those items to end consumers. These items can represent a combination of national brands, regional brands, and store brands or private labels. Recently, there has been a growing trend among retailers to reduce their assortment by "delisting" (not carrying) national brands and giving more shelf space to their own store brands. For example, Walmart cut big brand names like *Hefty* and *Glad* for some time in favor of its own *Great Value* store brand (Kelemen, 2012). Spanish retailer Mercadona delisted 800 items from several manufacturers, including popular brands such as *Nestle* and *Sara Lee* (El País, 2009).

There are a number of reasons for this delisting trend: (i) retailers can cut costs if they stock brands from fewer suppliers (Wiebach & Hildebrandt, 2012); (ii) retailers may get higher margins on their store brands (ter Braak, Dekimpe, & Geyskens, 2013); (iii) retailers are able to reach more consumers by drawing their attention to store brands and reinforcing the store image (Ailawadi & Keller, 2004); and (iv) by delisting or threat of delisting national brands, retailers can negotiate better terms with the manufacturers (Baltas & Argouslidis, 2007).

Spurred by these potential benefits and motivated by the need to cut costs, some major retailers have resorted to extensive delisting of national brands, only to find that the strategy of carrying a limited assortment may backfire! For example, Walmart experimented with a reduced assortment structure with only one leader brand and their own *Great Value* brand. The company faced customer resistance and sales loss, and they were forced to revert to their original assortment composition (CNN, 2010; Dass & Kumar, 2012). Spanish chain Mercadona delisted hundreds of national brands with a store-brand-only assortment in many categories, but had to relist some of the delisted national brands to prevent increased consumer boycotts and damage to their store image (Gázquez-Abad, Martínez-López, Mondéjar-Jiménez, & Esteban-Millat, 2015).

Clearly, as the delisting failures mentioned above have shown, the

☆ This research is supported by the Ministry of Science, Innovation and Universities (Spain) [Grant #RTI2018-094013-B-I00]. The authors thank participants at the Marketing Science Conference in June 2019, the Associate Editor, and two ad-hoc reviewers of this manuscript for their helpful comments.

* Corresponding author.
E-mail addresses: jcgazque@ual.es (J.C. Gázquez-Abad), fjmlopez@ugr.es (F.J. Martínez-López), rsethura@cox.smu.edu (R. Sethuraman).

https://doi.org/10.1016/j.jbusres.2021.04.037
Received 2 May 2020; Received in revised form 13 February 2021; Accepted 14 April 2021
Available online 7 May 2021

consumer is a key factor behind a retailer making appropriate assortment decisions. While carrying a limited assortment would increase a retailer's operational efficiency, consumers may be turned off by the lack of variety and therefore switch stores. Thus, the goal of assortment planning is to offer consumers the right mix of items while cutting costs and increasing retailer profits (Kwak, Duvvuri, & Russell, 2015). We believe this tradeoff between retail efficiency and consumer patronage will become more salient as *e-tailers* with lower costs and superior consumer information move into grocery retailing, such as with the acquisition of Whole Foods by Amazon (Petro, 2017). In this paper, we provide insights into the customer patronage side by assessing the effect of retail assortment reduction through national brand delisting on consumer store switching in grocery products and then identifying the moderators of the effect.

The growing strategic importance of delisting for retailers has spawned extensive research on the topic. Table 1 lists the key information from 20 articles that pertain to this paper – investigating moderators of the effect of brand delisting or assortment reduction.

We contribute to this rich literature by:

(i) *Providing a comprehensive analysis of 14 moderators*: Only one study has analyzed more than ten moderators. We analyze 14 country, assortment, demographic, and psychographic moderators (M1 to M14 – see Fig. 1). This study, we believe, is also the first to comprehensively explore consumer moderators.

(ii) *Focusing on store switching as the effect measure*: Most prior literature has analyzed assortment satisfaction, perceived freedom, and even brand and category sales. But perhaps what matters most to retailers is the threat of consumers switching stores because they find fewer items in the category. When consumers switch stores, retailers lose not only sales on the category with lower assortment, but also on a basket of other goods that consumers would buy.

(iii) *Exploring country and consumer differences*: All prior studies on delisting have analyzed data from one country. We test the effects of assortment reduction simultaneously in both the USA and Spain, two geographical contexts that are markedly different in retail concentration, store brand share, state of the economy, and infrastructure. In this process, we offer insights into global standardization vs. adaptation with respect to delisting strategies. If the results are similar across the two geographical regions, they are candidates for empirical generalization and suggest similar assortment strategies for both countries (standardization). If the results are different, then they suggest distinct strategies for the two markets (adaptation).

To our knowledge, Sloot and Verhoef (2008) is the only study that provides a comprehensive analysis of factors influencing store switching due to brand delisting. These authors used both an online experiment and an in-store survey in the Netherlands and study the influence of four groups of factors –brand, category, assortment, and store factors – on the consequences of brand delisting on store choice. They found that delisting consumers' primary brand will increase the likelihood of switching stores to buy the delisted brand if the brand is a high-share brand and if the product is hedonic rather than utilitarian.

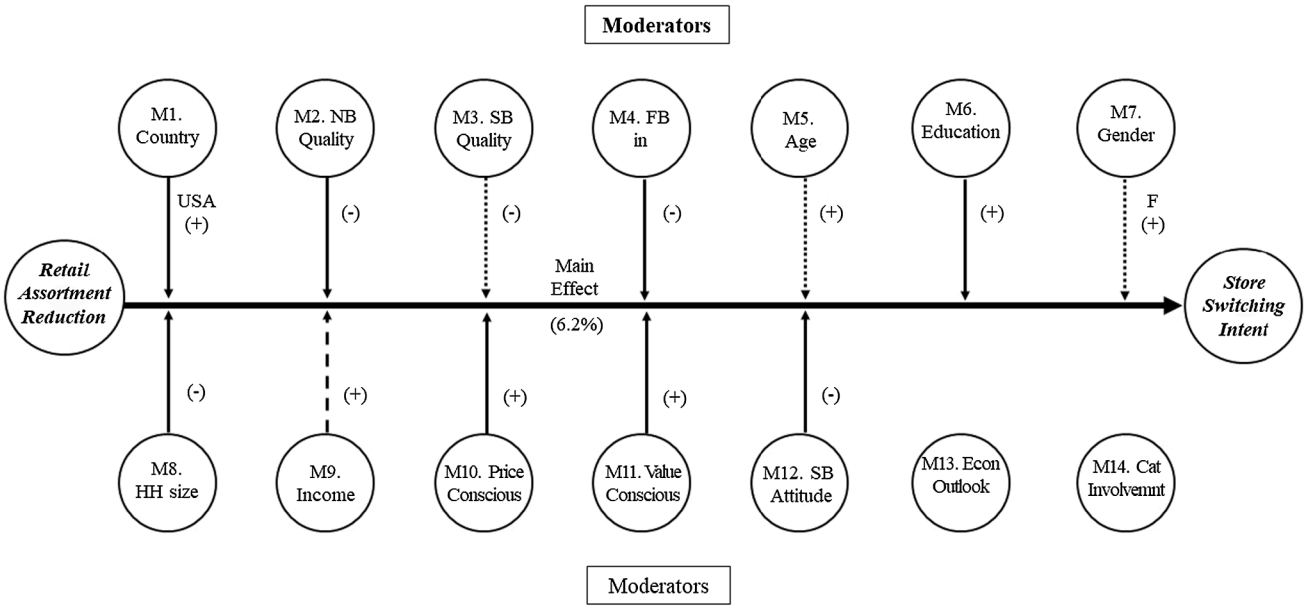
Our study differs from Sloot and Verhoef (2008) in at least two important ways: First, while their focus is on brand, category, assortment, and store factors, we investigate 10 consumer factors that were not studied by those authors [Sloot and Verhoef do consider two consumer characteristics – age and gender – but only as control variables]. Mantrala et al. (2009) emphasize the need to investigate consumer factors, as they are the ultimate deciders of store sales; second, Sloot and Verhoef (2008) analyzed the delisting effect only when the consumer's primary or purchased brand is delisted. We analyze a more general case of brand delisting and use consumer's favored brand as a potential moderator of store switching. Thus, we are able to assess the empirical generalizability of results from past studies as well as offer some new insights. Specifically, with respect to new insights, we find:

(i) Across 2240 respondents in the USA and Spain, assortment reduction (from 10 to 4 brands) increases average Store Switching Intent (SSI) by 6.2% from 30.9% to 37.1%. This number (6.2%) may seem small, but considering that on a typical day 32

Table 1
Past studies on moderators of brand delisting / assortment reduction effect.

#	Reference*	Effect	Moderators Investigated
1	Broniarczyk et al. (1998)	Assortment perception & store choice	Favorite SKU, Shelf-space
2	Boatwright & Nunes (2001)	Category sales	Low-selling items, Reduction type
3	de Clerck, Gijsbrechts, Steenkamp, & Dekimpe (2001)	Category sales	Display support, Concentration, Degree of assortment change, Stockpiling, # of SKUs, Uniqueness, SB nature, Mfr. strength
4	Dhar, Hoch & Kumar (2001)	Category Dev. Index	Category roles
5	Borle, Boatwright, Kadane, Nunes & Shmueli (2005)	Purchase incidence & amount	Low-selling / high-selling items
6	Sloot, Fok & Verhoef (2006)	Category sales	Former buyers / non-buyers
7	Kalyanam, Borle & Boatwright (2007)	Sales (own, cross- and category)	High-selling items
8	Zhang & Krishna (2007)	Purchase incidence & quantity	Favorite SKU, Promotion frequency, Price level, Brand share, Loyalty, Frequency, Price sensitivity, Promotion sensitivity
9	Sloot and Verhoef (2008)	Brand- and store-switching intention	9 Product, Brand, Assortment moderators + age & gender (control)
10	Briesch, Chintagunta & Fox (2009)	Store choice	Favorite brand
11	Ailawadi, Zhang, Krishna & Kruger (2010)	Category sales	Store format (supermarkets, mass store, drugstores)
12	Wiebach and Hildebrandt (2012)	Brand choice shares	Similarity between alternatives
13	Beneke et al. (2013)	Assortment Satisfaction	Low-selling item; Product familiarity
14	Emrich, Paul & Rudolph (2015)	Shopping benefits	Channel integration – online & physical
15	Kwak et al. (2015)	Assortment choice	Brand quality
16	Dörnyei, Krystallis & Chrysochou (2017)	Information searches	Attribute quantity
17	Gázquez-Abad, Martínez-López, and Esteban-Millat (2017)	Store switching intentions	SB quality, Price consciousness, Attitude towards economic climate and retailer's assortment reduction
18	van der Maelen, Breugelmans & Cleeren (2017)	Manufacturer's Brand share and Retailer's Category share	Assortment size, Necessity / impulse product, Brand equity, Brand deal frequency, SB share, Deal frequency
19	Argouslidis et al. (2018)	Freedom of Choice	Hedonic, Favorite SKU, Age, Gender, SB attitude, Product involvement, Trait proneness to reactance, Need for variety
20	Richards and Rabinovich (2018)	Category sales	High- / low-selling items
21	This paper	Store-switching intention	14 Country, Assortment, Consumer demographic and psychographic moderators – see Fig. 1.

* All references mentioned in Table 1 have been included in Web Appendix.



(+) = Higher value of moderator leads to higher store switching intent (Direct or Indirect Effect)

(-) = Higher value of moderator leads to lower store switching intent (Direct or Indirect Effect)

——— = Significant in both USA and Spain

- - - - - = Significant in USA only

····· = Significant in Spain only

FB = Favored Brand; NB = National Brand; SB = Store Brand; HH = Household; Cat = Category

Fig. 1. Research Framework and Key Results.

million American consumers do grocery shopping and that a retailer's net margin is about 1%, even a small fraction of consumers switching stores may result in significant loss of revenues and profits. The result highlights the importance of identifying moderators of store switching so delisting of national brands can be judiciously implemented in markets that are conducive for assortment reduction.

(ii) Consumers in the USA are more likely to switch stores due to delisting than are consumers in Spain. Moderator effects are different as well. In particular, rich, educated consumers are more likely to switch in the USA due to assortment reduction; older consumers with large families are likely to switch in Spain.

(iii) While some consumer demographics do not directly moderate the delisting effect, they do influence the effect indirectly through psychographic factors.

With respect to confirming prior results, we find in both the USA and Spain:

(iv) Presence of consumers' favored brand is the most important moderator of the store switching effect.

(v) Favorable store brand attitude inhibits store switching due to national brand delisting.

These results provide guidelines for when a retailer should resort to assortment reduction.

The rest of the paper is divided as follows. Section 2 discusses the theoretical background and presents the hypotheses related to potential moderators of the effect of assortment reduction on store switching. Section 3 describes the field experiment to test the hypotheses. Section 4 presents the analysis methods. Section 5 provides the results and Section 6 discusses their implications for delisting national brands. Finally, in Section 7 we summarize the key recommendations and conclude with limitations and future research directions.

2. Theory and hypotheses

Two consumer perspectives are used to develop the hypotheses – consumer reactance theory and the role of store brand in consumer purchasing behavior.

2.1. Consumer reactance theory and choice deprivation

It is generally well accepted that a reduction in number of national brands (delisting) in a store will cause some consumers to switch to other stores with larger assortment (Sloot & Verhoef, 2008, 2011). The reason for this behavior is posited to be due to consumers' psychological reactance.

Psychological reactance theory was introduced by Brehm (1966). Briefly, psychological reactance is experienced whenever free behavior is suppressed or denied. This act of suppression is perceived to restrict one's opportunity to express one's individuality, curtail opportunities for self-determination, and contribute to negative psychological well-being of individuals (Taylor & Brown, 1988). Individuals will exhibit psychological reactance through pursuit of independence and attempt to reestablish their sense of freedom through other options that enact the "prohibited behavior," a phenomenon called "indirect restoration". In addition, reactance provokes adverse attitude towards the source of such

restriction (Miller, Lane, Deatrick, Young, & Potts, 2007).

In the context of grocery retailing, large assortments are appealing for their perceived freedom of choice (Reibstein, Youngblood, & Fromkin, 1975), and brand choice is an opportunity to express one's individuality (Broniarczyk, 2008). When assortment size is reduced, consumers may perceive that their personal control of the decision-making process is limited and their freedom of brand choice is curtailed. As a result, they may have a negative attitude towards the store that has reduced assortment and thus switch stores. Indeed, Argouslidis, Skarmeas, Kühn, and Mavrommatis (2018) draw upon the theory of psychological reactance and empirically demonstrate that smaller assortments are a threat to perceived freedom of choice, which may result in more anger and lower satisfaction. Psychological reactance has been also applied to other topics of marketing such as advertising (e.g., Edwards, Li, & Lee, 2002) and behavioral intentions (e.g., Kavvouris, Chrysochou, & Thøgersen, 2020). Borrowing from this literature, we call this lack of perceived choice freedom *choice deprivation*. Thus, the choice deprivation theory posits that consumers may feel a sense of deprivation when their choices are restricted through assortment reduction, and they may react to this state by acting to restore their freedom by switching to a store that has a larger assortment. This choice deprivation may manifest in many ways, which form the basis for developing the hypotheses related to moderators of the assortment reduction effect.

2.2. Role of store brands in retail assortment and consumer purchasing behavior

If a retailer wants to reduce assortment size, should it delete a national brand or a store brand? Some literature (e.g., de Clerck, Gijsbrechts, Steenkamp & Dekimpe, 2001; Hwang, Bronnenberg, & Thomadsen, 2010) says delisting a store brand / private label, especially if it is of questionable quality, may be a more effective strategy. The reason is that a store brand is a retailer's own brand (ROB) that has no exact equivalent, so there is no incentive for consumers to switch stores because the item is not there (Baker, Parasuraman, Grewal, & Voss, 2002). They can instead switch to a national brand, which is generally considered to be of equal or higher quality, within the same store (Geyskens, Gielens, & Gijsbrechts, 2010; Ngobo, 2011).

But retailers are quite reluctant to delist a store brand when it comes to assortment reduction for the very reason that a store brand is a ROB. Modern day store brands or private labels – brands generally owned and marketed by the retailers – have been active for about 100 years. In this time span, these brands have morphed from cheap, low-quality generic private labels to lower-price, acceptable-quality value private labels. The value private labels have witnessed substantial growth around the world over the last 40 years (1980–2020). According to a recent report on private labels by Information Resources, Inc. (IRI), store brands (SB) or private labels (PL) in the grocery market in USA grew by 5.8% in 2018, four times faster than national brands or NB (Vimari, 2018). In a 2019 nationwide survey conducted on their website (plma.org), the Private Label Manufacturers Association (PLMA) reported that two-thirds of the respondents agreed that store brands are just as good as, if not better than, the national brand version of the same product. PL share in Europe is even higher, reaching nearly 40% in some countries like Spain, due to the nature of consumers (price conscious in a down economy), nature of competition (concentrated among few big players), and marketing of PL as a trustworthy brand, among other reasons.

Retailers' ownership of private labels endows them with the ability to design their marketing strategy to transition these brands from being an acceptable alternative to a desirable brand, thereby building store loyalty, enhancing their margins, and negotiating with national brand suppliers. Importantly, this is also an avenue for future growth for retailers. So far, retailers have predominantly adopted a "one-size-fits-all" approach to cater to the big middle, comprising of low to middle income consumers who tended to be older women in large households who looked for good quality brands at lower prices (Pauwels & Srinivasan, 2009; Sethuraman & Gielens, 2014). New generations of Gen Z consumers are entering the marketplace. These consumers are reformulating their own expectations of what value truly means. Shoppers no longer want just acceptable quality products at affordable prices. They desire products that are both affordable and experiential, affordable and sustainable, affordable and health conscious. Retailers will have to address this increasingly complex array of needs with a broader set of private brand products to retain their existing customer base and attract new customers to the store (Gielens et al., 2021).

In summary, store brands or private labels are retailer-owned brands that play a vital strategic role in a retailer's assortment portfolio. Given their presence in the assortment with only national brands being delisted, the effect of moderators will be the net effect of consumers' reactance to national brand delisting and their receptivity to store brands. We posit that the reactance effect will dominate because even though consumers may be store brand prone, store brand is seldom a destination brand or a brand with high brand loyalty – these brands are chosen for their value proposition (Gielens et al., 2021). So naturally consumers want to inspect other alternatives before settling for the store brand. Even if that were not the case, consumers' store brand proneness is accounted for by their attitude towards store brand, which is one of the moderators. Hence, our hypotheses below regarding moderators are proposed in the ceteris- paribus sense, after accounting for consumers' desire for the store brand in the assortment.

2.3. Country moderator

M1. *Spain* vs. *the USA*. In this research, we compare store switching propensity in Spain and the USA. Both Spain and the USA have well-developed grocery retail systems with high levels of brand proliferation. But in which country would store switching be higher if assortment size (number of brands) were reduced? The state of the retailing industry and the economy point to greater store switching in the USA than in Spain for many reasons. First is the difference in retail concentration between the two countries. Euromonitor International (2020) reports that the level of retail concentration in the USA is much lower than in Spain. Top-3 (physical) grocery retailers in the USA accounted for less than 20% of market share in the USA in 2019 while they accounted for nearly 50% of market share in Spain. Because of the dominance of large retailers, Spaniards tend to be more loyal to their supermarket (chain) than are their USA counterparts. Consumer culture is a second factor. Statista (2019) reports that the average per capita income in the USA in 2018 was US$67,800 compared to US$33,200 in Spain. The average advertising expenditure in the USA in 2018, obtained from Statista (2019), was about $224 billion, compared to about $6 billion in Spain. Living in a richer nation with a stronger advertising-oriented economy, Americans tend to be more discerning and variety seeking than Spaniards, a fact also reflected by the higher private label share in Spain (37.1% value share) than in the USA (14.8% value share) – IRI (2020). Due to these factors, American consumers will experience greater overall choice deprivation than will their Spanish counterparts when faced with leaner assortment, and are therefore more likely to switch stores.

H_1: *Smaller assortments with fewer national brands will result in higher store switching in the USA than in Spain.*

2.4. Assortment moderators

M2. *Quality of National Brands in Assortment.* While national brands are generally considered higher in quality, there is substantial quality variation with some strong national brands having high perceived quality and some weak national brands of lower quality. Assortments containing a larger proportion of high-quality (high equity) national brands should provide more acceptable alternatives than do assortments with a lower proportion of high- quality national brands (Sloot &

Verhoef, 2008). To the extent that the smaller assortment contains a larger proportion of strong high-quality national brands, assortment reduction may not hurt option attractiveness in the eyes of consumers, and those consumers are less likely to feel deprivation of quality alternatives and less likely to switch stores (Baker et al., 2002; Chernev & Hamilton, 2009). Therefore,

H_2: *Smaller assortments with fewer national brands will result in lower store switching among consumers if the reduced assortment contains a greater proportion of high- quality national brands than low-quality national brands.*

M3. *Quality of Store Brand in Assortment*. When national brands are delisted, consumers may feel deprived of quality brands to choose from, making the store less attractive and, therefore, increasing the likelihood of switching stores (Farris & Ailawadi, 1992; Ngobo, 2011). However, if the retailer carries a high-quality store brand, then consumers may not feel the quality deprivation in the assortment as much and are less likely to switch than if the retailer carries a lower-quality store brand. Indeed, previous literature (e.g., Rubio, Villaseñor, & Oubiña, 2015) suggests that perceived store brand quality plays a critical role in consumers' identification with a brand, increased confidence in the retailer and, hence, better store image and higher store loyalty (González-Benito & Martos-Partal, 2012).

H_3: *Smaller assortments with fewer national brands will result in lower store switching when the reduced assortment contains a higher-quality store brand than a lower-quality store brand.*

M4. *Favored Brand in Assortment*. Ultimately, whether consumers switch stores or not will depend on whether their preferred brand is in the assortment or not. The availability of consumers' preferred brand is critical to the attractiveness of a given assortment (Oppewal & Koelemeijer, 2005). While a reduced assortment may constrain choices, presence of the brand they like should decrease consumers' desire to switch stores. Broniarczyk, Hoyer, and McAlister (1998) reported that assortment reductions of up to 25% may go unnoticed if the consumer's favored brand remains available, whilst the absence of the preferred brand from the assortment reduces preference for shopping at the store. In the same vein, Beneke, Cumming, and Jolly (2013) showed that, by maintaining favored items, consumers' assortment perceptions remain unchanged in the face of item reduction in the wine category. Furthermore, if consumers' favored brand is indeed the store brand, it will continue to remain in the smaller assortment, giving the consumer less reason to switch. Hence,

H_4: *Smaller assortments with fewer national brands will result in lower store switching when the reduced assortment has consumers' favored brand than when it does not.*

2.5. Consumer demographic moderators

M5. *Age*. Older shoppers are said to derive satisfaction from aspects of shopping such as detailed scrutiny of alternatives, negotiation with salespeople, and affiliation with stores (Westbrook & Black, 1985). Hence, older shoppers are expected to become more dissatisfied and feel more deprived of shopping pleasure when faced with smaller assortments. Younger shoppers, on the other hand, will use choice heuristics to simplify the decision-making process (Bettman, Johnson, & Payne, 1991) and will be less affected by assortment reduction. Hence, other things equal,

H_5: *Smaller assortments with fewer national brands will result in higher store switching among older consumers than among younger consumers.*

M6. *Education*. As with older people, better educated consumers are expected to have greater shopping expertise, to be more efficient, and to have greater capability to engage in search, basing their choice decisions on extensive information offered by the store (Homburg & Giering, 2001). As a result, these consumers will prefer to see more national brands in the assortment despite their higher prices (Richardson, Jain, & Dick, 1996) and will feel a greater sense of overall choice deprivation when faced with fewer national brands. On the contrary, less educated people may be less able and willing to process extensive information arising from a larger assortment, leading these individuals to rely more on fewer information cues (Capon & Burke, 1980) and to feel less deprived if they do not see many brands on the shelf. Hence,

H_6: *Smaller assortments with fewer national brands will result in greater store switching among more educated consumers than among less educated consumers.*

M7. *Gender*. According to Bakewell and Mitchell (2006) and Putrevu (2001), men prefer to shop quickly and put as minimal effort as possible, while women enjoy shopping and are happy to spend a substantial amount of time and energy in the purchasing process (Das, 2014). Therefore, women are expected to prefer larger assortments containing a higher number of (national) brands. Indeed, compared to women, men are less involved with national brands (Mitchell & Walsh, 2004), so delisting some of these brands in a given assortment should not affect men as much. So, we expect:

H_7: *Smaller assortments with fewer national brands will result in higher store switching among women than among men.*

M8. *Household size*. Regardless of income or education, the larger the size of the family, the fewer the resources that are available to make ends meet (Richardson et al., 1996:169). In comparison with smaller families, larger families will strongly prefer a broad range of products in order to find the best price/value as well as cater to heterogeneous tastes of their family members (Bawa & Ghosh, 1999), even though they may have greater preference for store brands as a value option. Indeed, Carpenter and Moore (2006) found differences in retail store selections among household sizes, with larger families being more likely to shop at big stores (carrying wider and deeper assortments) whereas smaller ones tend to shop at neighborhood markets and small supermarkets. These arguments suggest:

H_8: *Smaller assortments with fewer national brands will result in higher store switching among larger households than among smaller households*

M9. *Income*. Shoppers with high income levels tend to spend less time on purchases, make shopping simpler and patronize fewer shops, because of their desire to spend time on more enjoyable activities (Baltas, Argouslidis, & Skarmeas, 2010). On the contrary, low-income shoppers perceive themselves as having financial constraints (Ailawadi, Neslin, & Gedenk, 2001). Consequently, they are much more likely to choose where they shop based on the store that offers the lowest prices and the best value for money and thus spend more time on shopping. In this context, larger assortments offer low-income shoppers greater efficiency of time and effort involved in identifying the available alternatives in that store. Accordingly,

H_9: *Smaller assortments with fewer national brands will result in lower store switching among high income consumers than among low income consumers.*

2.6. Consumer psychographic moderators

M10. *Price Consciousness*. Price consciousness denotes "the degree to which the consumer focuses exclusively on paying low prices" (Lichtenstein, Ridgway, & Netemeyer, 1993:235). It implies consumers'

willingness to shop for best price by searching across brands and across stores. For price-conscious consumers, larger assortments will increase the likelihood of finding the right alternatives at low prices so they can reduce overall spending. If the assortment offers limited brand choices, then these price-conscious consumers may feel deprived of low-priced alternatives and switch to another store to shop for a good price. So,

H_{10}: Smaller assortments with fewer national brands will result in higher store switching among more price-conscious consumers than among less price-conscious consumers.

M11. *Value Consciousness*. Value consciousness has been defined as "a concern for paying low prices subject to some quality constraints" (Lichtenstein et al., 1993:235). Value- conscious consumers, therefore, typically attempt to maximize the quality-price ratio (i.e. value) of their purchases. Because national brands are considered high on the quality part of value equation (Rubio, Oubiña, & Villaseñor, 2014), if the assortment offers limited (national) brand choices, then value-conscious consumers are more likely to feel deprived of options that give them best combination of price and quality and switch to another store. So,

H_{11}: Smaller assortments with fewer national brands will result in higher store switching among more value conscious consumers than among less value conscious consumers.

M12. *Store Brand Attitude*. Positive attitude toward store brands can be defined as a predisposition to respond in a favorable way to retailers' store brands or private label brands (Burton, Lichtenstein, Netemeyer, & Garretson, 1998). Naturally, if consumers have a positive, favorable attitude towards the private label, then they are less likely to feel deprived of national brands and less likely to switch stores (Garretson, Fisher, & Burton, 2002). So,

H_{12}: Smaller assortments with fewer national brands will result in less store switching among consumers who have more favorable attitude toward purchasing store brands than among those who have less favorable attitude toward store brands.

M13. *Economic outlook*. This research was motivated in part by a retail chain in Spain wanting to reduce assortment to cut costs in light of an economic downturn. Limited literature suggests that during economic downturn, consumers tend to shop more cautiously and carefully and to spend more time finding the right product at the right price across stores (e.g., Ang, Leong, & Kotler, 2000; van Heerde, Gijsenberg, Dekimpe, & Steenkamp, 2013). On the contrary, if consumers' outlook for the economy is positive, their incentive to search for lower-priced products diminishes (Lamey, 2014). In this situation, consumers prefer the 'status quo' (Rhee & Bell, 2002), and thus they are more likely to retain their shopping patterns and less likely to switch stores due to assortment reduction. Therefore,

H_{13}: Smaller assortments with fewer national brands will result in lower store switching among consumers who have a more positive outlook towards the economy than among those who are less positive about the economy.

M14. *Category Involvement.* Psychographics include values, desires, goals, attitudes, interests, opinions, and lifestyle characteristics of a consumer. In this regard, product category involvement relates to personal relevance or importance of a product category (Coulter, Price, & Feick, 2003) to the consumer. High product category involvement has been associated with a greater motivation to process product information. Individuals who are highly involved in the purchase of a product category will prefer larger assortments (Warrington & Shim, 2000), as they are interested in a wide range of information regarding product category including brands, prices, and deals. Following this rationale, if consumers feel that a purchase in the category is salient to them and are invested in brand choice, a smaller assortment may lead them to switch stores because they sense an overall choice deprivation. Thus,

H_{14}: Smaller assortments with fewer national brands will result in higher store switching among consumers with high involvement in category purchase than among those with low involvement.

2.7. Indirect effects

So far, we have identified 14 variables (M1 to M14) that can moderate the effect of assortment reduction on store switching and hypothesized their direct effects (H_1 to H_{14}). However, some (exogeneous) moderators may indirectly impact store switching through their relationship with other (endogenous) moderators. For example, lower income (M9) may lead to greater price consciousness (M10), which may result in higher store switching when assortment is reduced. Even though lacking in strong theoretical foundation, past literature in different contexts have proposed and empirically investigated such indirect effects (e.g., Ailawadi et al., 2001). Drawing on this literature, and based on intuition, we posit the following indirect effects.

NB & SB Quality (M2 & M3) ➞ *Favored brand in (M4)*. National brand and store brand quality indirectly influence store switching by increasing the likelihood of finding a favored brand. Higher-quality brands are more likely to be considered and more likely to be preferred and purchased by consumers (Steenkamp, van Heerde, & Geyskens, 2010). So, a consumer's likelihood of finding his / her favored brand is higher if the assortment generally contains high-quality national brands or a high-quality store brand.

Age (M5) ➞ *Price & Value consciousness (M10 & M11)*. Age indirectly affects consumer switching through its impact on price and value consciousness. Older consumers have greater shopping experience and more sophisticated choice process (Sherman, Schiffman, & Mathur, 2001). The added experience and sophistication in choice may enable and motivate them to be smarter in assessing price-quality value. Younger consumers, on the other hand, may rely on simple heuristics in their purchase decisions (Richardson et al., 1996). Hence, older consumers are more price and value conscious than younger consumers.

Education (M6) ➞ *Category involvement (M14)*. Prior literature has pointed out that experts are more likely to be involved in category purchase, reflecting in our data that education may play a role in increasing category purchase involvement.

Education (M6) ➞ *Price & Value consciousness (M10 & M11).* More educated consumers are able to process more information about products which enables them to seek the best price and value for their purchases. This ability factor leads them to be more price and value conscious. On the other hand, more educated consumers can afford the higher price and may have other better ways to spend their time instead of shopping. This motivation factor leads them to be less price and value conscious.

Gender (M7) ➞ *Price & Value consciousness (M10 & M11).* Women are generally stated to have greater desire to engage in shopping, more involved in purchasing activities (Baltas, 2003; Homburg & Giering, 2001) and have more market knowledge (Sherman et al., 2001). As a result, we expect women to be more price and value conscious and more involved in category purchase.

Household Size (M8) ➞ *Price & Value consciousness (M10 & M11)*. Given a level of income, larger households have to share the same income among more persons, resulting in such households being more price and value conscious. As a result or otherwise, prior literature (Dhar & Hoch, 1997; Frank & Boyd, 1965) have found a positive relationship between family size and SB proneness. Indeed, Richardson et al. (1996) and Glynn and Chen (2009) suggest that larger households are more likely to purchase SBs given that they have fewer financial resources.

Income (M9) ➞ *Price & Value consciousness (M10 & M11)*. Lower income consumers tend to have higher price and value consciousness because they have less money to spend. On the other hand, high-income consumers go through the purchasing stages more quickly, more impulsive, and less price and value conscious (Ailawadi et al., 2001; Lee, 2007).

Price Consciousness (M10) ➞ *Value consciousness (M11)*. Because value is what you get for the price you pay, those who are price conscious (believe price is important) should also be generally value conscious (believe getting a good product at low price is important). Price-conscious consumers are individuals who are always informed about the prices of their preferred brands (Krishna, Currim, & Shoemaker, 1991) so they can maximize the value of money (Bellinger & Korgaonkar, 1980).

Price & Value Consciousness (M10 & M11) ➞ *SB attitude (M12)*. Given that store brands are generally positioned as low-priced value brands that offer acceptable quality often comparable to that of national brands, but at a lower price, it stands to reason that consumers who are price- and value-conscious are likely to be favorable toward and purchase store brands. This expectation of positive relationship with price/value consciousness and store brand attitude has been validated in several prior studies (e. g., Garretson et al., 2002; Jin & Gu Suh, 2005; Gómez & Rubio, 2010; Sethuraman & Gielens, 2014).

Economic Outlook (M13) ➞ *SB attitude (M12)*. Negative economic outlook may provoke store brand purchase (Lamey, Deleersnyder, Dekimpe, & Steenkamp, 2007). Thus economic outlook may indirectly affect store switching by influencing store brand attitude.

Summary of indirect effects. We have identified ten broad indirect effects based on intuition and past literature. In addition, literature generally states that demographics – age, education, gender, household size, and income can all influence endogenous moderators – SB attitude, economic outlook, and category involvement (Sethuraman & Gielens, 2014; Gázquez-Abad et al., 2015).

3. Research design

We conducted an online field experiment where we manipulated assortment conditions (size and composition), measured propensity to switch stores, and investigated whether the 14 hypothesized variables influenced store switching propensity. We first present the experimental conditions where the independent variable (assortment size) is manipulated along with assortment composition. Then, we describe the measurement of dependent and other moderating variables.

3.1. Experimental conditions

The online experiment consists of 2 × 2 × 2 × 4 between subject conditions involving four factors conducted in the USA and Spain:

(i) Assortment Size: Large – 9 NB + 1 SB; Small – 3 NB + 1 SB (NB = National Brand; SB = Store Brand)
(ii) SB Quality: High-Low
(iii) NB Quality: High-Low
(iv) Product Categories: Yogurt, Bread, Toilet Tissue, Laundry Detergent

Assortment Size - Independent Variable. We manipulated the assortment size at two levels based on the suggestion of the retail chain in Spain that motivated this study. The chain felt they had about nine national brands in many categories and would like to reduce, on average, to three national brands, while keeping the store brand. Accordingly, we designed a large assortment condition (9 national brands, 1 store brand) and a small assortment condition (3 national brands, 1 store brand). These numbers are broadly consistent with those in a prior comprehensive study by Sloot and Verhoef (2008) in grocery products – 9 brands (large) and 6 brands (small).

SB Quality. In each of these assortment sizes (large and small), we altered the quality of the store brand in the assortment (high or low). Data provider, Information Resources, Inc. (IRI) measured the quality of store brands for the four products from its panelists in the US and Spanish markets and identified store brands with low and high quality. We chose one high- quality (HQ) store brand and one low-quality (LQ) store brand from their list that was appropriate for the market in which the consumer resides.

NB Quality. Quality of national brands was also assessed the same way as for store brands, based on panelist survey data provided by IRI. We separated the national brands into High Quality (HQNB) and Low Quality (LQNB). In the High Quality NB assortment condition, we had: two-thirds HQNB and one-third LQNB, which works out to 2 HQNB and 1 LQNB in the small assortment, and 6 HQNB and 3 LQNB in the large assortment. In the Low Quality NB assortment condition, we had: one-third HQNB and two-thirds LQNB, which works out to 1 HQNB and 2 LQNB in the small assortment and 3 HQNB and 6 LQNB in the large assortment. That is, the composition for LQNB was flipped from the HQNB condition.

Product Categories. We chose four grocery products: yogurt, bread, toilet tissue, and laundry detergent. These categories were chosen because retailers typically had several brands in these categories, and we wanted to have two food items and two nonfood items that varied somewhat in purchase frequency, penetration, and price.

3.2. Sample size

The field experiment was identical in both countries, Spain and the USA, except for slight changes in assortment composition to reflect the actual brands in those markets. These four experimental conditions created 32 cells for each country. We used between-subjects experimental design, which is employed by over 90% of field experiments conducted on assortment size. Between-subjects designs dominate within-subjects design, perhaps because it is difficult to dynamically change the assortment size over time for a given consumer and follow his/her behavior or perceptions, and/or to avoid study bias (demand effect) that could occur if the same person is exposed to two different assortments in a short period of time.

Primary grocery shoppers aged 24–70, belonging to a large consumer panel owned by Information Resources Inc. in the USA and in Spain, participated in the experiment. We randomly assigned panelists to the experimental conditions and stopped assigning when we got 35 valid responses from primary grocery shoppers in the household for each cell. Thus, we obtained 1120 (32 × 35) responses from each country for a total of 2240 responses. Each subject was exposed to an assortment configuration corresponding to their condition. Then they completed an online survey that measured the dependent variable and the moderators.

3.3. Measurement of dependent variable

The dependent variable is the store switching intent (SSI). SSI is measured using the following question, as in Rossiter (2002) and adopted by Sloot and Verhoef (2008).

> *According to the assortment displayed, and supposing this was your regular store, please rate the likelihood of switching to another store for future purchases of [category] using a five-point scale (1 = I will definitively keep buying at this store; 5 = I will definitely do my shopping at another store):*

Given that the above question is generally treated as an interval scale, for ease of interpretation and without loss of generality, we converted store switching intent for future purchase of the category to percentages such that 1 = 0%; 2 = 25%; 3 = 50%; 4 = 75%; 5 = 100%. This transformation does not change the nature of the results.

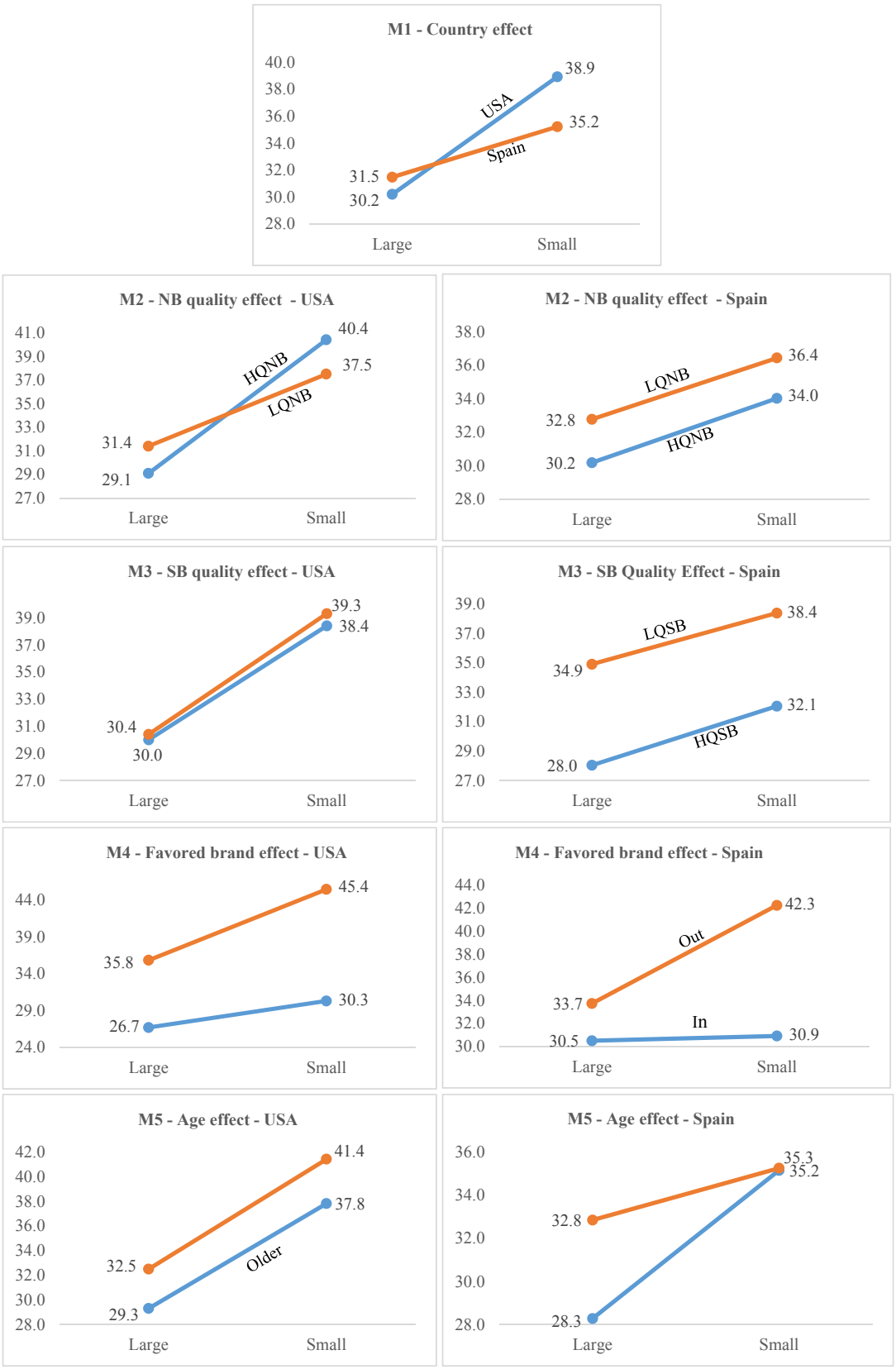


Fig. 2. Mean store switching by assortment size for each moderator.

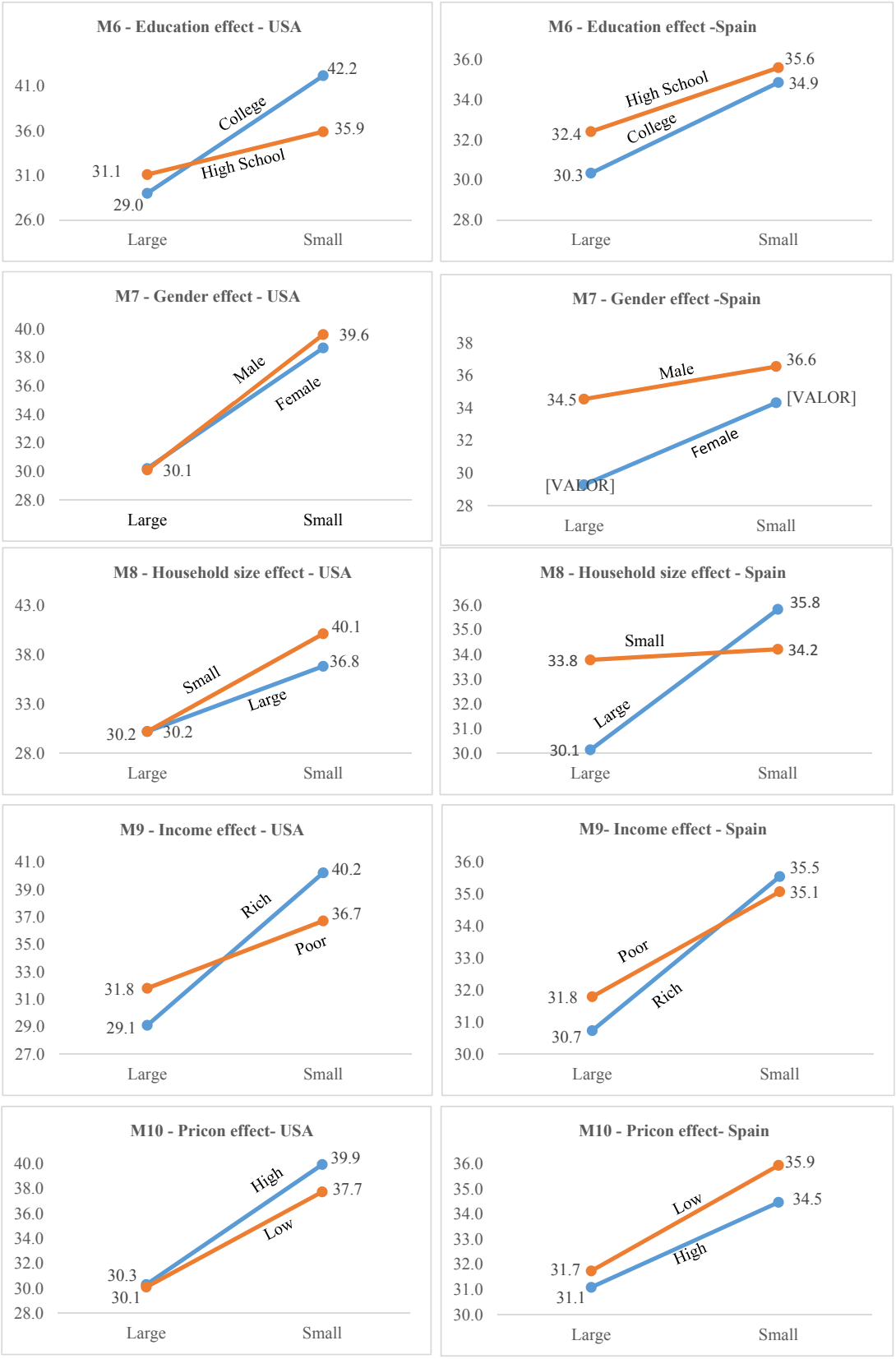


Fig. 2. (*continued*).

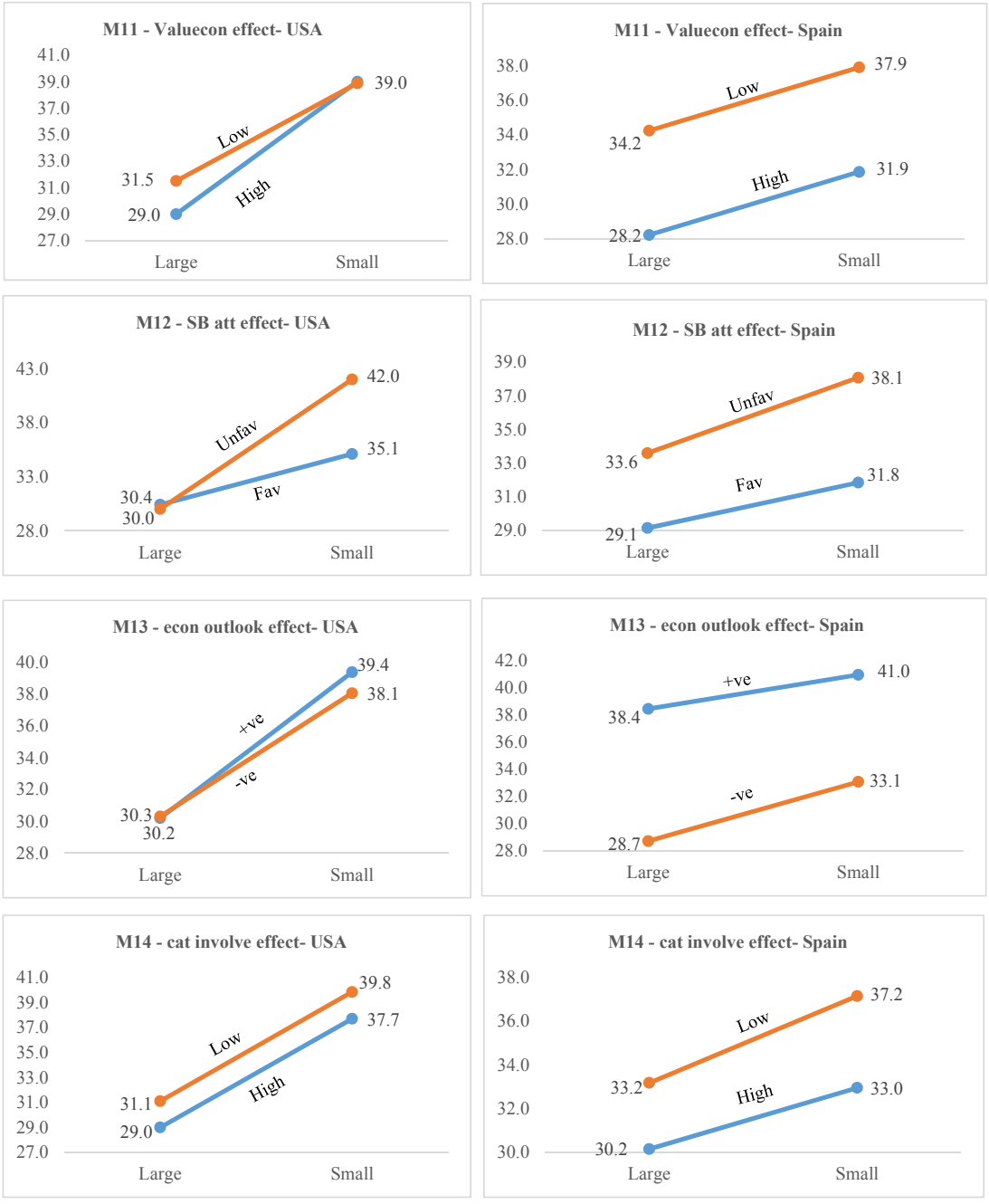


Fig. 2. (*continued*).

3.4. Measurement of moderators

There are 14 hypothesized variables that can moderate the effect of assortment reduction (independent variable) on store switching intent (dependent variable). Of the 14, country, SB Quality, and NB Quality are manipulated in the experiment. The other 11 consumer characteristics are measured in the survey using single-item and multi-item measures, as appropriate, based on past literature. These items are presented in the Web Appendix. Multi-item indicators were combined (averaged) to obtain measures of the construct. Average Cronbach alpha for all multi-item constructs is above 0.75.

4. Data analysis methods

We used univariate means analysis and multivariate regression analysis to test the hypotheses. In regression, we run three alternate models – interaction effects model, incremental switching model, and system of equations model.

4.1. Univariate means analysis

The focal dependent variable is store switching intent (SSI), measured as the percent likelihood of switching to another store for future purchase of the category. We measured SSI for two assortment size conditions – small assortment (3 NB, 1 SB); large assortment (9 NB, 1 SB). We computed mean SSI under different conditions and compared them. Nominally scaled variables (e.g., gender) were retained as such while other ordinal intervally-scaled variables (e.g., price consciousness) were dichotomized into high and low using median cutoff for comparing the means.

4.2. Regression analysis –Interaction effects models

We found from means and regression analysis that the moderator effects are different for the USA and Spain. So we analyze and test hypotheses H_2 to H_{14} separately. For each country, we estimated the following interaction effects model:

$$SSI_i = a_0 + a_1(AS)_i + \sum_{j=1}^{13} b_j M_{ij} + \sum_{k=1}^{3} c_k PC_{ik} + \sum_{j=1}^{13} g_j (AS_i \times M_{ij}) + \sum_{k=1}^{3} h_k (AS_i \times PC_{ik}) + \varepsilon_i, \quad (1)$$

where
SSI_i = Store switching intent (%) for i^{th} consumer,
$(AS)_i$ = Assortment Size dummy (0 = large – 9NB + 1SB; 1 = Small – 3NB + 1 SB),
M_{ij} = Value of j^{th} moderator for i^{th} consumer,
PC_{ik} = Value of k^{th} product for i^{th} consumer – 3 (0/1) dummy variables for 4 products,
a_1, b_j, c_k = Main effect of assortment size, j^{th} moderator, and k^{th} product, respectively,
g_j = Interaction effect of assortment size and j^{th} moderator on store switching intent,
h_k = Interaction effect of assortment size and k^{th} product covariate on store switching, and
ε_i = Error term for i'th consumer assumed to be N (0, σ^2)

Interaction coefficient g_j measures the difference in effect of assortment size (AS) on store switching across different levels of the moderator (M_j). Thus, g_j assesses whether the moderators are significant influencers and tests the hypothesis on moderator j.

4.3. Regression analysis – Incremental switching model

We are interested in assessing whether store switching due to assortment reduction from 10 brands to 4 brands is influenced by the moderators. We used a between-subjects design to measure store switching in large and small assortments. Through randomization, we created equivalent group of subjects. An alternate to the between-subjects design we have used would be to have repeated measures where the same respondent is exposed first to the larger assortment with ten brands and then to the pruned assortment with four brands. We did not adopt this within-subjects design, as the sudden change in assortment size in the experimental setup could cause confusion and trigger demand effects in the form of biased or extreme reaction with respect to store switching – our interest is more in the longer-term consequences of delisting. However, we mimic a within-subjects design and compute the incremental store switching due to assortment reduction by adopting an econometric approach described in the following four steps.

1. Total 2240 respondents are divided equally in four groups of 560 each: USA-small assortment, USA-large assortment, Spain-small assortment, and Spain-large assortment. We take the 560 respondents in the USA who were exposed only to large assortment and model their store switching intent (SSI_{iL}) as a function of the 13 moderators and covariate:

$$SSI_{iL} = a_{0L} + \sum_{j=1}^{13} b_{jL} M_{ij} + \sum_{k=1}^{3} c_{kL} PC_{ik} + \varepsilon_{iL} \quad (2)$$

2. Subjects were randomly assigned to Large and Small assortments (hence equivalent samples on average). So, we use estimates from Eq. (2) to impute (predict) store switching intent when faced with large assortment (L), for those consumers who were actually exposed to the small assortment (S). That is,

$$Exp\left[SSI_{i(S)L}\right] = \widehat{a}_{0L} + \sum_{j=1}^{13} \widehat{b_{jL}} M_{i(S)j} + \sum_{k=1}^{3} \widehat{c_{kL}} PC_{i(S)k} \quad (3)$$

where i(S) represent subjects exposed to small assortment.3. The difference between subjects' actual reported store switching as a result of being exposed to the small assortment [$SSI_{i(S)S}$] and their expected store switching if they had faced the large assortment Exp[$SSI_{i(S)L}$] computed in Eq. (3) yields their incremental store switching intent (ISSI) due to assortment reduction. In other words,

$$ISSI_{i(S)} = SSI_{i(S)S} - Exp[SSI_{i(S)L}] \quad (4)$$

We use the incremental store switching intent to estimate the following equation:

$$ISSI_{i(S)} = a_0^{'} + \sum_{j=1}^{13} g_j^{'} M_{ij} + \sum_{k=1}^{3} h_k^{'} PC_{ik} + \varepsilon_i \quad (5)$$

Coefficient $g_j^{'}$ tests the effect of moderator j on incremental store switching due to assortment reduction (H_2 to H_{14}). We repeated the same steps for Spain.

4.4. Regression analysis – System of equations model

In regression models (1) to (5), all 13 moderators are considered exogenous and we estimate their direct effects. To additionally estimate the indirect effects posited in Section 2.7, we estimate the following models (6a – 6 g) jointly as a simultaneous system of linear equations using Seemingly Unrelated Regression (SUR).

$$ISSI_{i(S)} = a_0^{'} + \sum_{j=1}^{13} g_j^{'} M_{ij} + \sum_{k=1}^{3} h_k^{'} PC_{ik} + \varepsilon_i \quad (6a)$$

(from Eq. 5)

$$\text{Favoredbrandin} = f(\text{NBQuality}, \text{SBQuality}) \quad (6b)$$

$$\text{Priceconsciousness} = f(\text{age}, \text{education}, \text{income}, \text{gender}, \text{householdsize}, \text{economicoutlook}) \quad (6c)$$

$$\text{Valueconsciousness} = f(\text{age}, \text{education}, \text{income}, \text{gender}, \text{householdsize}, \text{economicoutlookpriceconsciousness}) \quad (6d)$$

$$\text{SBattitude} = f(\text{age}, \text{education}, \text{income}, \text{gender}, \text{householdsize}, \text{economicoutlook}, \text{priceconsciousness}, \text{valueconsciousness}) \quad (6e)$$

Table 2
Moderators of Store Switching– Results from Means and Regression Analysis.

#	Variable	Levels	Exp.Sign	Incremental Switching - USA		Incremental Switching - Spain	
				Mean (S.E.)	RegressionCoeff (S.E)	Mean (S.E)	RegressionCoeff (S.E)
M1	Country	USA	H_1 (+)	5.00 (2.77)*			
		Spain	base				
M2	NB quality	High	H_3 (−)	5.2 (3.55)*	4.10 (2.41)*	0.2 (3.35)	1.19 (2.32)
		Low	base				
M3	SB quality	High	H_4 (−)	−0.5 (3.55)	0.22 (2.52)	0.6 (3.35)	2.77 (2.35)
		Low	base				
M4	Favored brand	Brand in	H_2 (−)	−6 (3.6)*	−5.06 (2.65)*	−8 (3.60)*	−9.47 (2.47)*
		Brand out	base				
M5	Age	Old	H_5 (+)	−0.38 (3.82)	−1.51 (2.99)	4.47 (3.70)*	5.06 (2.67)*
		Young	base				
M6	Education	College	H_6 (+)	8.38 (3.56)*	8.30 (2.60)*	1.34 (3.35)	4.18 (2.59)
		High school	base				
M7	Gender	Female	H_7 (+)	−1.04 (3.87)	0.06 (2.90)	3.04 (3.43)	4.94 (2.44)*
		Male	base				
M8	Household size	Family	H_8 (+)	−3.29 (3.68)	−4.08 (2.86)	5.26 (3.47)*	7.53 (2.45)*
		1 or 2	base				
M9	Income	Rich	H_9 (−)	6.21 (3.66)*	4.85 (2.68)*	1.53 (3.54)	1.42 (2.59)
		Poor	base				
M10	Price conscious	High	H_{10} (+)	1.99 (3.56)	0.52 (0.88)	−0.82 (3.41)	−0.54 (0.87)
		Low	base				
M11	Value conscious	High	H_{11} (+)	2.53 (3.54)	1.63 (1.23)	−0.01 (3.41)	−0.12 (1.08)
		Low	base				
M12	Store brand attitude	Favorable	H_{12} (−)	−7.32 (3.58)*	−3.80(1)*	−1.79 (3.39)	0.66 (1.06)
		Unfavorable	base				
M13	Econ-outlook	Positive	H_{14} (−)	1.42 (3.78)	0.09 (0.90)	−1.85 (3.69)	0.21 (0.87)
		Negative	Base				
M14	Category involvement	High	H_{13} (+)	−0.04 (3.58)	0.70 (0.88)	−1.17 (3.35)	−1.18 (0.84)
		Low	base				

*Significant at least at the 5% level, $p < .05$ – one tailed test.

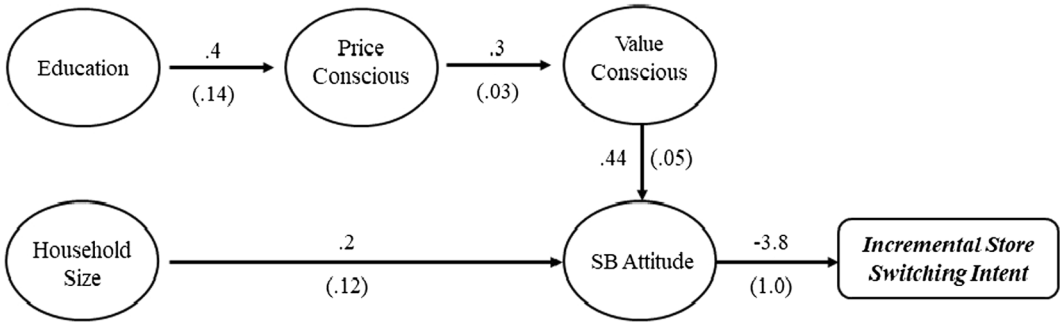


Fig. 3a. Significant indirect paths – USA (based on estimates from Models 6a – 6 g). Note: Standard errors in parentheses. All coefficients significant at $p < .05$.

$$\text{Economicoutlook} = f(\text{age}, \text{education}, \text{income}, \text{gender}, \text{householdsize}) \quad (6f)$$

$$\text{Categoryinvolvement} = f(\text{age}, \text{education}, \text{income}, \text{gender}, \text{householdsize}, \text{producttype}) \quad (6g)$$

5. Results

Across 2240 respondents in the USA and Spain, assortment reduction (from 10 to 4 brands) increases average Store Switching Intent (SSI) by 6.2% from 30.9% to 37.1%, which is significantly greater than zero ($t_{2238} = 4.12$, $p < .01$). Figures 2.1 to 2.14 depict mean SSI for each of the 14 hypothesized moderators. The difference in slopes of the two lines is indicative of the interaction effect. It measures the influence of the moderator in differentially impacting store switching due to assortment reduction. This difference in slopes is measured by the difference in mean difference (Dif-in-Dif) and is provided in Table 2.

We estimate the interaction effects model (Eq. (1)) and incremental switching regression model (Eq. (5)) using OLS. Because regression coefficients were different for the USA and Spain, we performed separate analysis for the two countries. Multicollinearity was not a problem among independent variables, as evidenced by low correlations (less than 0.43) and low condition indices (less than 60). Regression coefficients from both Eqs. (1) and (5) are the same ($g_j = g'_j$) but the

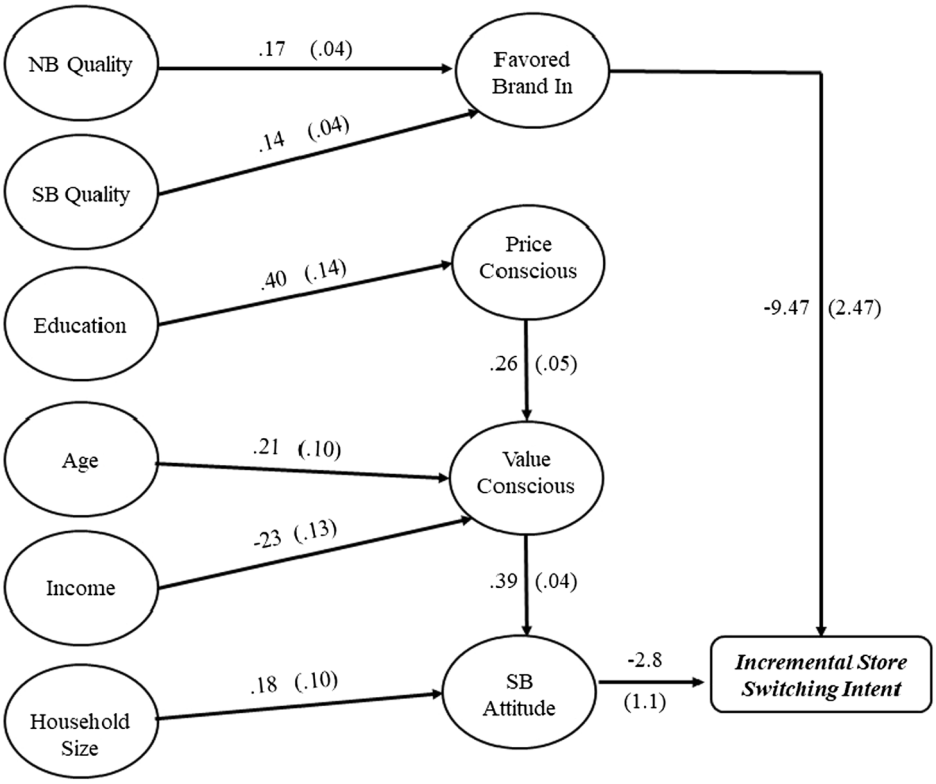


Fig. 3b. Significant indirect paths – Spain (based on estimates from Models 6a – 6 g), Note: Standard errors in parentheses. All coefficients significant at $p < .05$.

standard errors from incremental switching model are slightly lower, increasing the power of the test, so we present results only from the incremental switching model (5) for USA and Spain in Table 2. R^2 for the incremental switching model (5) is 0.09 (adj. $R^2 = 0.06$) for USA and 0.10 (adj. $R^2 = 0.07$) for Spain.

Fig. 3a (for the USA) and 3b (for Spain) show the significant indirect paths linking the moderators to store switching intent based on results from estimating Models 6a to 6 g. We present the results for each moderator.

5.1. Country moderator

M1. *Spain* vs. *the USA*. Assortment reduction increases store switching intent only by 3.7% (from 31.5% to 35.2%) in Spain but by as much as 8.7% (from 30.2% to 38.9%) in the USA (see Figure 2.1).This difference in mean difference (8.7–3.7 = 5%) reported in Table 2 (Column 4) is statistically significant ($t_{2236} = 1.81$, $p < .05$, one-tailed test), showing that incremental store switching due to assortment reduction is higher in the USA than in Spain.

5.2. Assortment moderators

M2. *Quality of National Brands in Assortment*. In the USA, when assortment size is reduced in the high-quality condition, store switching intent is higher than in the low-quality condition by 5.2% in the univariate means analysis and 4.1% in the regression analysis after accounting for other factors, both of which are significant at the 5% level.

In Spain, results from univariate and regression analysis do not indicate a significant direct effect (Table 2). But, results from path analysis (Fig. 3b) indicate a significant indirect effect. As posited in Section 2.7, having strong high-quality national brands in the mix significantly increases the chance of a consumer finding his/her favored brand in the assortment. Having the favored brand in the assortment is one of the strongest influencers that inhibits store switching. Thus, having high- quality national brands in the smaller assortment reduces store switching propensity by improving the chances of the consumer finding his/her favored brand.

M3. *Quality of Store Brand in Assortment*. Results from means and regression analysis do not support direct or indirect effects in the USA (Fig. 2.3a and Table 2). On the other hand, analysis of mean switching in Spain reveals interesting findings (Fig. 2.3b). First, there is a strong main effect of HQSB. That is, the presence of high-quality store brands decreases store switching by about 6.5% across the two assortments – 6.9% (34.9–28) in the large assortment and 6.3% (38.4–32.1) in the small assortment. In fact, having high-quality store brands, even if the assortment is smaller, results in less switching (32.1%) than having low-quality store brands in a large assortment (34.9%). Second, having a large assortment with high-quality store brands would result in the lowest store switching (28%), but if, in the process of reducing assortment, the retailer eliminates high-quality store brands, then store switching would jump significantly to 38.4%. Furthermore, in Spain, having strong high-quality store brands in the mix significantly increases the chance of a consumer finding his/her favored brand in the assortment (Fig. 3b), which reduces store switching (indirect effect). Taken together, high store brand quality can more than compensate for smaller assortment in Spain.

M4. *Favored Brand in Assortment*. This factor is a strong driver of store switching in both the USA and in Spain. Fig. 2.4a shows that, in the USA, if the consumer's favored brand is in, then store switching propensity decreases by over 12% across the two assortments. In fact, having the consumer's favored brand, even if the assortment is smaller, results in less switching (30.3%) than not having the favored brand in a large assortment (35.8%). Second, having a large assortment that also has a consumer's favored brand would result in lowest store switching (26.7%). But, if in the process of reducing assortment, the retailer eliminates the consumer's favored brand, then store switching would jump substantially by almost 19% to 45.4%. A similar strong means effect is observed in Spain also (Fig. 2.4b) as wells as in means and regression analysis (Table 2).

5.3. Consumer demographic moderators

M5. *Age.* Age is not a significant moderator in the USA. In Spain, assortment reduction increases store switching only by 2.4% (from 32.8% to 35.2%) among younger consumers, but by as much as 7% (from 28.3% to 35.3%) among older consumers – see Fig. 2.5b. This difference in mean difference (7–2.4 = 4.6%) is statistically significant ($t_{1116} = 1.41$, $p < .10$). This positive effect of age on switching is also supported in regression analysis (Table 2). Age also has an indirect effect on store switching in Spain through its impact on value consciousness. Older consumers are more value conscious and hence have a more positive brand attitude which reduces their propensity to switch stores if national brands are delisted because they have a store brand fallback option.

M6. *Education.* In the USA, Fig. 2.6a reveals that when assortment size is reduced, less educated consumers are 4.8% more likely to switch stores (35.9–31.1), whereas college-educated consumers are 13.2% more likely to switch stores (42.2 – 29.0). This difference in mean difference 8.4% (13.2 – 4.8) is significantly greater than zero ($t_{1116} = 2.35$, $p < .01$). This significant finding from means analysis is also validated in regression analysis (Table 2). Education is not a significant direct moderator of store switching in Spain. However, education exerts indirect effect on store switching both in the USA and in Spain. More educated consumers exhibit a higher level of price consciousness (Figs. 3a and 3b), which is positively related to value consciousness, which improves consumer's attitude towards store brands, thus reducing store switching.

M7. *Gender.* There is no evidence of a direct or indirect effect of gender on store switching in the USA. In Spain, when there is assortment reduction, incremental store switching among women (5%) is higher than that for men (2.1%), though not statistically significant (Fig. 2.7b and Table 2). However, the effect of gender is significant in the regression, with women more likely to switch due to assortment reduction.

M8. *Household size.* Household family size is not a significant direct influencer of store switching in the USA (Fig. 2.8a, Table 2). In Spain, family size is a significant influencer of store switching. In fact, for singles and couples, assortment reduction resulted in little incremental switching (about 0.4%) when assortment reduces from 10 brands to 4 brands. But for families of 3 or more, assortment reduction results in 5.7% increase in store switching (Fig. 2.8b). The difference in mean difference of 5.3% is significant ($t_{1116} = 1.52$, $p < .10$) – table 2. Regression analysis also validates this significant effect, after accounting for other factors (Table 2). Household size does show a significant indirect effect in both the USA and Spain, confirming prior literature.

M9. *Income.* Means analysis and regression analysis both indicate a significant positive effect with higher-income, richer consumers more likely to switch stores in the face of assortment reduction in the USA, but not in Spain. Nevertheless, in Spain income influences the delisting effect through value consciousness. Consistent with intuition and prior literature (Ailawadi et al., 2001) higher-income households are less value conscious than lower-income households, which leads to lower store brand proneness and higher store switching.

5.4. Consumer psychographic moderators

M10. *Price Consciousness*. In both the USA and Spain, we only find significant indirect effect. Price consciousness leads to value consciousness, which results in favorable attitude towards store brands, reducing propensity to switch stores when assortment is reduced (Figs. 3a, 3b). This result shows that the main (and only significant) effect path of price consciousness to store switching intent is through its impact on value consciousness,

M11. *Value Consciousness*. We do not find evidence of a direct effect in either the USA or Spain. However, consistent with prior literature and intuition, we observe an indirect effect of value consciousness on store brand attitude, which reduces store switching.

M12. *Store Brand Attitude*. In the USA, for both types of consumers, store switching propensity is about 30% for large assortment. But when assortment size is reduced, store switching increases to 35% for those with favorable store brand attitude and as high as 42% for those with less favorable attitude towards store brands (Fig. 2.12a). This significant effect is also validated in regression analysis (Table 2). In Spain, the incremental switching effect is not significantly lower for those with less favorable attitude towards store brands. But Fig. 2.12b indicates a strong main effect that highlights the importance of having favorable store brand attitude. There is a positive relationship between SB attitude and SSI or store loyalty such that those who have favorable SB attitude are less likely to switch stores than those with less favorable attitude by 5% to 7%, whether the assortment is large or small. In fact, consumers with favorable attitude towards store brands are less likely to switch stores (31.8%) with smaller assortment than consumers with unfavorable would in a larger assortment (33.6%).

M13. *Economic outlook*. We do not find significant effect of economic outlook on store switching due to assortment reduction in the USA or in Spain.

M14. *Category Involvement*. We do not find a strong significant effect of category involvement on store switching in either the USA or Spain.

5.5. Relative importance of moderators

In summary, 12 of 14 moderators show significant (direct or indirect) effect either in the USA or Spain or both (see Fig. 1). It is difficult to state unequivocally which moderators are more important than others because of the divergent, discrete scales used in their measurement, which make comparison difficult. Nevertheless, based on changes in mean SSI (effect size), standardized regression coefficient (beta weight), and significance of coefficient (p-value), we can infer that in the USA presence of favored brand, store brand attitude, and education are the most important moderators, followed by income and national brand quality, with the other moderators being relatively unimportant. In Spain, presence of the favored brand, age, and household size are the most important moderators, followed by store brand quality, store brand attitude and gender, with the other moderators being relatively unimportant.

6. Discussion of results

We draw on reactance and related choice deprivation theory to hypothesize how the effect of assortment size reduction on store switching is moderated. In addition, we investigate several indirect effects based on intuition and prior literature. The findings provide both theoretical and managerial implications.

6.1. Theoretical implications

1. *Which item is out there is more important than how many there are!* Favored brand is one of the most important moderators in both the USA and Spain. The finding that consumers switch significantly when their favored brand is not present suggests they react aggressively when they are deprived of what they care about. At the same time, the finding that consumers do not switch stores much so long as their favored brand is in the reduced assortment suggests they mainly care about what they value most, and also possibly have a limited consideration set that includes their favored brand.
2. *Wealthy consumers need more choice alternatives rather than fewer to give them their sense of freedom and indulgence*. We hypothesized that wealthy people would rather be doing something more enjoyable than shopping, and hence would not switch stores in the face of assortment reduction. We find a contrary result in the USA. Wealthy people are more likely to switch stores when assortment size is reduced. Perhaps wealthy people are more variety seeking and care more about their freedom of choice.

3. *Indirect effects do matter*. While the direct effect of many variables on store switching are not significant, several of them do influence store switching through their impact on other endogenous moderators. In particular, demographic characteristics exert impact indirectly on store switching through psychographic variables. As Ailawadi et al. (2001) point out, demographic variables account for little variation (less than 5%) in choice behavior such as coupon redemption or SB purchase based on direct effects. But these variables have much greater impact on shopping behavior when their indirect effect owing to their relationship with psychographic and lifestyle variables are also factored in.
4. *Value is more important than price*. Since value is defined as what you get (item) for what you pay (price), it follows that price consciousness leads to value consciousness. Equally important, that value consciousness is more positively and significantly linked to store brand attitude than price consciousness suggests that consumers seek overall value rather than just low price from their store brands.
5. *Knowledge makes people more price and value conscious*. In the advertising field, there are two schools of thought – advertising equals information and advertising equals differentiation. The former makes consumers more price sensitive while the latter makes them less price sensitive thereby giving more market power to the advertised brand. Same way, knowledge possessed through education can make consumers more informed about products and prices, or it can make them richer and less caring about spending time shopping for good prices. The former view implies educated consumers are more price / value conscious, and the latter view implies they are less price / value conscious. Our research supports the former view that education leads to greater information seeking and higher levels of price / value consciousness, consistent with the observation that educated consumers are dominant purchasers of value private labels (Gielens et al., 2021).

6.2. Managerial implications

Overall, assortment reduction from 10 brands to 4 brands results in incremental store switching intent of 6.2%. We believe given the size of the retail economy, with 32 million consumers shopping every day in the USA, and the low net margin in grocery stores, this number is sizable and retailers should be cautious about their assortment reduction strategy through delisting of national brands. In this section, we link the moderator results with relevant consumer behavior and provide their practical implications.

1. Be more cautious about reducing assortment size in the USA than in Spain. Hypothesis H_1 that consumers in the USA are more likely to switch stores when faced with assortment reduction than consumers in Spain is validated. In Section 2.3 we indicated this expectation is due to the USA having stronger economy, greater advertising reach, but smaller retail concentration. These macro factors translate into American consumers being able to afford more money, want more variety, and seek brand status. They are also less trusting of retailers' assortment mix or their store brands. Spanish consumers on the other hand, due to their inherent social culture as well as lack of large pantry (since they live in smaller houses/flats), trust and patronize their neighborhood convenience stores including the retailers' store brands. Therefore, U.S. retailers should be more cautious about delisting national brand than Spanish retailers. It is interesting in this context to note that major European discount retailers such as Aldi's, which relied solely on their private labels, have considered introducing a few select national brands to buttress their assortment especially when penetrating the U.S. market.

2. Retain quality brands when resorting to assortment reduction. Quality moderates store switching due to assortment reduction in both the USA and Spain but in different ways. NB quality has a strong and direct moderating effect on store switching while SB quality has a significant direct effect on store switching in Spain. These results are consistent with the reasons stated in #1 above. Because American consumers are willing to pay a higher price, are more national brand prone, variety and quality seeking, retaining high quality NBs in the smaller assortment is important to American consumers to avoid switching stores. On the other hand, given the strong PL program in Europe, Spanish consumers trust the retailer and care about store brand quality and do not want SB quality to be compromised during assortment reduction or cost cutting. This desire for quality SB in Spain is particularly reinforced by our finding that high SB quality can more than make up for delisting NBs in terms of limiting store switching (Section 5.2-M3). At the same time, Spanish consumer cannot ignore NB quality. There is a significant indirect effect of NB quality through consumers' favored brand. This result is likely due to segmentation of NB and SB consumers. Even though SB is well received in Spain, there is a sizable segment of consumers who consider purchasing a host of national brands due to their generally higher perceived quality. For them, deleting a high quality NB may lead to loss of their favored brand, which can trigger store switching.

3. Identify and keep profitable favored brands. Having consumers' favored brand in the assortment is one of the strongest moderators that inhibits store switching in both the USA and in Spain. This result is consistent with intuition, prior literature and the notion of limited consideration set. So long as brands that consumers care about are in their consideration, they are less likely to be negatively disposed toward smaller assortment and less likely to switch stores. Grocery retailers can identify through panel data, loyalty cards, or other means the favored brands of their profitable segments and ensure that they are retained in the pruned assortment.

4. Beware of the demographic segment the retail store is catering to before resorting to NB delisting. Wealthy consumers are more likely to switch stores in the USA than are less wealthy. Perhaps the rich, discerning consumers care more about variety and freedom of choice. Stores in more affluent neighborhoods should have more national brands (larger assortment) than stores in less affluent (low education) neighborhoods. Interestingly, income is not a significant moderator in Spain. We suspect this result is because of differences in personality, income disparity, attitude towards and perception of national brands *vis-à-vis* store brand, and other socio-cultural aspects. First, the average income of US consumers is $68,700 which is over twice that of Spanish consumers (INE, 2018; Statista. Median household income in the United States from 1990, 1990, 2019) and the variance (the difference in income between the rich and the poor) is also higher in the USA. Because of this divergence, the (more) rich US consumers may feel a sense of entitlement (personal) fanned through extensive U.S advertising promoting the status or image orientation (socio-cultural) associated with getting the best / unique product from the assortment. Spanish consumers trust their retailers and are more prone to purchasing store brands than their American counterparts with SB value share in Spain at 37.1% compared to 14.8% in the USA (IRI, 2020). Due to their willingness to choose store brand, the rich Spanish consumers are not as sensitive to assortments as American consumers. Spanish consumers also often buy from neighborhood, convenience stores which typically carry smaller assortment, so they are not sensitive to smaller assortments or assortment reduction.

Age has a significant direct effect in Spain with older consumers being more prone to switching due to delisting of national brands. For supermarkets in family neighborhoods and product categories where different items are bought for different family members (e.g., cereal), reducing assortment size may not be recommended. If assortment reduction or delisting of national brands cannot be avoided, promoting store brands to older consumers may be one way to control store switching in large households.

5. It pays to emphasize value consciousness and store brands. Why do retailers generally delist national brands? To be more efficient and cut costs, and thus ostensibly to offer lower prices and value to consumers. So, it is natural to expect that value conscious consumers would feel the choice deprivation due to NB delisting less, especially if they think they have an equivalent store brand. Our research finds that positive SB

attitude is quite important in preventing store switching. Promoting the value proposition is one avenue for fostering positive SB attitude, which can be achieved through enhanced packaging of SB and positioning SB next to NB on the shelf with "Compare and Save" shelf talkers, promotional sampling and price discounting.

7. Conclusion

Retailers' strategy of reducing assortment size by delisting national brands has become fairly common, especially due to digitization of retailing and the economic downturn due to the current COVID-19 pandemic. While such delisting can increase efficiency and cut costs for the retailer, the resulting lack of variety and alternatives may put consumers off and make them switch stores. To weigh the pros and cons and decide on when and what to delist, retailers have to determine the conditions when assortment reduction can lead to greater store switching. In this research, we investigated the effect of 14 moderators that can influence store switching due to assortment reduction using a comprehensive online survey of 2240 consumers in Spain and the USA. We obtained several insightful results presented in Section 5, whose theoretical and managerial implications are discussed in Section 6. However, there are several limitations of the research that suggest caution in generalizing the results and offer avenues for future research.

Enhancing Generalizability. We conducted our analysis for grocery products in supermarkets in USA and Spain with 14 moderators. For the purpose of generalization and to understand differences, future research can investigate more products (e.g., hedonic/utilitarian), more geographic areas (e.g. Asia and Africa), more store formats (e.g., warehouse clubs, neighborhood and convenience stores) with more moderators (e.g., competitor and task-oriented variables).

Enhancing Robustness. On the methodology front, our data are based on self-reported measures of store switching intent and not on actual store switching behavior. Nevertheless, because our focus is not on estimating the magnitude of the effect – e.g., how likely are women to switch stores when assortment is reduced – but on the direction of the effect – are women more likely to switch stores than men – we do not believe the survey method would be erroneous, unless there is evidence that there is significant reporting difference between the two groups. We also used just two assortment size (9NB, 1 SB and 3NB, 1SB), at the request of the retail chain that motivated this study. Results may be different for other assortment sizes/compositions and are worth investigating. Furthermore, we used a between-subjects design in the experiment to avoid demand effects and extreme reaction. Careful within-subjects design can be used to test the validity of the current results.

Manufacturer-initiated NB delisting. Our paper is predicated on retailers delisting manufacturers' national brands. What if the manufacturers delist (discontinue) their own national brands from their portfolio? How would it affect retail store patronage and how should retailers cope with it? This issue has become particularly relevant as several even established manufacturers have reduced the number of brands they carry in the face of COVID-related economic onslaught. Recently, in October 2020, Coca-Cola announced that the company would be discontinuing more than 200 brands from their portfolio. Would the sudden absence of these brands have a negative effect on retailers? How should retailers compensate for the loss of these brands?[1]

We do not think Coca Cola discontinuing brands will result in substantial store switching because (i) since the manufacturer is discontinuing the brands, all retailers will be devoid of those brands, so there will be no differential advantage for any retailer to induce store switching, (ii) the brands were generally slow-moving, low-growth items that accounted for only 2% of total revenue according to CNN Business News (October 22, 2020), and (iii) many of those discontinued were better performing in restaurants and other on-site locations that were closed due to the pandemic. As such, they do not affect supermarket sales. Nevertheless, retailers' store traffic could be affected at the margin and they have to decide whether and how to counter it by introducing alternate store brands or regional / national brands, a promising area for future research.

Global heterogeneity. Due to technological advancement, the entire world is becoming a single entity with its own commonalities and differences, offering both opportunities and challenges for global marketers. Consumer reaction to assortment size is no different. On the one hand, consumers in both the USA and Spain are less likely to switch stores even with smaller assortment so long their favored brand is in the smaller assortment. Future research can do more research on other countries and culture to test if it is a universal generalization and what the underlying motive is (being self-centered, loyal, or other). On the other hand, income is a significant positive moderator of assortment size effect in the USA but not in Spain, even after accounting for other factors such as household size, price and value consciousness. Why do we see this difference? In Section 6.2, we speculate that the difference may be due to a host of personal, social, cultural, and environmental factors. Future research can investigate the commonalities and differences across geographies in the global market, identify underlying reasons and develop managerial implications for geographically segmented marketing[2].

Greater theoretical understanding. We posit that the moderator effects are due to consumers having greater or lesser feeling of deprivation due to assortment reduction. However, due to the empirical nature of this paper, we do not manipulate deprivation in our survey-based field experiment nor do we engage in process tracing to see what underlying thought process causes the moderating effects.

Overchoice and threshold assortment size. Increasing the number of product alternatives increases the cognitive load, thereby potentially increasing consumers' decision difficulty, also known as *overchoice*. Although a few studies have empirically documented such phenomenon, more research is needed as to the underlying reason for preferring or not preferring a larger assortment – choice freedom vs overchoice. Along the same lines, research is needed on threshold assortment size (tipping point) above which consumers have negative views on the abundant choice (assortment).

Asymmetric Effect. This paper has mainly focused on the context of assortment reduction decisions (from 10 brands to 4 brands); however, would the conclusions obtained in our analysis be similar in case of assortment increase decisions? In other words, is the assortment size effect symmetric?

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Ailawadi, K., & Keller, K. L. (2004). Understanding retail branding: Conceptual insights and research priorities. *Journal of Retailing, 80*(4), 331–342. https://doi.org/10.1016/j.jretai.2004.10.008.

Ailawadi, K., Neslin, S., & Gedenk, K. (2001). Pursuing the value conscious consumer: Store brand vs national brand promotions. *Journal of Marketing, 65*, 71–89. https://doi.org/10.1509%2Fjmkg.65.1.71.18132.

Ang, S., Leong, S. M., & Kotler, P. (2000). The Asian apocalypse: Crisis marketing for consumers and business. *Long Range Planning, 33*, 97–119. https://doi.org/10.1016/S0024-6301(99)00100-4.

Argouslidis, P., Skarmeas, D., Kühn, A., & Mavrommatis, A. (2018). Consumers' reactions to variety reeduction in grocery stores: A freedom choice perspective. *European*

[1] We thank Reviewer 1 for raising questions about Coca Cola's strategy and motivating this research direction

[2] We thank Reviewer 2 for his / her comments about difference in findings between the USA and Spain that motivated this research direction

Journal of Marketing, 52(9/10), 1931–1955. https://doi.org/10.1108/EJM-12-2016-0844.
Baker, J., Parasuraman, A., Grewal, D., & Voss, G. B. (2002). The influence of multiple store environment cues on perceived merchandise value and patronage intentions. *Journal of Marketing, 66*(2), 120–141. https://doi.org/10.1509%2Fjmkg.66.2.120.18470.
Bakewell, C., & Mitchell, V.-W. (2006). Male versus female consumer decision making styles. *Journal of Business Research, 59*(12), 1297–1300. https://doi.org/10.1016/j.jbusres.2006.09.008.
Baltas, G. (2003). A combined segmentation and demand model for store brands. *European Journal of Marketing, 37*(10), 1499–1513.
Baltas, G., & Argouslidis, P. (2007). Consumer characteristics and demand for store brand. *International Journal of Retail and Distribution Management, 3*(5), 328–341. https://doi.org/10.1108/09590550710743708.
Baltas, G., Argouslidis, P., & Skarmeas, D. (2010). The role of customer factors in multiple store patronage: A cost-benefit approach. *Journal of Retailing, 86*(1), 37–50. https://doi.org/10.1016/j.jretai.2010.01.005.
Bawa, K., & Ghosh, A. (1999). A model of household grocery shopping behaviour. *Marketing Letters, 10*(2), 149–160. https://doi.org/10.1023/A:1008093014534.
Bellinger, D., & Korgaonkar, P. (1980). Profiling the recreational shopper. *Journal of Retailing, 56*(3), 77–92.
Beneke, J., Cumming, A., & Jolly, L. (2013). The effect of item reduction on assortment satisfaction – a consideration of the category of red wine in a controlled retail setting. *Journal of Retailing and Consumer Services, 20*(3), 282–291. https://doi.org/10.1016/j.jretconser.2013.01.007.
Bettman, J. R., Johnson, E. J., & Payne, J. W. (1991). Consumer decision making. In T. S. Robertson, & H. H. Kassarjian (Eds.), *Handbook of consumer behaviour* (1st ed., pp. 50–84). NJ: Prentice Hall.
Brehm, J. W. (1966). *A theory of psychological reactance*. New York: Academic Press.
Broniarczyk, S. M. (2008). Product Assortment. In C. P. Haugtvedt, P. M. Herr, & F. R. Kardes (Eds.), *Handbook of Consumer Psychology* (pp. 755–779). New York: LEA/Psychology Press.
Broniarczyk, S. M., Hoyer, W. D., & McAlister, L. (1998). Consumers' perceptions of the assortment offered in a grocery category: The impact of item reduction. *Journal of Marketing Research, 35*(September), 166–176. https://doi.org/10.1177%2F002224379803500203.
Burton, S., Lichtenstein, D., Netemeyer, R., & Garretson, J. (1998). A scale for measuring attitude toward private label products and an examination of its psychological and behavioral correlates. *Journal of the Academy of Marketing Science, 26*(4), 293–306. https://psycnet.apa.org/doi/10.1177/0092070398264003.
Capon, N., & Burke, M. (1980). Individual, product class and task-related factors in consumer information processing. *Journal of Consumer Research, 7*(December), 314–326. https://doi.org/10.1086/208819.
Carpenter, J. M., & Moore, M. (2006). Consumer demographics, store attributes, and retail format choice in the US grocery market. *International Journal of Retail & Distribution Management, 34*(6), 434–452. https://doi.org/10.1108/09590550610667038.
Chernev, A., & Hamilton, R. (2009). Assortment size and option attractiveness in consumer choice among retailers. *Journal of Marketing Research, 46*(June), 410–420. https://doi.org/10.1509%2Fjmkr.46.3.410.
CNN. Dumped! Brand names fight to stay in store (2010). http://money.cnn.com/2010/02/15/news/companies/walmart_dropping_brands/ Accessed 11 November 2015.
CNN. Coke is cancelling 200 drink brands (2020). https://edition.cnn.com/2020/10/22/business/coke-zico-tab/index.html Accessed 23 January 2021.
Coulter, R. A., Price, L. L., & Feick, L. (2003). Rethinking the origins of involvement and brand commitment: Insights from post-socialist Europe. *Journal of Consumer Research, 30*(2), 151–169. https://doi.org/10.1086/376809.
Das, G. (2014). Impacts of retail brand personality and self-congruity on store loyalty: The moderating role of gender. *Journal of Retailing and Consumer Services, 21*(2), 130–138. https://doi.org/10.1016/j.jretconser.2013.07.011.
Dass, M., & Kumar, P. (2012). Assessing category vulnerability across retail product assortments. *International Journal of Retail & Distribution Management, 40*(1), 64–81. https://doi.org/10.1108/09590551211193603.
de Clerck, S., Gijsbrechts, E., Steenkamp, J. B., & Dekimpe, M. G. (2001). The impact of assortment cuts and extensions on category sales: Working Paper. *KU Leuven Research Report, 0125*.
Dhar, S. K., & Hoch, S. J. (1997). Why store brand penetration varies by retailer. *Marketing Science, 16*(3), 208–227.
Edwards, S. M., Li, H., & Lee, J.-H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising, 31*(3), 83–95. https://doi.org/10.1080/00913367.2002.10673678.
Euromonitor International. Retailing in Spain. Country Report (2020). March, brief, https://www.euromonitor.com/retailing-in-spain/report Accessed 22 September 2020.
Farris, P., & Ailawadi, K. L. (1992). Retail power: Monster or mouse? *Journal of Retailing, 68*, 351–369.
Frank, R. E., & Boyd, H. J. W. (1965). Are private-brand-prone grocery customers really different? *Journal of Advertising Research, 5*(4), 27–35.
Garretson, J. A., Fisher, D., & Burton, S. (2002). Antecedents of private label attitude and national brand promotion attitude: Similarities and differences. *Journal of Retailing, 78*, 91–99. https://doi.org/10.1016/S0022-4359(02)00071-4.
Gázquez-Abad, J. C., Martínez-López, F. J., & Esteban-Millat, I. (2017). The role of consumers' attitude towards economic climate in their reaction to 'PL-only' assortments: Evidence from the United States and Spain. *Journal of Retailing and Consumer Services, 34*, 340–348. https://doi.org/10.1016/j.jretconser.2016.07.012.
Gázquez-Abad, J. C., Martínez-López, F. J., Mondéjar-Jiménez, J. A., & 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 de Marketing ESIC, 19*(1), 24–45. https://doi.org/10.1016/j.reimke.2014.11.001.
Geyskens, I., Gielens, K., & Gijsbrechts, E. (2010). Proliferating private-label portfolios: How introducing economy and premium private labels influences brand choice. *Journal of Marketing Research, 47*(October), 791–807. https://doi.org/10.1509%2Fjmkr.47.5.791.
Gielens, Katirjn, Ma, Yu., Namin, Aidin, Sethuraman, Raj, Smith, Ronn, & Bachtel, Robert (2021). The Future of Private Labels. *Journal of Retailing, article in press*. https://doi.org/10.1016/j.jretai.2020.10.007.
Glynn, M. S., & Chen, S. (2009). Consumer-factors moderating private label brand success: Further empirical results. *International Journal of Retail & Distribution Management, 37*(11), 896–914.
Gómez, M., & Rubio, N. (2010). Re-thinking the relationship between store brand attitude and store brand loyalty: A simultaneous approach. *International Review of Retail, Distribution and Consumer Research, 20*(5), 515–534.
González-Benito, O., & Martos-Partal, M. (2012). Role of retailer positioning and product category on the relationship between store brand consumption and store loyalty. *Journal of Retailing, 88*(2), 236–249. https://doi.org/10.1016/j.jretai.2011.05.003.
Homburg, C., & Giering, A. (2001). Personal characteristics as moderators of the relationship between customer satisfaction and loyalty – an empirical analysis. *Psychology and Marketing, 18*(1), 43–66. https://doi.org/10.1002/1520-6793(200101)18:1%3C43::AID-MAR3%3E3.0.CO;2-I.
Hwang, M., Bronnenberg, B. J., & Thomadsen, R. (2010). An empirical analysis of assortment similarities across U.S. supermarkets. *Marketing Science, 5*(September-October), 858–879. https://doi.org/10.1287/mksc.1100.0564.
INE. Average annual net income per household, person and consumption unit, by type of household (2018). https://www.ine.es/jaxiT3/Datos.htm?t=10942#!tabs-tabla Accessed 3 February 2021.
IRI. IRI markets dashboard FMCG in Western Economies. Data up to 27th September 2020 (2020). https://www.iriworldwide.com/es-es/insights/publications/iri-markets-dashboards Accessed 13 January 2021.
Jin, B., & Gu Suh, Y. (2005). Integrating effect of consumer perception factors in predicting private brand purchase in a Korean discount store context. *Journal of Consumer Marketing, 22*(2), 62–71.
Kavvouris, C., Chrysochou, P., & Thøgersen, J. (2020). "Be careful what you say": The role of psychological reactance on the iumpact of pro-environmental normative appeals. *Journal of Business Research, 113*, 257–265. https://doi.org/10.1016/j.jbusres.2019.10.018.
Kelemen, Z. (2012). Lovemarks or passion brands may create barriers to private labels in the digital age. *Regional and Business Studies, 4*(1–2), 1–12. http://www.journal.ke.hu/index.php/rbs/article/view/553.
Krishna, A., Currim, I., & Shoemaker, R. (1991). Consumer perceptions of promotional activity. *Journal of Marketing, 55*(April), 4–16.
Kwak, K., Duvvuri, S. D., & Russell, G. J. (2015). An analysis of assortment choice in grocery retailing. *Journal of Retailing, 91*(1), 19–33. https://doi.org/10.1016/j.jretai.2014.10.004.
Lamey, L. (2014). Hard economic times: A dream for discounters. *European Journal of Marketing, 48*(3/4), 641–656. https://doi.org/10.1108/EJM-01-2011-0010.
Lamey, L., Deleersnyder, B., Dekimpe, M., & Steenkamp, J.-B. (2007). How business cycles contribute to private label success: Evidence from the United States and Europe. *Journal of Marketing, 71*(1), 1–15. https://doi.org/10.1509/jmkg.71.1.1.
Lee, B. C. Y. (2007). Consumer attitude toward virtual stores and its correlates. *Journal of Retailing and Consumer Services, 14*(3), 182–191.
Lichtenstein, D. R., Ridgway, N. M., & Netemeyer, R. G. (1993). Price perceptions and consumer shopping behavior: A field study. *Journal of Marketing Research, 30*(May), 234–245. https://doi.org/10.2307/3172830.
Mantrala, M. K., Levy, M., Kahn, B. E., Fox, E. J., Gaidarev, P., Dankworth, B., & Shah, D. (2009). Why is assortment planning so difficult for retailers? A framework and research agenda. *Journal of Retailing, 85*(1), 71–83. https://doi.org/10.1016/j.jretai.2008.11.006.
Miller, C. H., Lane, L. T., Deatrick, L. M., Young, A. M., & Potts, K. A. (2007). Psychological reactance and promotional health messages: The effects of controlling language, lexical concreteness and the restoration of freedom. *Human Communication Research, 33*, 219–240. https://doi.org/10.1111/j.1468-2958.2007.00297.x.
Mitchell, V.-W., & Walsh, G. (2004). Gender differences in German consumer decision-making styles. *Journal of Consumer Behaviour, 3*(4), 331–346. https://doi.org/10.1002/cb.146.
Ngobo, P. V. (2011). Private label share, branding strategy and store loyalty. *Journal of Retailing and Consumer Services, 18*(4), 259–270. https://doi.org/10.1016/j.jretconser.2010.11.007.
Oppewal, H., & Koelemeijer, K. (2005). More choice is better: Effects of assortment size and composition on assortment evaluation. *International Journal of Research in Marketing, 22*(March), 45–60. https://doi.org/10.1016/j.ijresmar.2004.03.002.
El País. Revolución en el súper. Mercadona elimina más de 800 referencias y modifica los formatos (2009). February, 1 (in Spanish). http://elpais.com/diario/2009/02/01/negocio/1233497006_850215.html. Accessed 8 November 2015.
Pauwels, K., & Srinivasan, S. (2009). Pricing of national brands versus store brands: Market power components, findings and research opportunities. In V. R. Rao (Ed.), *Handbook of Pricing Research in Marketing* (pp. 258–282). Northampton, Massachusetts: Edward Elgar Publishing.
Petro, G. Amazon's acquisition of Whole Foods is about two things: data and product (2017). https://www.forbes.com/sites/gregpetro/2017 Accessed 2 August 2017.
Putrevu, S. (2001). Exploring the origins and information processing differences between men and women: Implications for advertisers. *Academy of Marketing Science Review, 10*, 1–14.

Reibstein, D., Youngblood, A. A., & Fromkin, H. L. (1975). Number of choices and perceived decision freedom as a determinant of satisfaction and consumer behavior. *Journal of Applied Psychology, 60*(4), 434–437. https://doi.org/10.1037/h0076906.

Rhee, H., & Bell, D. R. (2002). The inter-store mobility of supermarket shoppers. *Journal of Retailing, 74*(4), 225–237. https://doi.org/10.1016/S0022-4359(02)00099-4.

Richardson, P. S., Jain, A. K., & Dick, A. (1996). Household store brand proneness: A framework. *Journal of Retailing, 72*(2), 159–185. https://doi.org/10.1016/S0022-4359(96)90012-3.

Rossiter, J. R. (2002). The C-OAR-SE procedure for scale development in marketing. *International Journal of Research in Marketing, 19*(4), 305–335. https://doi.org/10.1016/S0167-8116(02)00097-6.

Rubio, N., Oubiña, J., & Villaseñor, N. (2014). Brand awareness – brand quality inference and consumer's risk perception in store brands of food products. *Food Quality and Preference, 32*, 289–298. https://doi.org/10.1016/j.foodqual.2013.09.006.

Rubio, N., Villaseñor, N., & Oubiña, J. (2015). Consumer identification with store brands: Differences between consumers according to their brand loyalty. *Business Research Quarterly, 18*(2), 111–126. https://doi.org/10.1016/j.brq.2014.03.004.

Sethuraman, R., & Gielens, K. (2014). Determinants of store brand share. *Journal of Retailing, 90*(2), 141–153. https://doi.org/10.1016/j.jretai.2014.04.002.

Sherman, E., Schiffman, L. G., & Mathur, A. (2001). The influence of gender on the new age elderly's consumption orientation. *Psychology & Marketing, 18*(10), 1073–1089.

Sloot, L., & Verhoef, P. (2008). The impact of brand delisting on store switching and brand switching intentions. *Journal of Retailing, 84*(3), 281–296. https://doi.org/10.1016/j.jretai.2008.06.005.

Sloot, L., & Verhoef, P. (2011). Reducing assortments without losing business. Key lessons for retailers and manufacturers. *Marketing Intelligence Review, 3*(2), 26–33. https://doi.org/10.2478/gfkmir-2014-0046.

Statista. Median household income in the United States from 1990 to 2019 (2019). https://www.statista.com/statistics/200838/median-household-income-in-the-united-states/ Accessed 3 February 2021.

Steenkamp, J.-B., van Heerde, H. J., & Geyskens, I. (2010). What makes consumers willing to pay a price premium for national brands over private labels? *Journal of Marketing Research, 47*(6), 1011–1024. https://doi.org/10.1509%2Fjmkr.47.6.1011.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social-psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210. https://doi.org/10.1037/0033-2909.103.2.193.

ter Braak, A., Dekimpe, M., & Geyskens, I. (2013). Retailer private-label margins: The role of supplier and quality-tier differentiation. *Journal of Marketing, 77*(July), 86–103. https://doi.org/10.1509%2Fjm.11.0566.

van Heerde, H., Gijsenberg, M., Dekimpe, M. G., & Steenkamp, J.-B. E. M. (2013). Price and advertising effectiveness over the business cycle. *Journal of Marketing Research, 50*(April), 177–193. https://doi.org/10.1509%2Fjmr.10.0414.

Vimari, S. (2018). The Evolution of Private Label in a Transforming Marketplace. https://www.iriworldwide.com/IRI/media/Library/Publications/Q3-2018-Private-Label-Trends.pdf Accessed April 26, 2020.

Warrington, P., & Shim, S. (2000). An empirical investigation of the relationship between product involvement and brand commitment. *Psychology and Marketing, 17*(September), 761–782. https://doi.org/10.1002/1520-6793.

Westbrook, R. A., & Black, W. C. (1985). A motivation-based shopper typology. *Journal of Retailing, 61*(Spring), 78–103.

Wiebach, N., & Hildebrandt, L. (2012). Explaining customers' switching patterns to brand delisting. *Journal of Retailing and Consumer Services, 19*, 1–10. https://doi.org/10.1016/j.jretconser.2011.08.001.

Juan Carlos Gázquez-Abad, Professor of Marketing at the Economics and Business School, University of Almería (Spain). PhD in Marketing at University of Almería. Visiting professor at the University of Ghent (Belgium) in 2005. His research interests cover several marketing. Associate Editor of the International Journal of Business Environment. His work has been published in Journal of Retailing, International Journal of Management Reviews, Industrial Marketing Management, Journal of Advertising Research, European Journal of Marketing, Electronic Commerce Research and Applications, Journal of Marketing Theory and Practice, Journal of Retailing and Consumer Services, International Journal of Retail and Distribution Management, Internet Research, Cornell Hospitality Quarterly, Journal of Business and Industrial Marketing, The Service Industries Journal, Industrial Management & Data Systems, Agribusiness, among others.

Francisco J. Martínez-López, MSc in Marketing, and European PhD in Business Administration (2005), with Extraordinary Doctoral Prize, from the University of Granada (Spain), is Professor of Business Administration at the University of Granada. He has been visiting researcher at the Zicklin School of Business (CUNY, USA), Rutgers Business School (Rutgers University, USA), Aston Business School (Aston University, UK), the University of Chicago Booth School of Business (USA), the Michael Smurfit School of Business (University College Dublin, Ireland), LUISS Business School (Rome, Italy), and the Complutense University Business School (Madrid, Spain). He is Associate Editor of the European Journal of Marketing (Emerald)

Raj Sethuraman is the Marilyn and Leo Corrigan Professor and Chair of Marketing at the Edwin L. Cox School of Business at Southern Methodist University. He received his PhD in marketing from Kellogg School of Management at Northwestern University. Dr. Sethuraman has taught several marketing courses including marketing management, marketing research, customer insights, sales management, and database marketing. He has written many cases in marketing management and introduced several online teaching tools for which he was awarded the "Eugene Byrne Teaching Innovation Award" in May 2010. He has also taught in many executive programs in USA and abroad on a wide range of topics including brand equity, marketing mix strategies, and research for marketing decisions. Professor Sethuraman's research focuses on national brand-store brand competition, price-advertising strategies and brand equity. He has published articles in several leading journals and won many research awards, including the "John D.C. Little Award" for the best paper in Marketing Science, the "Jagdish Sheth Award" for the best paper in the Journal of the Academy of Marketing Science, the "O'Dell Award" for the best paper in the Journal of Marketing Research (Runner-up), the "William R. Davidson Award" for the best paper in Journal of Retailing (2nd place), and the "Paul Green Award" for the best paper in Journal of Marketing Research (Finalist). He is an associate editor of the Journal of Retailing and also serves on the editorial boards of Marketing Science, Journal of Marketing Research, Journal of Modeling in Management, and Review of Marketing Science. Dr. Sethuraman is active in consulting for commercial and nonprofit organizations. His recent consulting engagements include Samsung Telecommunications, KPMG Peat Marwick Law firm, and the Center for Nonprofit Management. He is also the founder-president of Charity through Art Foundation (CHAART), a nonprofit organization dedicated to raising money for the underprivileged by organizing music and dance events.