



Portfolio Diversity as a Threshold Signal: The Roles of Value for Money, Perceived Quality, Brand Equity and Category Involvement

Francisca Magalhães

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Paulo Romeiro

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Abstract

Title: Portfolio Diversity as a Threshold Signal: The Roles of Value for Money, Perceived Quality, Brand Equity and Category Involvement

Author: Francisca Magalhães

Private labels have grown significantly in European retail markets, driven by economic pressures and changes in consumer preferences. Despite this growth, limited research examines how portfolio diversity (the mix of national brands and private labels) influences consumer purchase intention.

This study examines how portfolio diversity affects purchase intention in a low involvement category, fresh cheese, by analysing the mediating effects of perceived quality and value for money, and the moderating effects of brand equity and category involvement.

An online experiment was conducted with N = 105 Portuguese consumers (after invalid responses were excluded). Participants were randomly assigned to one of three portfolio conditions: 100% private labels (Condition A), 34% private labels (Condition B), or 66% private labels (Condition C).

Results showed that portfolio diversity positively influences purchase intention, while differences in portfolio composition did not consistently affect consumers' responses across conditions. Perceived quality did not mediate the relationship between portfolio diversity and purchase intention. Value for money showed a significant but inconsistent mediating effect only in the comparison between Condition B and Condition A. National brand equity showed a weak moderating effect only when national brands dominated the portfolio (Condition B). Retailer brand equity and category involvement show no moderation effect.

Theoretically, the findings extend brand equity theory to portfolio-level moderation and suggest that portfolio diversity functions as a threshold signal rather than a linear driver of purchase intention. Practically, retailers may adjust the proportion of private labels with flexibility without undermining purchase intention, as long as variety is maintained.

Keywords: brand equity, category involvement, national brands, perceived quality, portfolio diversity, purchase intention, private labels, value for money

Sumário

Título: A Diversidade do Portfólio como Sinal Limiar: O Papel da Relação Qualidade-Preço, da Qualidade Percebida, do Valor da Marca e do Envolvimento na Categoria

Autor: Francisca Magalhães

As marcas próprias cresceram nos mercados retalhistas europeus, devido a pressões económicas e mudanças nas preferências dos consumidores. Apesar deste crescimento, poucos estudos analisam como a diversidade do portfólio influencia a intenção de compra.

Este estudo analisa a relação numa categoria de baixo envolvimento, queijo fresco, examinando os efeitos mediadores da qualidade percebida e da relação qualidade-preço, bem como os efeitos moderadores do valor da marca e do envolvimento na categoria.

Foi realizado um questionário online com N = 105 consumidores portugueses. Os participantes foram aleatoriamente designados para uma das três condições: 100% marcas próprias (A), 34% marcas próprias (B) ou 66% marcas próprias (C).

Os resultados mostraram que a diversidade do portfólio influenciou positivamente a intenção de compra, enquanto diferenças na composição do portfólio não afetaram consistentemente as respostas entre condições. A qualidade percebida não mediou a relação. A relação qualidade-preço apresentou um efeito mediador significativo, mas inconsistente, apenas entre a Condição B e a Condição A. O valor da marca nacional apresentou um efeito moderador fraco apenas quando as marcas nacionais dominavam o portfólio. O valor da marca do retalhista e o envolvimento na categoria não moderaram o efeito.

Os resultados alargam a teoria do valor da marca à moderação ao nível do portfólio e sugerem que a diversidade do portfólio funciona como um sinal limiar, e não como fator linear da intenção de compra. Na prática, os retalhistas podem ajustar a proporção de marcas próprias sem comprometer a intenção de compra, desde que a variedade seja mantida.

Palavras-chave: valor da marca, envolvimento na categoria, marcas nacionais, qualidade percebida, diversidade do portfólio, intenção de compra, marcas próprias, relação qualidade/preço

Disclaimer on the use of Artificial Intelligence

Artificial Intelligence tools, such as ChatGPT, were used in the preparation of this dissertation. Specifically, these were used for proofreading purposes, to improve readability and to enhance the text in terms of grammar and structure. All interpretations and conclusions were developed by me or are derived from the cited literature.

The following prompt was used to ensure the clarity and accuracy of the content: “I am writing a Master’s Dissertation on the topic of Portfolio Diversity in the retailing context, and I would like you to act as a proofreader and edit the text for better readability, focusing on grammar, spelling, and phrasing. Please use only the information from the document I am sending, without introducing any external sources. If the sentence structure or phrasing is awkward, feel free to make revisions while focusing on spelling and grammar.”

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CHAPTER 1: Introduction

1.1. Background

In Portugal, private label products have notably shown a significant increase in the country's retail sales of food products. Specifically, the percentage of private label products increased to 47% of food retail sales in 2024, compared to 45.2% in 2023. This is the highest share in the last 14 years (Instituto Nacional de Estatística [INE], 2025). This trend is not unique to Portugal, as the overall European region shows a higher rate of private label products. The private label market shares reach 52% in Switzerland, 45% in Germany, and 50% in the UK. This growth has been driven by economic pressures, including global recessions, the pandemic, and recent inflation levels, which shifted consumers toward value-oriented alternatives (Lamey et al., 2007; Steenkamp et al., 2010). Past studies have shown that the overall rate of private label products increases more than the rate of national brands. This shows that the overall rate of private label products increases more than the rate of national brands. (Steenkamp et al., 2010).

The growing relevance of private labels has forced retailers to rethink their strategies in managing product portfolios. Some retailers rely exclusively on private labels to strengthen control and differentiation, while others use a combination to appeal to different consumer segments. Mixed portfolio retailers often compete on breadth and choice, while private label only retailers typically compete mainly in terms of price, hence intensifying competition for national brand producers (Connor and Peterson, 1992; Olbrich and Grewe, 2013). For national brands, product quality is the key to justifying a price premium and ensuring a competitive advantage (Steenkamp et al., 2010). Private labels, developed and marketed by retailers and wholesalers, have gained importance by differentiating themselves as well as adding value to the product to enable effective competition effectively with established national brands.

1.2. Problem Statement

Despite this strategic importance, relatively limited attention has been given to the implications of portfolio diversity from the retailer's perspective. Most studies focus on comparing individual brand performance or consumer perceptions of private labels versus national brands, leaving the strategic rationale behind different portfolio configurations underexplored.

Therefore, this study addresses this gap specifically by examining the impact of portfolio diversity on purchase intention in a low involvement product category (fresh cheese). It also seeks to explore the mediating effects of perceived quality and value for money, along with the moderating effects of brand equity and category involvement. The research aims to identify which product categories could benefit from the use of mixed portfolios and which could perform better under exclusive private label strategies. This study provides insights into how portfolio diversity influences purchase intentions and offers practical guidance for retailers making assortment decisions.

These are the research questions that guided the study:

RQ1: How does portfolio diversity influence consumers' purchase intention?

RQ2: Is there a difference due to the weight of private labels and national brands in a retailer's portfolio?

RQ3: How does the relationship between portfolio diversity and purchase intention change when mediated by value for money and perceived quality?

RQ4: How does the relationship between portfolio diversity and purchase intention change when moderated by brand equity and category involvement?

1.3. Contributions

This research helps fill the gap in the literature on how portfolio strategies influence consumer decision-making and retailer performance, addressing a relevant gap in retail and brand management literature. The results of the study are expected to guide retailers in optimizing portfolio composition across product categories based on margin considerations and consumer purchase intention.

This dissertation is structured into six chapters: Chapter One is the introduction; Chapter Two presents a review of the literature on the constructs of the conceptual model; Chapter Three presents the conceptual model along with the hypotheses; Chapter Four describes the methodological approach; Chapter Five reports the results; and Chapter Six includes the discussion, conclusions, and indications for further research.

CHAPTER 2: Literature Review and Conceptual Model

This chapter provides the theoretical foundation for the conceptual model developed in this study. It examines the variables of the model by defining each one based on prior studies and by analysing the relationships between them. By synthesizing these insights from existing research, the chapter identifies the main theoretical gaps in the literature that this study seeks to address. Based on this theoretical foundation, the research hypotheses are formulated and presented at the end of each section.

2.1. Purchase Intention (DV)

Purchase intention is a consumer's stated likelihood or plan to buy a brand on an upcoming occasion. It is distinct from willingness-to-pay (WTP): WTP is a price point, whereas purchase intention captures behavioural readiness to choose. In the Theory of Planned Behaviour, intention is influenced by attitudes (consisting of beliefs about quality, value, and risk), subjective norms, and perceived behavioural control. Purchase intention is the immediate antecedent of the purchase decision in FMCG contexts (Ajzen, 1991). In national brand vs. private label (NB-PL) settings, the key attitudinal belief is the perceived quality differences, where consumers perceive larger NB-over-PL quality gaps, they report higher WTP for national brands and stronger purchase intentions for them; as perceived gaps narrow, intentions shift toward private labels (Steenkamp et al., 2010). In terms of purchase intention, it has been typically used as a survey-based rating of purchase intentions, where the results are typically aggregated into a top box score to represent purchase probability (Farris, Bendle, Pfeifer, & Reibstein, 2010).

2.2. Portfolio Diversity (IV)

In retailing, portfolio diversity is the retailer's overall assortment architecture: the ownership mix of brands (national brands vs. private labels), the tiering of private labels (e.g., economy, standard, premium, specialist), and the category level assortment levers – variety (breadth of categories), depth (SKUs per category), and service level (inventory intensity) (Krafft & Mantrala, 2010; Hübner & Kuhn, 2012). These choices jointly determine the store's price-quality coverage and differentiation in consumers' minds (Krafft & Mantrala, 2010; Gielens et al., 2021). Private labels (store/own brands) are owned and marketed by retailers, typically produced by third parties and often sold exclusively under the retailer's name (Gielens et al., 2021). National brands are owned by manufacturers, distributed across retailers, and compete

via innovation, advertising, and perceived quality, often sustaining higher willingness to pay where quality gaps persist (Steenkamp, Van Heerde, & Geyskens, 2010). In practice, portfolio diversity ranges from private label only to mixed portfolios (e.g., 2/3 PL – 1/3 NB or the reverse). It includes not only what is listed but also how categories are structured and displayed, because composition, grouping, and visual layout shape perceived variety and, ultimately, choice (Hübner & Kuhn, 2012).

Usually, consumers associate broader, well-structured diversity with a stronger and more reliable retailer; balancing private labels and national brands and adjusting the balance according to the category and tier leads to better perceptions in terms of breadth, value, and quality for the consumer, and the richer the private label presence at the retailer level, the more the consumers consider at the category level (raising private label purchase probability) (Stoppacher, Foscht, Eisingerich, & Schloffer, 2024).

Retail performance typically co-moves with the economic business cycle: in downturns, households shift toward private labels, whereas in stronger periods, they mix private labels and national brands based on category risk and involvement (e.g., higher private label uptake in low-risk staples, with national brands preference persisting where taste, image, or credence attributes carry greater weight) (Gielens et al., 2021). In terms of strategy, private labels enable retailers to drive margins, gain bargaining power, build loyalty, differentiation, and increase customer profitability – all of which require a well-designed, diverse portfolio (Gielens et al., 2021).

Private labels have evolved from low-price generics to multitier brand architectures that compete directly with national brands on price and quality (Gielens et al., 2021). Consumer acceptance has moved beyond price: recent multi-country evidence indicates over half of shoppers now prefer private labels predominantly or exclusively, quality has become more salient year over year, and more than half would shift further to Private labels if prices rise – consistent with private labels being a credible alternative on both value and quality, not merely a cheaper substitute.

2.2.1. Effect of Portfolio Diversity on Purchase Intention

Portfolio diversity affects purchase intention through two distinct reinforcing mechanisms. First, consideration set structuring: expanding and tiering the private label presence at the

retailer level increases the likelihood that private labels enter shoppers' category level consideration sets; this makes those sets more heterogeneous and raises the probability of choosing a private label. Second, value/quality re-anchoring: pricing formats, tier architecture, and credible quality cues (e.g., packaging, third-party endorsements, specialist lines) narrow perceived quality gaps and improve value for money, shifting intentions toward the portfolio elements that best fit consumers' value and quality goals (often private labels in low-risk categories; premium/specialist private labels where credence or experience cues matter most) (Olbrich et al., 2017; Akçura et al., 2019; Stoppacher et al., 2024).

H1: PD positively influences purchase intention.

2.3. Value for Money

Value for money (VfM) is the consumer's overall assessment of benefits received relative to costs given. Benefits include functional performance, reliability, and experiential payoffs; costs include price, time, effort, and perceived risk. Value for money is therefore not "low price" but captures the perceived benefit-to-sacrifice trade-off for the focal option (Zeithaml, 1988; Holbrook, 1996; Woodruff, 1997). As Sirohi et al. (1998) put it, value for money essentially represents "what you get for what you pay." Nenycz-Thiel and Romaniuk (2012) describe value for money as a cognitive pattern stored in consumers' memories that shapes how they think about brands over time.

In a retail context, this idea takes on particular importance because shoppers constantly evaluate whether the products they buy match their expectations of value. Wu, Yeh, and Hsiao (2011) describe perceived value for money as the consumer's evaluation of a product's worth relative to its price. This perception becomes particularly relevant when consumers are faced with a choice between national brands and private labels, as these decisions involve a trade-off between differences in quality and price premiums. For this reason, value for money is seen as a primary basis through which consumers evaluate offers and decide what to purchase (Grewal, Krishnan, Baker, & Borin, 1998; Calvo Porral & Lang, 2015).

2.3.1. Portfolio Diversity and Value for Money

When retailers design more diverse portfolios by balancing the level of national brands and private labels, as well as offering clear tier differentiation, consumers tend to evaluate the assortment not only by price but by the perceived benefit-to-cost ratio of each option. Therefore,

a more diverse portfolio will allow consumers to evaluate the product in terms of the best balance of cost and benefit, which in turn strengthens their overall perception of value. (Olbrich et al., 2017).

A diverse portfolio implies that the retailer is aware of the importance of serving different customer needs. The availability of both national brands and affordable or premium-tier private labels products will cater to a variety of value orientations, ranging from consumers who prioritize quality above all to those who focus on price efficiency. Thus, the retailer appeals to a broad range of value orientations, from the need for quality to the need for price efficiency, by providing both premium national brands and affordable or premium-tier private labels. This way, the chances of the customers finding a product that meets their personal value expectations are high, hence influencing their attitude towards the retailer positively (Mathur & Gangwani, 2021).

H2a: PD positively influences consumers' value for money toward a retailer.

2.3.2. Value for Money and Purchase Intention

A wide range of studies have shown that when consumers feel they are getting good value for a product, they are more likely to buy it. Yee and San (2011) found that higher perceived value strongly increases purchase intention. Although value for money and perceived value are related constructs, they are not identical. Perceived value is a broader construct that reflects a range of consumer evaluations, including emotional, social, and functional benefits, whereas value for money is a more specific construct that reflects only the on the price-quality trade-off, as has been described before. In the retailing context, however, the two constructs may overlap, and many empirical studies addressing value perceptions of private labels use perceived value as a practical proxy for value for money (e.g., Yee & San, 2011; Beneke et al., 2013). This overlap is especially relevant in price-sensitive environments, where consumers primarily evaluate whether a product or assortment is “worth what it costs”. Even though value for money is not the same as perceived value, this shows that value judgements are a major driver of consumer behaviour.

Within the private label context, this sense of value plays an even more central role. Over the past decade, the evolution of private labels has further reinforced this link. Retailers have invested heavily in improving product quality while keeping prices accessible, which has helped reposition private labels as products that offer genuine value (Baltas & Argouslidis,

2007; Thanasuta, 2015). This improved positioning has made consumers more likely to see private labels as smart purchases that deliver strong benefits relative to their cost.

H2b: Value for money positively influences consumers' purchase intention.

2.3.3. The Mediating Role of Value for Money

The insights stated above suggest that value for money can act as a bridge between how retailers decide their portfolio strategies and how consumers decide what to buy. However, research is not entirely consistent on how strong this mediating effect is. While several studies show that the portfolio composition influences perceived value (Olbrich et al., 2017; Mathur & Gangwani, 2021) and that value strongly predicts purchase intention (Yee & San, 2011; Beneke et al., 2013), very few explicitly test this full pathway. Some evidence suggests that perceived price value can influence purchase intention directly, without any mediation effect (Akdeniz, n.d.), implying that the role of value for money may depend on the retail context or even product category.

Despite these nuances, there is literature that supports the idea that value for money partially mediates the effect of portfolio diversity on consumers' purchase intentions.

H3: Value for money mediates the relationship between PD and PI.

2.4. Perceived Quality

In marketing research, the term “perceived quality” refers to the consumer’s overall judgment of a product’s excellence or superiority relative to other available options (Zeithaml, 1988). It differs from objective quality, which is based on technical or measurable attributes, and instead reflects a subjective evaluation grounded in perception, experience, and expectations. Consumers typically form these assessments from intrinsic attributes such as performance, reliability, and durability, as well as extrinsic cues like brand name, packaging, price, and advertising (Aaker, 1991; Garvin, 1987). Aaker (1991) has also emphasized the importance of the perceived quality as a crucial dimension of brand equity, describing it as a key intangible factor that shapes overall consumer sentiment regarding a brand’s performance and reliability.

2.4.1. Portfolio Diversity and Perceived Quality

In competitive retail contexts, perceived quality is central to how consumers compare national brands and private labels. As Hoch (1996) noted, this competition is largely about whether consumers believe retailers can deliver the same level of quality that national brands traditionally provide. Supporting this argument, Veloutsou et al. (2004) reported that quality remains an equally decisive factor when consumers evaluate both national brands and private label options (Mathur & Gangwani, 2021).

Historically, national brands have been considered to offer a higher quality because of better packaging, wider advertising reach, and stronger brand reputation. However, in recent years, this gap has narrowed. As retailers have improved product formulations, introduced premium and specialist private labels tiers, and used more sophisticated packaging techniques and brand signalling, private labels have become more competitive on quality as well as price (Steenkamp, Van Heerde, & Geyskens, 2010; Stanton, Wiley, Hooker, & Salnikova, 2015). These developments have made private labels a credible alternative, capable of delivering both quality and value.

Given this evolving landscape, the overall structure of a retailer's portfolio has a significant impact on how consumers perceive product quality. Having a diverse assortment, one that balances strong national brands and tiered private labels, provides consumers with reference points that help them evaluate quality within the assortment. When private labels coexist alongside respected national brands, the presence of high-quality national brands may elevate perceptions of the retailer's overall assortment competence and standards, potentially benefiting private labels through associative effects. This proposition aligns with research on store image and assortment quality signalling, where the inclusion of reputable brands enhances overall retailer credibility (Richardson, Dick, & Jain, 1994; Collins-Dodd & Lindley, 2003).

Moreover, tiered private label strategies play a crucial role in legitimizing private labels' quality as well as on bridging the gap between national brands and private labels (Akçura, Sinapuelas, & Wang, 2019; Ma & Siebert, 2024; Stanton et al., 2015). Another factor is related to assortment management decisions, which is used by retailers to manage perceptions of quality. This includes decisions on pruning weaker products, improving packaging and claims, and clearly communicating quality tiers (Olbrich, Jansen, & Hundt, 2017). All these aspects signal

professionalism, consistency, and confidence in product standards, which further enhance consumers' perceptions of quality across the retailer's offer.

Empirical research strongly supports this mechanism. Steenkamp et al. (2010) show that national brands often sustain higher prices by leveraging their perceived quality advantage. Conversely, private labels depend on both competitive pricing and credible premium lines to improve quality perceptions and close that gap. As retailers increase the visibility and sophistication of these private label tiers, consumers' perceptions of quality rise, ultimately enhancing their purchase intentions.

H4a: PD positively influences consumers' perceived quality toward a retailer's assortment.

2.4.2. Perceived Quality and Purchase Intention

There is substantial evidence that perceived quality is one of the most consistent predictors of purchase intention. In various product categories, it has been found that if the perceived quality of the product is high, consumers are significantly more likely to buy it (Chang, 2006; Ho, 2007; Wu, 2006; Garretson & Clow, 1999; Monroe, 1990; Bilal & Ali, 2013; Saxena & Kumar, 2023).

In the context of private labels, Mathur and Gangwani (2021) reported that perceived quality has a strong and positive relationship with purchase intention ($\beta = .380, p < .001$). These results are similar to the previous study by Bhaskaran and Sukumaran (2007) and Wang (2010), both of whom found that quality perception is an important aspect of the purchase intention of the consumers. Similarly, Mostafa and Elseidi (2018) found that the higher the familiarity with private labels, the higher the perceived quality, reinforcing consumers' confidence and purchase likelihood.

Other studies add nuance to this relationship. Bilal and Ali (2013) showed that perceived quality has a direct positive effect on purchase intention. Additionally, they demonstrated that a retailer's image has an indirect influence on purchase intention through perceived quality. This research provides further evidence to support that perceived quality is a strong and consistent driver of purchase intention for national brands and private labels.

H4b: Consumers' perceived quality of a product positively influences their purchase intention.

2.4.3. The Mediating Role of Perceived Quality

Building on this literature, perceived quality can be seen as the mechanism that connects portfolio diversity to purchase intention. Retailers that offer more and better tiered assortments offer various cues that help the assessment of product quality more confidently for the consumer. Factors such as clear tier differentiation, consistent packaging, and the presence of reputable national brands, all signal reliability and excellence and can, therefore, affect consumer behaviour. (Steenkamp et al., 2010; Akçura et al., 2019; Mathur & Gangwani, 2021).

Although most studies confirm both the individual links, the literature has not explicitly tested the full mediation pathway in the context of portfolio diversity strategies. This opens an opportunity to examine whether perceived quality fully or partially mediates the effect of assortment strategies on consumer decision-making.

H5: Perceived quality mediates the relationship between PD and PI.

2.5. Brand Equity

In its simplest form, brand equity is a measure of the “added value” a brand provides to a product or service (Farquhar, 1989). Keller (1993) defines consumer-based brand equity as “the differential effect of brand knowledge on customer response to the marketing of the brand”. Here, the definition of brand knowledge includes both brand awareness, consisting of brand recognition and recall, and brand image, consisting of brand associations, which can include attributes, benefits, and attitudes. Aaker (1996) developed a measure of brand equity that overlaps with some of the concepts described by Keller and includes measures of loyalty, perceived quality/leadership, brand association/differentiation, brand awareness, and market behaviour.

A central behavioural implication of equity is its effect on price sensitivity. In high-equity situations, established awareness, favourable associations, and loyalty lower consumers’ price elasticity and make price premiums seem justified; in low-equity situations, consumers rely more heavily on price as a quality cue, become more price sensitive, and switch more readily when cheaper alternatives appear.

In the retail context, where assortments typically comprise both national brands and private labels, it seems important to evaluate two types of brand equity: national brand equity and

retailer brand equity. Whereas national brand equity may enhance sensitivity to the presence of national brands in the assortment, retailer brand equity may enhance receptivity to private label dominated portfolios.

2.5.1. Moderation of Brand Equity between Portfolio Diversity and Purchase Intention

Brand equity changes the strength of the relationship between portfolio diversity and purchase intention. When national-brand equity is high, consumers' entrenched quality associations and loyalty dampen the impact of private label portfolio moves on intention: even if the retailer broadens private label coverage, many shoppers continue to prefer the national brand until the perceived quality gap narrows materially (Steenkamp, Van Heerde, & Geyskens, 2010). Research shows that removing a consumer's favourite product "almost surely would be noticed and will negatively affect their perception of the assortment offered in the category". Consumers are significantly less likely to lower their assortment perceptions when their favourite item is present ($M = -0.62$) than when it is absent ($M = -1.63$), and such perceptions directly influence store choice (Broniarczyk, Hoyer, & McAlister, 1998). Therefore, brand equity functions as an "attentional focus" (Gielens et al., 2021) that increases sensitivity to the presence and availability of preferred brands in the retailer's portfolio, making consumers more responsive to portfolio composition. When national brand equity is high, the effect of portfolio diversity on purchase intention should be stronger, as consumers actively attend to the presence of their preferred national brands. Symmetrically, when retailer brand equity is high, consumers may be more receptive to portfolio changes that emphasize the retailer's own brands, as trust and store image transfer to private label evaluations (Collins-Dodd & Lindley, 2003).

H6a: The effect of PD on PI is stronger when national brand equity is high.

H6b: The effect of PD on PI is stronger when retailer brand equity is high.

2.6. Category Involvement

Product involvement is "a consumer's enduring perceptions of the importance of the product category based on the consumer's inherent needs, values, and interests" (De Wulf et al., 2001, p. 37). Customers are involved with a product category because of its relevance to their needs and values (Zaichkowsky, 1985). Highly involved customers search more for information (Mathwick and Rigdon, 2004) and talk more about the product category than low involved customers do (Wangenheim and Bayón, 2007).

Category involvement is the personal relevance/importance of a product category to the consumer (Zaichkowsky, 1985). In high involvement categories, consumers invest more search and scrutiny, weigh perceived quality and risk more heavily, and are slower to switch; in low involvement categories, they use heuristics such as price, simple cues and promotions, to make decisions and are more likely to switch when a “good enough” alternative appears (De Wulf, Odekerken Schröder, & Iacobucci, 2001; Mathwick & Rigdon, 2004; Wangenheim & Bayón, 2007).

2.6.1. Moderation of Category Involvement between Portfolio Diversity and Purchase Intention

Category involvement changes the strength and direction of the link between portfolio diversity and purchase intention. In low involvement categories (routine, low risk), expanding private label breadth and tier coverage tends to lift private label purchase probability through the consideration set dynamic. When more private label options are salient at the retailer level, consumers form more heterogeneous category level consideration sets. This heterogeneity raises the probability of choosing private labels (Stoppacher et al., 2024). That mechanism has been directly shown for grocery categories, where private labels span the economy from the premium tier. Conversely, in high involvement or quality diagnostic categories, the quality gap dominates; strong national brand equities and richer quality associations dampen the intention shift from private label portfolio moves until private labels credibly close that gap (which premium/specialist private labels can do).

H7: The effect of PD on PI is stronger in low involvement product categories.

2.7. Conceptual Framework

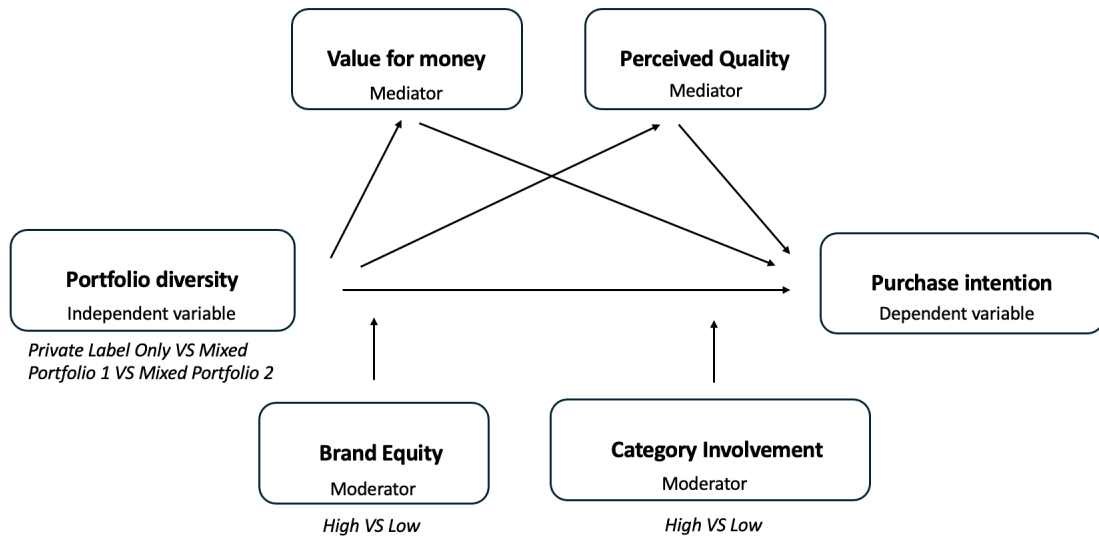


Figure 1 - Conceptual Model

The conceptual model shown above guides the study. The independent variable is portfolio diversity – the retailer’s product portfolio strategy (PL/NB mix, PL tiering, and on-shelf structure). The dependent variable is purchase intention. The model suggests that portfolio diversity has direct and indirect effects on purchase intention by re-anchoring two belief structures: value for money, which is the perceived benefit-to-sacrifice trade-off for the focal option, and perceived quality, which is the overall judgment of excellence. The strength of these effects is moderated by brand equity, where higher retailer brand equity accelerates the translation of portfolio cues into value/quality gains, while strong national brand equity can reduce them, and category involvement, which determines which belief weighs more in choice (value for money in lower-involvement categories and perceived quality in higher-involvement categories). In other words, portfolio diversity influences purchase intention mainly through its effect on perceived value and quality, with brand equity and category involvement moderating the strength of these beliefs in predicting intention. However, previous research has not simultaneously examined the mediating roles of value for money and perceived quality together with the moderating effects of brand equity and category involvement. This research aims to address this gap and provides an integrated approach of how retailer portfolio strategies shape consumer evaluations and intentions.

2.8. Conclusion

Based on the conceptual model presented above, the current chapter synthesized existing literature on portfolio diversity, value for money, perceived quality, brand equity, category involvement, and purchase intention. After analysing the main theoretical and empirical contributions on each of these constructs, it is clear that, although the relationships between portfolio diversity, value for money, perceived quality, and purchase intention have been extensively studied individually, the integration of these constructs within a single empirical model has not been conducted so far. Moreover, the mediating roles of value for money and perceived quality, as well as the moderating roles of brand equity and category involvement, have not yet been tested together. This is an important opportunity to make a significant contribution to the theoretical understanding of how retailer portfolio strategies shape consumer evaluations and behavioural intentions across different contexts.

CHAPTER 3: Methodology

3.1. Research Approach

In this dissertation, an experimental approach was adopted, as the goal was to test causal relationships between variables by experimentally manipulating portfolio diversity across three conditions. (Seltman, 2015).

This study has a problem-solving orientation, seeking to understand which portfolio strategy (private label only or mixed portfolio) retailers should adopt across different product categories (Malhotra, 2015). To address this research problem, three methodological approaches were integrated in the study: the exploratory method, as the study involved literature review; the descriptive method, as an online survey was conducted to collect primary data; and the hypothesis-testing method to statistically assess the relationships between the variables that are part of the conceptual model (Kothari, 2004).

A quantitative approach was selected because it allowed the collection of measurable data and analysis of consumer perceptions and intentions using statistical methods (Creswell, 2009). A postpositivist worldview was adopted, as the relationship between variables was interpreted by reading and analysing previous studies and empirical data (Creswell, 2009).

In terms of time horizon, the research used a cross-sectional design, as data were collected at a single point in time to interpret the relationships between variables rather than track changes over time (Kumar et al., 2019).

3.2. Data Collection

3.2.1. Data type

For this study, previous research was used to define and discuss the variables included in the conceptual model and to identify the most appropriate measurement scales suitable for primary data collection. Secondary data was used to select the product category to be used in the stimuli. The market data from the Nielsen Food Annual Report 2024 was analysed to identify the categories with balanced private label and national brand presence and moderate category involvement levels. Primary data was collected through an online questionnaire developed in Qualtrics for hypothesis testing.

3.2.2. Collection method

The online questionnaire was created using Qualtrics. The questionnaire was shared through online groups and social media platforms to reach a larger and diversified sample of consumers. During the entire process of data collection, ethical considerations were maintained, as participants were informed about the purpose of the study, assured anonymity, and provided their consent before participation.

3.2.3. Variable measurement

To ensure that each construct of the conceptual model was measured with sufficient accuracy, previously validated scales from the literature were used. Where necessary, scales were adapted to fit the context of this study. All variables were measured using seven-point Likert scales to maintain consistency and facilitate statistical analysis and comparability across variables. Each variable is described below, including the source, items, and reliability indicators.

3.2.3.1 Purchase Intention

Purchase intention was measured with five items adapted from Spears and Singh (2004), with a Cronbach's alpha of 0.93. The original semantic differential scale was converted to a seven-point Likert format to maintain consistency across constructs.

Items:

1. I would definitely buy this product.
2. I intend to buy this product.
3. I have a high level of purchase interest in this product.
4. I would not buy this product.
5. I would probably buy this product.

3.2.3.2 Value for Money

Value for money was measured with four items from the price/value dimension of the PERVAL scale (Sweeney & Soutar, 2001). The original study reported a Cronbach's alpha of 0.84.

Items:

1. This product is reasonably priced.
2. This product offers value for money.
3. This product is a good buy for the price.
4. This product provides good value for its cost.

3.2.3.3 Perceived Quality

Perceived Quality was measured with four items from Bao, Bao and Sheng (2011), with a Cronbach's alpha of 0.95. To maintain consistency with the experimental design, where participants viewed different shelf configurations, the items were reformulated to refer to the products displayed in the stimulus.

Items:

1. The products displayed on the shelf are of high quality.
2. The products displayed on the shelf are very reliable.
3. The products displayed on the shelf have superior characteristics.
4. The products displayed on the shelf are of very good quality.

3.2.3.4 Brand Equity

The designed conceptual model has brand equity as a moderator, operationalized as two distinct constructs: national brand equity and retailer brand equity. This approach examines how consumers' evaluations of national brands and their primary retailer influence the relationship between portfolio diversity and purchase intention. It is important to mention that brand equity does not vary across the experimental conditions (stimuli). It represents an individual difference reflecting each consumer's perception of their usual retailer.

Both national and retailer brand equity were measured using shortened five-item and four-item scales, respectively, adapted from Yoo and Donthu (2001), which have been validated by Cifçi et al. (2016). The original scale has a Cronbach's alpha of 0.89. Brand equity was treated as a continuous moderator variable in all analyses. Following Hayes (2022), conditional effects of portfolio diversity on purchase intention were estimated at three levels of each brand equity construct: low ($M - SD$), mean (M) and high ($M + SD$).

Items – Retailer Brand Equity:

1. I consider myself to be loyal to the supermarket I usually shop at.
2. The supermarket I usually shop at would be my first choice.
3. I will not shop at other supermarkets if the supermarket I usually shop at is available.
4. It makes sense to shop at the supermarket I usually shop at instead of at any other, even if they are the same.

5. Even if another supermarket has the same features, I prefer to shop at the supermarket I usually shop at.

Items – National Brand Equity:

1. I consider myself to be loyal to national brands in this category.
2. The national brands in this category would be my first choice.
3. I will not buy private label brands if national brands are available.
4. I prefer to buy national brands even if private label brands have the same quality.

3.2.3.5 Category Involvement

Category Involvement was measured with six items adapted from Zaichkowsky's (1985), which was validated by Mittal (1995), with a Cronbach's alpha ranging from 0.9 to 0.95.

Items:

1. This product category is important to me.
2. I am very interested in products from this category.
3. I usually search for information before buying products in this category.
4. I enjoy discussing products from this category with others.
5. Products in this category reflect who I am.
6. I would miss having access to products from this category.

Table 1 provides an overview of the constructs included in the conceptual model, detailing the number of items, measurement scales, references, and reliability coefficients for each variable.

Framework	Measure	Items	Scale	Reference	Cronbach α
IV	Portfolio Diversity	Stimuli	<i>n.a</i>	<i>n.a</i>	<i>n.a</i>
Moderator	Brand Equity	5 _{RBE} 4 _{NBE}	7-point Likert scale	(Yoo and Donthu, 2001; Cifçi et al., 2016)	0.89
Moderator	Category Involvement	6	7-point Likert scale	(Zaichkowsky, 1985)	0.9 - 0.95
Mediator	Value for Money	4	7-point Likert scale	(Sweeney & Soutar, 2001)	0.84
Mediator	Perceived Quality	4	7-point Likert scale	(Bao et al., 2011)	0.95
DV	Purchase Intention	5	7-point Likert scale ¹	(Spears and Singh, 2004)	0.93

Table 1- Summary of Operational Model

3.3. Experimental Stimuli

3.3.1. Stimulus Development

To study the effect of portfolio diversity on consumers' purchase intention, visual stimuli were developed to represent different brand assortment compositions within the fresh cheese category. Visual rather than textual stimuli were selected, as these allow participants to better perceive the distribution of private label and national-brand products, replicating a realistic supermarket context. Three versions of supermarket shelf configurations were created to represent distinct levels of portfolio diversity: a private label only assortment, a mixed assortment with approximately one third private label and two thirds national brands, and a mixed assortment with approximately two thirds private label and one-third national brands.

According to Nielsen Food Annuary 2024, the national brands that are most relevant within this category are Matinal, Santiago, and Philadelphia. Therefore, these are the national brands presented in the stimuli, alongside Continte or Lidl private label products.

¹ The original semantic differential scale was converted to a 7-point Likert scale to maintain consistency.

To ensure that respondents focused exclusively on portfolio diversity, all other visual attributes were held constant across conditions. Participants were randomly assigned to view one of the three shelf configurations, to ensure that any differences in the results could be attributed to portfolio diversity.

3.3.2. Final stimuli

After the development stage, the final stimuli were prepared for presentation in the main survey. The shelf configurations that were presented in the survey are shown in Appendix C and correspond to the conditions described in Section 3.3.1. After viewing the assigned image, participants completed seven-point Likert scale items to measure the constructs of the conceptual model. To verify the effectiveness of the experimental manipulation, a manipulation check question was included after the stimulus exposure to ensure that participants correctly interpreted the visual manipulations and to verify the construct validity of the independent variable, Portfolio Diversity.



Figure 2 - 100% PL (Continente)



Figure 3 - 34% PL (Continente)



Figure 4 - 66% PL (Continente)



Figure 5 - 100% PL (Lidl)



Figure 6 - 34% PL (Lidl)

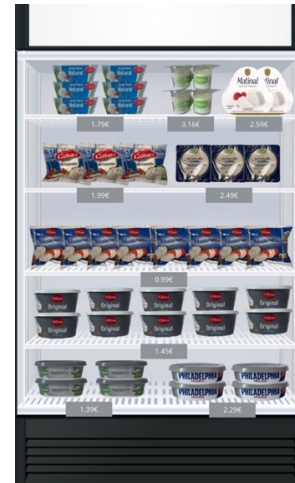


Figure 7 - 66% PL (Lidl)

3.4. Questionnaire Design

This study adopts a between-subjects experimental design to compare participants' responses based on the experimental manipulation to which they are exposed. Participants are randomly assigned to three different conditions: a private label only assortment, a mixed assortment with approximately one-third private label and two-thirds national brands, and a mixed assortment with approximately two-thirds private label and one-third national brands. This methodological approach is fundamental for comparatively assessing consumers' perceptions of national brands and private labels, isolating the effect of shelf composition on the variables of the study.

The structure of the questionnaire follows a funnel approach, characterized by a logical progression from the general to the specific (see Appendix B). Initially, more comprehensive questions about consumer purchasing habits and behaviour are presented. Subsequently, the questionnaire focuses more on specific questions concerning the product category under analysis and finally presents the experimental stimuli and measures of key the variables. This method aims to minimize response bias and ensure that the respondents progressively contextualize the object of the study, thus increasing the internal validity of the research.

3.5. Data Analysis

Quantitative data were examined using IBM SPSS Statistics version 30 and Hayes' PROCESS Macro version 4.3 (Hayes, 2022). Prior to analysis, data were cleaned by excluding responses that were incomplete, had a completion duration shorter than 4 minutes, or failed the manipulation check. Cronbach's alpha was determined to evaluate the internal consistency of

the scales ($\alpha \geq 0.7$). A one-way ANOVA with Tukey's HSD post-hoc test assessed the mean differences in Purchase Intention across the three different levels of portfolio diversity. Hayes' PROCESS Model 4 evaluated whether Value for Money and Perceived Quality individually mediate the effect of Portfolio Diversity on Purchase Intention. Hayes's PROCESS Model 1 was used to test whether Brand Equity and Category Involvement individually moderate the direct relationship between Portfolio Diversity and Purchase Intention of consumers. The conceptual model was examined through separate hypothesis-driven analyses rather than a single integrated statistical model.

Table 2 summarizes the statistical tests for each hypothesis.

Hypothesis	Statistical Test
<i>H1: PD positively influences PI.</i>	One-Way ANOVA with Tukey's HSD
<i>H2a: PD positively influences consumers' VfM toward a retailer.</i>	One-Way ANOVA with Tukey's HSD
<i>H2b: VfM positively influences consumers' PI.</i>	Simple Linear Regression
<i>H3: VfM mediates the relationship between PD and PI.</i>	Hayes PROCESS Model 4
<i>H4a: PD positively influences consumers' PQ toward a retailer's assortment.</i>	One-Way ANOVA with Tukey's HSD
<i>H4b: Consumers' PQ of a product positively influences their PI.</i>	Simple Linear Regression
<i>H5: PQ mediates the relationship between PD and PI.</i>	Hayes PROCESS Model 4
<i>H6a: The effect of PD on PI is stronger when national BE is high.</i>	Hayes PROCESS Model 1
<i>H6b: The effect of PD on PI is stronger when retailer BE is high.</i>	Hayes PROCESS Model 1
<i>H7: The effect of PD on PI is stronger in low involvement categories.</i>	Hayes PROCESS Model 1

Table 2 - Statistical Test

CHAPTER 4: Results

4.1. Data Preparation

To prepare the dataset for analysis, several data preparation procedures were implemented according to methodological guidelines recommended by Hair et al. (2018). Variable names were changed for consistency, and responses failing quality checks or manipulation checks were excluded. Therefore, this section describes the sequential steps taken to get the final analytical dataset.

4.1.1. Missing Data

A total of 419 survey starts were recorded. However, only 324 respondents proceeded to the random assignment stage. First, 21 duplicate respondents, identified by identical IP addresses, were removed from the data set. Second, 3 respondents with incomplete responses were excluded. Third, 73 participants were removed because they failed the screening criteria, indicating either that they do not shop at supermarkets or that they do not buy fresh cheese. These final data set consisted of 262 respondents distributed across three experimental conditions (A, B, and C).

4.1.2. Outlier Analysis

The identification of multivariate outliers was performed by computing the Mahalanobis Distance on all six variables. Observations exceeding the critical chi-square value ($\chi^2 = 20.515$, $df = 6$, $p < .001$) were considered potential multivariate outliers (Tabachnick & Fidell, 2013). After this analysis, one case was identified and excluded from the dataset, reducing the sample from 262 to 261 respondents.

4.1.3. Manipulation Check

Manipulation checks were conducted in two stages to assess whether the experimental manipulation was both perceived by individual participants (manipulation fidelity) and effective in producing distinct outcomes across experimental conditions (manipulation effectiveness).

4.1.3.1. Manipulation Fidelity

After looking at the stimulus, participants were asked to remember which shelf configuration they had been exposed to: 100% private label products (Condition A), 34% private label products (Condition B,) or 66% private label products (Condition C). This recall question did not allow participants to go back, to ensure that responses reflected genuine memory.

A chi-square test of independence was conducted to determine whether participants' recall was significantly associated with their assigned experimental Condition. The results indicated that 40.2% participants (105 out of 261) correctly identified the Condition they had been exposed to. The connection between the assigned conditions was statistically significant ($\chi^2(6, N=261) = 85.647$ and $p\text{-value} < 0.001$), confirming that recall performance was meaningfully related to experimental assignment rather than random guessing.

The participants who failed the manipulation (59.8%, 156 out of 261) were excluded from further analysis. Following this exclusion, the final analytical sample comprised 105 participants distributed across the three conditions (Condition A: $N = 31$, Condition B: $N = 44$, Condition C: $N = 30$).

4.1.3.2. Manipulation Effectiveness

A one-way ANOVA was conducted to test if the manipulation was effective on the dependent variable. The full pre-exclusion sample ($N = 261$) was used to test the effect of Portfolio Diversity on Purchase Intention. Results indicated a statistically significant effect of the manipulation on the dependent variable ($F(2,258) = 4.693$, $p\text{-value} = 0.01$, $\eta\text{-squared} = 0.035$). This means that the manipulation was effective on the dependent variable, supporting the validity of portfolio diversity as the independent variable in subsequent hypothesis testing. After the exclusions described in this chapter, the final sample consisted of 105 observations.

	Condition A	Condition B	Condition C	Total
Initial Observations	108	108	108	324
Duplicate Respondents	6	2	3	11
Unfinished Survey	16	15	20	51
Failed Screening Question	-	-	-	-
Outliers	-	-	1	1
Failed Manipulations	55	47	54	156
Final Observations	31	44	30	105

Table 3 - Final sample (after exclusions)

4.2. Descriptive Analysis

4.2.1. Sample Characterization

Regarding age distribution, the largest group of participants was aged 55 to 64 years (29.5%), followed by the 18-24 age group (22.9%), the 25-34 age group (19%), and the 35-44 age group (13.3%). The remaining age groups (45-54 years and 65 years or older) each represented 7.6% of the sample.

In terms of education level, the sample exhibited a high level of educational attainment. Nearly half of the participants held a bachelor's degree (48.6%), while approximately 36.2% held a master's degree. Additionally, about 3.8% of participants held a doctoral degree. Participants with only a high school diploma represented 11.4% of the sample. Overall, 88.6% of participants had completed a bachelor's degree or higher, indicating predominantly a highly educated sample.

Regarding household income, the distribution was relatively balanced across income brackets. The most represented income level was 3,000€ or more per month (23.8%), followed by the 1,501€ - 2,000€ bracket (21.9%) and the 2,001€ - 3,000€ bracket (21.9%). This distribution indicates that the sample was predominantly composed of middle-to-upper-income participants.

To assess whether demographic characteristics were evenly distributed across experimental conditions, chi-square tests of independence were conducted for age, education level, and household income. Results indicated that there were no significant differences across conditions (p -values > 0.05), supporting the validity of cross-comparisons in subsequent hypothesis testing.

	Condition A	Condition B	Condition C
Age			
18-24	7	11	6
25-34	5	8	7
35-44	4	4	6
45-54	3	5	0
55-64	11	11	9
65+	1	5	2
Education Level			
High School Diploma	6	3	3
Bachelor's Degree	13	22	16
Master's Degree	11	16	11
Doctorate	1	3	0
Employment Status			
Student	5	5	3
Employee	17	24	17
Self-employed	5	8	6
Unemployed	3	2	2
Retired	1	5	2
Household Income			
Less than €1,000	5	1	1
€1,000 – €1,999	2	4	5
€2,000 – €2,999	5	8	3
€3,000 – €4,999	8	7	8
€5,000 or more	4	14	5
Prefer not to say	7	10	8
People in the Household			
1	3	10	0
2	6	6	10
3	7	8	6
4	10	13	10
5 or more	5	7	4

Table 4 – Demographics by Condition

4.2.2. Distribution of key variables

Across the full sample (N = 105), Purchase Intention (M = 5.41, SD = 1.27) was relatively high, suggesting that participants generally expressed favourable purchase intentions toward the retailer. Value for Money (M = 4.89, SD = 1.01) and Perceived Quality (M = 4.67, SD = 1.07) were moderately positive, indicating that participants perceived the assortments as offering reasonable value and acceptable quality.

Category Involvement (M = 3.63, SD = 1.26) was moderate, consistent with the study's focus on a low-to-moderate involvement product category. Brand Equity (M = 4.20, SD = 1.47) and Retailer Brand Equity (M = 4.58, SD = 1.60) were also moderate, reflecting neutral-to-positive evaluations.

Notably, descriptive statistics revealed meaningful patterns. Condition A (100% PL) exhibited the highest Value for Money (M = 5.16) but the lowest Perceived Quality (M = 4.27) and Purchase Intention (M = 4.78). Conversely, Conditions B and C, which included national brands, demonstrated higher Perceived Quality (M = 4.86 and 4.83, respectively) and Purchase Intention (M = 5.53 and 5.89, respectively). These preliminary patterns suggest that portfolio diversity may influence consumer perceptions and intentions, a hypothesis formally tested in subsequent analyses.

Table 4 summarizes descriptive statistics and Cronbach's α for the main variables.

Variable	Type	Mean	St. Deviation	Min	Max	Cronbach's α
PI_Mean	DV	5.41	1.27	1.00	7.00	0.853
Vfm_Mean	Mediator	4.89	1.01	2.25	7.00	0.864
PQ_Mean	Mediator	4.67	1.07	1.25	7.00	0.843
CI_Mean	Moderator	3.63	1.26	1.00	7.00	0.801
BE_Mean	Moderator	4.20	1.47	1.00	7.00	0.795
RBE_Mean	Moderator	4.58	1.60	1.00	7.00	0.870

Table 5 - Descriptive Statistics and Reliability of main variables

4.3. Multicollinearity Assessment test

To assess whether multicollinearity could bias regression estimates, collinearity diagnostics were computed for all predictor variables. Three diagnostic measures were examined: Variance inflation factor, tolerance values, eigenvalues, and condition index (see Table 5). The assessment tests collectively indicate that predictor variables are sufficiently independent (VIF below 2.500, eigenvalues above 0.010, and a condition index below 30.000), supporting the appropriateness of subsequent regression and mediation analysis.

Variable	VIF	Eigenvalue	Condition Index
Vfm_Mean	1.070	0.099	7.588
PQ_Mean	1.115	0.087	8.093
CI_Mean	1.245	0.015	19.234
BE_Mean	1.185	0.036	12.639
RBE_Mean	1.084	0.066	9.318

Table 6 - Multicollinearity Assessment Test

CHAPTER 5: Hypothesis Testing

5.1. Hypothesis 1: *PD positively influences PI*

To test this hypothesis, a one-way ANOVA was conducted with portfolio diversity as the independent variable and purchase intention as the dependent variable. The results of the ANOVA showed a statistically significant effect of portfolio diversity on purchase intention with $F(2,102) = 6.758$, $p\text{-value} = 0.002$ and an $\eta^2 = 0.117$. These results suggest that the portfolio composition of a retailer has a substantial impact on the consumers' purchase intention. Descriptive statistics showed that respondents who were exposed to Condition A (100% PL) reported the lowest mean purchase intention ($M = 4.78$, $SD = 1.51$), while those who were exposed to Condition C (66% PL) reported the highest mean purchase intention ($M = 5.89$, $SD = 1.05$). Participants who were exposed to Condition B (34% PL) reported a mean purchase intention of $M = 5.53$ ($SD = 1.07$). Moreover, the results of the Post-hoc Tukey HSD test showed that Condition A was significantly different from Condition B ($p\text{-value} = 0.025$) and from Condition C ($p\text{-value} = 0.002$). On the other hand, Conditions B and C did not show a significant difference ($p\text{-value} = 0.433$), suggesting that the presence of national brands positively influences purchase intention regardless of the proportion compared to an exclusively private label assortment.

Therefore, H1 is supported.

5.2. Hypothesis 2a: *PD positively influences consumers' VfM toward a retailer*

To test this hypothesis, a one-way ANOVA was conducted with portfolio diversity as the independent variable and value for money as the dependent variable. The results of the ANOVA showed a not statistically significant effect of portfolio diversity on value for money with $F(2,102) = 2.885$, $p\text{-value} = 0.060$ and an $\eta^2 = 0.054$. Descriptive statistics showed that respondents who were exposed to Condition A (100% PL) reported the highest mean value for money ($M = 5.16$, $SD = 0.85$), while those exposed to Condition B (34% PL) reported the lowest mean value for money ($M = 4.63$, $SD = 1.12$). Participants who were exposed to Condition C (66% PL) reported a mean value for money of $M = 4.99$ ($SD = 0.92$). The results of the Post-hoc Tukey HSD test showed no significant pairwise differences between conditions. The relationship between conditions A and B had a $p\text{-value} = 0.06$, while conditions B and C showed a $p\text{-value} = 0.267$ and Conditions A and C did not differ significantly as well ($p\text{-value} = 0.783$).

Therefore, H2a is not supported.

5.3. Hypothesis 2b: *VfM positively influences consumers' PI*

To test this hypothesis, a simple linear regression was conducted with value for money as the independent variable and purchase intention as the dependent variable. The regression model was statistically significant with $F(1,103) = 8.195$, $p\text{-value} = 0.005$, explaining 7.4% of the variance in purchase intention ($R^2 = 0.074$). Descriptive statistics revealed a mean value for money of $M = 4.89$ ($SD = 1.01$) and a mean of purchase intention of $M = 5.41$ ($SD = 1.27$). Pearson correlation analysis showed a significant positive relationship between value for money and purchase intention, $r = 0.271$ and $p\text{-value} = 0.003$. The regression coefficient for value for money was significant and positive, $B = 0.342$, $SE = 0.120$, $\beta = 0.271$ and $t(103) = 2.863$, $p\text{-value} = 0.005$ and a 95% CI of [0.105, 0.580]. This confirms that when consumers perceive higher value for money in a retailer's portfolio, they are more likely to express stronger purchase intention. For every unit increase in perceived value for money, purchase intention increases by 0.342 units.

Therefore, H2b is supported.

5.4. Hypothesis 3: *VfM mediates the relationship between PD and PI*

To test this hypothesis, the Hayes' PROCESS model 4 (simple mediation) was conducted with 5,000 bootstrap samples. For this analysis two important paths were studied: the effect of portfolio diversity on value for money (path a), and the effect of value for money on purchase intention (path b).

5.4.1. Condition B versus Condition A

The analysis of path a revealed a significant negative effect with $B = -0.453$, $SE = 0.196$, $t = -2.314$, $p\text{-value} = 0.023$, and a 95% CI of [-0.841, -0.065]. These results indicate that Condition B was associated with lower value for money when compared to Condition A, which suggests that consumers perceive a 100% private label portfolio as offering better value for money than a mixed portfolio with a higher proportion of national brands. The analysis of path b revealed that the effect of value for money on purchase intention was positive and highly significant with $B = 0.384$, $SE = 0.122$, $t = 3.151$, $p\text{-value} = 0.002$, and a 95% CI of [0.142, 0.626], confirming H2b and demonstrating that higher value for money is associated with stronger purchase

intention. When controlling for value for money, the direct effect of portfolio diversity on purchase intention became non-significant, $B = 0.381$, $SE = 0.248$, $p\text{-value} = 0.128$ and a 95% CI of $[-0.111, 0.874]$, suggesting a statistically significant indirect effect for this comparison. The bootstrap analysis with 5,000 samples revealed a significant indirect effect of portfolio diversity on purchase intention through value for money, with a negative effect of -0.174 , $BootSE = 0.121$ and a 95% CI of $[-0.470, -0.008]$. Since the 95% confidence interval does not include zero, the indirect effect is statistically significant, confirming that value for money fully mediates the relationship between portfolio diversity and purchase intention for Condition B versus Condition A.

5.4.2. Condition C versus Condition A

The analysis of path a revealed a non-significant effect with $B = 0.145$, $SE = 0.219$, $t = 0.663$, $p\text{-value} = 0.509$ and a 95% CI of $[-0.289, 0.579]$. These results indicate that Condition C did not differ significantly from Condition A in terms of value for money. These findings suggest that portfolios with a high proportion of private labels are perceived as offering similar value. The analysis of path b revealed that the effect of value for money on purchase intention remained positive and significant with $B = 0.324$, $SE = 0.117$, $t = 2.766$, $p\text{-value} = 0.007$, and a 95% CI of $[0.092, 0.557]$, consistent with the findings for Condition B and reaffirming that value for money is a significant predictor of purchase intention. When controlling for value for money, the direct effect of portfolio diversity on purchase intention remained significant, with $B = 0.618$, $SE = 0.261$, $t = 2.370$, $p\text{-value} = 0.020$ and a 95% CI of $[0.101, 1.136]$, suggesting a partial mediation. The bootstrap analysis with 5,000 samples revealed a non-significant indirect effect of portfolio diversity on purchase intention through value for money, with an effect of 0.047 , $BootSE = 0.076$ and a 95% CI of $[-0.082, 0.225]$. Since the 95% confidence interval includes zero, the indirect effect is not statistically significant, indicating that value for money does not mediate the relationship between Condition C and purchase intention.

The mediating role of value for money depends on portfolio composition.

Therefore, H3 is partially supported.

5.5. Hypothesis 4a: *PD positively influences consumers' PQ toward a retailer's assortment*

To test this hypothesis, a one-way ANOVA was conducted with portfolio diversity as the independent variable and perceived quality as the dependent variable. The results of the ANOVA revealed a significant effect of portfolio diversity on perceived quality with $F(2, 102)$

= 3.358, p -value = 0.039 and an eta-squared = 0.062. Descriptive statistics show that respondents who were exposed to Condition A reported the lowest mean perceived quality ($M = 4.27$, $SD = 1.26$), while those exposed to Condition B reported the highest mean perceived quality ($M = 4.86$, $SD = 0.96$). Participants who were exposed to Condition C reported a mean perceived quality of $M = 4.83$ ($SD = 0.92$). The results of the post-hoc Tukey HSD test showed that Condition A differed significantly from Condition B (p -value = 0.046), while the difference between Conditions A and C and B and C was not significant (p -value = 0.097 and p -value = 0.990, respectively). This indicates that both diversified portfolios are perceived as offering similar quality, which is higher than the 100% private label portfolio.

Therefore, H4a is supported.

5.6. Hypothesis 4b: Consumers' PQ of a product positively influences their PI

To test this hypothesis, a simple linear regression was conducted with perceived quality as the independent variable and purchase intention as the dependent variable. The overall model was statistically significant with $F(1,103) = 34.641$, p -value < 0.001 and perceived quality explaining 25.2% of the variance in purchase intention ($R^2 = 0.252$). Descriptive statistics revealed a mean perceived quality of $M = 4.67$ ($SD = 1.07$) and a mean of purchase intention of $M = 5.41$ ($SD = 1.27$). Pearson correlation analysis showed a strong and significant positive relationship between perceived quality and purchase intention, $r = 0.502$ and p -value < 0.001. The regression coefficient for perceived quality was significant and positive, $B = 0.598$, $SE = 0.102$, $\beta = 0.502$ and $t(103) = 5.886$, p -value < 0.001 and a 95% CI of [0.397, 0.800]. This confirms that consumers' perceived quality of the retailer's assortment has a substantial impact on their purchase intention. For every unit increase in perceived quality, purchase intention increases by 0.598 units.

Therefore, H4b is strongly supported.

5.7. Hypothesis 5: PQ mediates the relationship between PD and PI

To test this hypothesis, the Hayes' PROCESS model 4 (simple mediation) was conducted with 5,000 bootstrap samples. Similarly to H3, two important paths were studied: the effect of portfolio diversity on perceived quality (path a), and the effect of perceived quality on purchase intention (path b).

5.7.1. Condition B versus Condition A

The analysis of path a revealed a non-significant effect with $B = 0.317$, $SE = 0.210$, $t = 1.510$, $p\text{-value} = 0.134$, and a 95% CI of $[-0.099, 0.733]$. Although portfolio diversity significantly influenced perceived quality in the ANOVA results (H4a), this effect was not significant within the mediation framework when comparing Condition B and Condition A. The analysis of path b revealed that the effect of perceived quality on purchase intention was positive and significant with $B = 0.597$, $SE = 0.103$, $t = 5.782$, $p\text{-value} < 0.001$, and a 95% CI of $[0.392, 0.802]$, confirming H4b and demonstrating that the higher the perceived quality the stronger the purchase intention of consumers. When controlling for perceived quality, the direct effect of portfolio diversity on purchase intention became non-significant, $B = 0.018$, $SE = 0.223$, $p\text{-value} = 0.936$ and a 95% CI $[-0.423, 0.459]$. The bootstrap analysis with 5,000 samples revealed a non-significant indirect effect of portfolio diversity on purchase intention through perceived quality, with an effect of 0.189, $BootSE = 0.137$ and 95% CI $[-0.051, 0.494]$. Since the 95% confidence interval includes zero, the indirect effect is non-significant. Therefore, there is no mediation of perceived quality in the relationship between portfolio diversity and purchase intention, when comparing Condition B and Condition A.

5.7.2. Condition C versus Condition A

The analysis of path a revealed a non-significant effect with $B = 0.212$, $SE = 0.231$, $t = 0.917$, $p\text{-value} = 0.362$ and a 95% CI of $[-0.246, 0.670]$. These results indicate that Condition C did not differ significantly from condition A in terms of perceived quality. These findings suggest that portfolios with a high proportion of private labels are perceived as offering similar quality. The analysis of path b revealed that the effect of perceived quality on purchase intention is significant with $B = 0.578$, $SE = 0.100$, $t = 5.766$, $p\text{-value} < 0.001$, and a 95% CI of $[0.379, 0.776]$, reaffirming H4b and showing that perceived quality has a positive effect on purchase intention. When controlling for perceived quality, the direct effect of portfolio diversity on purchase intention was significant, with $B = 0.543$, $SE = 0.235$, $p\text{-value} = 0.023$ and a 95% CI of $[0.076, 1.010]$. The bootstrap analysis with 5,000 samples revealed a non-significant indirect effect of portfolio diversity on purchase intention through perceived quality, with an effect of 0.122, $BootSE = 0.134$ and a 95% CI of $[-0.110, 0.424]$. Since the 95% confidence interval includes zero, the indirect effect is not statistically significant, indicating that perceived quality does not mediate the relationship between Condition C and purchase intention.

Although portfolio diversity influenced perceived quality in specific comparisons (H4a), perceived quality did not mediate the relationship between portfolio diversity and purchase intention.

Therefore, H5 is not supported.

5.8. Hypothesis 6a: *The effect of PD on PI is stronger when national BE is high*

To test this hypothesis, the Hayes' PROCESS model 1 (simple moderation) was conducted with 5,000 bootstrap samples. This analysis examined whether national brand equity moderates the effect of portfolio diversity on purchase intention.

5.8.1. Condition B versus Condition A

The interaction between portfolio diversity and national brand equity was marginally significant, $B = 0.291$, $SE = 0.174$, $t = 1.670$, $p\text{-value} = 0.098$ and a 95% CI of $[-0.055, 0.637]$, providing weak evidence of a potential moderating role of national brand equity in the relationship between portfolio diversity and purchase intention. When evaluating conditional effects, the analysis revealed that these varied across levels of national brand equity. For consumers with low national brand equity, the effect was found to be non-significant ($B = -0.200$, $SE = 0.361$, $t = -0.555$, $p\text{-value} = 0.580$ and a 95% CI of $[-0.917, 0.516]$). Similarly, for consumers with mean national brand equity the effect was also non-significant ($B = 0.163$, $SE = 0.253$, $t = 0.646$, $p\text{-value} = 0.520$ and a 95% CI of $[-0.338, 0.665]$). On the other hand, the effect of high national brand equity was marginally significant ($B = 0.675$, $SE = 0.362$, $t = 1.864$, $p\text{-value} = 0.065$ and a 95% CI of $[-0.043, 1.394]$). These findings suggest that consumers with high national brand equity perceive the mixed portfolio with 34% private label brands as marginally more attractive than portfolios with 100% private label brands, whereas consumers with low national brand equity do not display such a preference.

5.8.2. Condition C versus Condition A

The interaction between portfolio diversity and national brand equity was non-significant, $B = -0.297$, $SE = 0.184$, $t = -1.621$, $p\text{-value} = 0.108$ and 95% CI of $[-0.661, 0.067]$. This indicates that national brand equity does not moderate the relationship between portfolio diversity and purchase intention for 66% portfolio mix across all levels of national brand equity.

To conclude, national brand equity provided weak evidence of moderating tendency when comparing Condition B with Condition A. However, this effect was not statistically significant and was not observed for Condition C.

Therefore, H6a is not supported at the 5% level, although weak evidence of moderation was observed for Condition B versus Condition A.

5.9. Hypothesis 6b: The effect of PD on PI is stronger when retailer BE is high

To test this hypothesis, the Hayes' PROCESS model 1 (simple moderation) was conducted with 5,000 bootstrap samples. This analysis examined whether the retailer brand equity moderates the effect of portfolio diversity on purchase intention.

5.9.1. Condition B versus Condition A

The interaction between portfolio diversity and retailer brand equity was not significant, $B = 0.240$, $SE = 0.159$, $t = 1.506$, $p\text{-value} = 0.135$ and a 95% CI of $[-0.076, 0.557]$, indicating that retailer brand equity is not a significant moderator on the relationship between portfolio diversity and purchase intention when comparing Condition B with Condition A. This implies that brand attachment has no effect on how consumers respond to portfolio diversity.

5.9.2. Condition C versus Condition A

The interaction between portfolio diversity and retailer brand equity was found to be non-significant, $B = -0.206$, $SE = 0.168$, $t = -1.224$, $p\text{-value} = 0.224$ and a 95% CI of $[-0.539, 0.128]$, which implies that, as was seen between Condition B versus Condition A, retailer brand equity has no moderating effect on the relationship between portfolio diversity and purchase intention when comparing Condition C with Condition A. This suggests that the effect is consistent across all levels of retailer brand equity.

To conclude, retailer brand equity does not moderate the relationship between portfolio diversity and purchase intention. Therefore, H6b is not supported.

5.10. Hypothesis 7: *The effect of PD on PI is stronger in low involvement categories*

To test this hypothesis, the Hayes' PROCESS model 1 (simple moderation) was conducted with 5,000 bootstrap samples. This analysis examined whether category involvement of consumers moderates the effect of portfolio diversity on purchase intention.

5.10.1. Condition B versus Condition A

The interaction between portfolio diversity and category involvement was not significant, $B = 0.234$, $SE = 0.197$, $t = 1.189$, $p\text{-value} = 0.237$ and a 95% CI of $[-0.157, 0.626]$. Since the confidence interval includes zero and $p\text{-value}$ is greater than 0.05, category involvement is not a significant moderator of the relationship between portfolio diversity and purchase intention when comparing Condition B with Condition A.

5.10.2. Condition C versus Condition A

The interaction between portfolio diversity and category involvement was non-significant, $B = -0.367$, $SE = 0.228$, $t = -1.611$, $p\text{-value} = 0.110$ and a 95% CI of $[-0.819, 0.085]$. These results show that category involvement does not moderate the effect of portfolio diversity on purchase intention when comparing Condition C with Condition A.

To conclude, category involvement did not significantly moderate the relationship between portfolio diversity and purchase intention. Therefore, H7 is not supported.

CHAPTER 6: Conclusions and Limitations

6.1. Results overview

The purpose of this study was to investigate the role of mediators and moderators in the relationship between the diversity of a retailer's portfolio and consumers' purchase intention. While several studies have examined these factors individually, few studies analysed value for money, perceived quality, brand equity and category involvement in a single framework. Hence, the purpose of this study was to integrate these factors to understand their impact on consumer behaviour in the retail context.

After conducting the empirical analysis, some results were in line with what previous research had indicated, while others differed from what was expected. First, perceived quality had a strong positive influence on purchase intention, emphasizing its role in consumers' evaluation of both national brands and private labels. In addition, portfolio diversity showed a significant effect on purchase intention, suggesting that assortment composition influences consumers' buying intentions.

However, the mediating effects proposed in the conceptual model were not supported. Although value for money and perceived quality were expected to act as mediators between portfolio diversity and purchase intention, the results did not confirm these relationships. This means that, while perceived quality is an important driver of purchase intention, it does not act as the mechanism through which portfolio diversity affects consumers' purchase intention. Likewise, category involvement, which was intended to act as a moderating variable, failed to demonstrate any substantial influence on the relationship under study. Therefore, these findings suggest the possibility that some of the mechanisms proposed by the conceptual model may not operate as initially originally assumed.

6.2. Discussion

RQ1: How does portfolio diversity influence consumers' purchase intention?

The results showed that portfolio diversity positively influences purchase intention, indicating that the presence of national brands is important for the consumers' decision-making process. However, the proportion of national brands versus private labels did not significantly influence

purchase intention. This suggests that consumers value having the option to choose between brand types, even though the balance between them is not important.

These findings suggest that the presence of a mixed portfolio may in some comparisons enhance the consumers' perceived quality and increase their confidence in the private labels, meaning that including national brands on the portfolio may legitimise the overall assortment and indirectly benefit retailers.

These results are consistent with previous research. For example, Stoppacher, Foscht, Eisingerich, & Schloffer (2024), suggest that consumers typically prefer retailers that balance private labels with national brands, as this combination strengthens perceptions of quality and variety. Similarly, Olbrich et al. (2017), Akçura et al. (2019), and Stoppacher et al. (2024) argue that retailers with a diverse portfolio have a higher probability of private label brands entering the consumers' consideration sets, ultimately improving purchase intentions.

RQ2: Is there a difference due to the weight of private labels and national brands in a retailer's portfolio?

The findings indicate that the weight of private labels and national brands in a retailer's mixed portfolio does not significantly influence the consumers' purchase intention. In other words, once both brand types are present, increasing the proportion of national brands does not lead to higher purchase intention. The implication is that the consumer is using the availability of national brands as a signal of variety and credibility, rather than the actual composition of the retailer's portfolio.

These are interesting results, because they point to a possible threshold effect: retailers that have private label only assortment are perceived as less attractive than those with a mixed portfolio. However, the proportion of national brands does not appear to influence the consumers' purchase intention. This suggests that consumers rely on simple cues, such as the presence of national brands, rather than carefully evaluating the actual composition of the assortment when making their decisions.

Overall, the findings support the previous research on assortment variety as a signalling mechanism rather than a proportional evaluation.

RQ3: How does the relationship between portfolio diversity and purchase intention change when mediated by value for money and perceived quality?

The results suggest that the mediation effects of value for money and perceived quality in the relationship between portfolio diversity and purchase intention were not supported. Although both value for money and perceived quality influence purchase intention, the mediation mechanism does not occur because portfolio diversity does not influence these variables in a consistent way.

This suggests that consumers may react directly to the portfolio composition of a retailer rather than through a cognitive evaluation process related to value or quality perceptions. However, the absence of a mediation effect does not mean that value for money or perceived quality are irrelevant for purchase intention. In fact, perceived quality was shown to be one of the strongest predictors within the model.

To conclude, these findings indicate that consumers care about quality and value when forming purchase intentions. Although portfolio diversity influenced perceived quality in specific comparisons (H4a), this effect was not consistent across portfolio configurations and did not translate into a significant mediation effect.

RQ4: How does the relationship between portfolio diversity and purchase intention change when moderated by brand equity and category involvement?

The results indicate that, contrary to the expectations, brand equity and category involvement did not significantly moderate the relationship between portfolio diversity and purchase intention. Although a marginal tendency was observed for consumers with higher national brand equity, overall moderation effects were not supported. Therefore, the influence of portfolio diversity appears to be stable across consumer profiles, with the exception of consumers with high national brand equity who show preference for portfolios that offer a higher proportion of national brands.

6.3. Integrated Discussion

The results of this study provide an integrated understanding of how the diversity of a retailer's portfolio influences consumer purchase intention. By testing the conceptual model using PROCESS 1 and PROCESS 4 models (moderation and mediation), it was possible to challenge some initial expectations while confirming others.

Portfolio diversity directly influences consumer purchase intention. Consumers tend to have a higher purchase intention when retailers have mixed portfolios instead of private label only assortments (H1 supported). However, the exact proportion of national brands versus private labels did not influence purchase intention. This confirms that consumers rely on the simple heuristic "both brand types are available" rather than considering the actual proportion of both brand types. This is important for retailers, because it means that as long as both brand types are represented, the balance can be adjusted to optimize profitability without sacrificing consumer appeal.

Value for money and perceived quality strongly influence consumers' purchase intention. However, contrary to expectations, these variables operate as direct drivers rather than mediators (H3 is partially supported and H5 not supported). This suggests that consumers form value and quality judgements based on factors beyond portfolio composition, and these beliefs influence purchase intention in parallel with portfolio diversity.

Moderation by brand equity and category involvement was minimal, meaning that there is no strong moderating effect by these variables between portfolio diversity and purchase intention. However, national brand equity showed weak moderation (H6a), but only when national brands dominated the portfolio (Condition B). This means that consumers with high national brand equity are sensitive to portfolio composition, but only when their preferred brands are prominent and available in significant quantities. As for category involvement, the lack of moderation may reflect the functional and low-risk nature of the fresh cheese category: even highly involved consumers may not closely examine portfolio composition in categories where perceived differences between national brands and private labels are small and switching costs are low.

In summary, the integrated results revealed that portfolio diversity influences purchase intention through a direct, threshold-like pattern, rather than by reshaping perceptions of value or quality. This pattern suggests that consumers may require a minimum level of brand variety

to perceive a retailer's assortment as credible. The effect is relatively stable across consumer profiles, except for consumers with high national brand equity when national brands dominate the portfolio.

6.4. Theoretical Implications

This study contributes to the understanding of the relationship between portfolio diversity and purchase intention. Contrary to expectations, perceived quality and value for money do not mediate this relationship. While Olbrich et al. (2017) and Mathur & Gangwani (2021) suggest that portfolio composition shapes perceived value, which in turn drives purchase intention. The present findings indicate that the effect of portfolio diversity on purchase intention occurs independently of value for money and perceived quality.

Moreover, the results extend brand-equity theory (Keller, 1993; Aaker, 1996), indicating that national brand equity influences consumers' sensitivity to portfolio composition only when national brands dominate the portfolio (as in Condition B: 66% of national brands). However, results also indicate that consumers value variety itself rather than the actual proportions of national brands versus private labels, which supports the "attentional focus" mechanism (Gielens et al., 2021; Broniarczyk et al., 1998). Retailer brand equity and category involvement did not moderate the effect suggesting that, in low involvement categories, these factors may influence purchase intention more directly rather than by changing the strength of the relationship between portfolio diversity and purchase intention.

Overall, these results suggest that portfolio diversity works more as a signalling mechanism rather than as a driver of cognitive evaluation processes.

6.5. Managerial Implications

This study reveals practical insights for retailers seeking to optimize portfolio composition and strengthen purchase intention. The results indicate that portfolio diversity influences consumer purchase intention, meaning that mixed portfolios are viewed more favourably by consumers than private label only assortments. However, the exact balance between these two brand types seems to matter less than the presence of variety. This may give retailers the flexibility to increase the proportion of private labels, which offer higher profit margins, without undermining purchase intention, as long as they maintain the presence of national brands.

Retailers should segment strategies by consumer brand equity. In contexts where consumers are loyal to national brands, it is important to maintain a strong presence of national brands. Value for money and quality drive purchase intention, and these constructs are not necessarily linked to a portfolio of brands. Retailers should focus on these constructs through transparent pricing and certifications, and honest communications.

Finally, retailer brand equity remains relevant across portfolio configurations. Even though it did not moderate the relationship between portfolio diversity and purchase intention, investing in store trust, consistency, and service quality creates a foundation that supports sales of both national brands and private labels.

6.6. Limitations and Further Research

The dissertation has several limitations that should be considered for future research.

First, the fact that the study relied on a questionnaire-based design resulted in a relatively small sample size (N = 105 after exclusions). Some responses had to be removed because participants could not go back to the stimulus image after viewing it, which have led to inconsistencies between what was presented to them and the answers provided. Although this filtering was essential to ensure data validity and internal validity, it reduced the statistical power of the results and making it difficult to confirm marginal effects. However, this filtering was essential to ensure data integrity and internal validity. Second, the research focused only on a low involvement category (fresh cheese), which limits the possibility of generalisation to high involvement categories, for example. Additionally, the research was conducted in a single market (Portugal), where private label penetration is different from in many European countries, limiting the generalisation of results to other markets. Another limitation concerns the use of photographic stimuli, as they do not capture the in-store environment and contextual cues present during real purchase situations. Finally, the cross-sectional design does not allow for the evaluation of differences between different economic contexts, for example.

For these reasons, future research should have a larger sample size, test multiple categories, compare different markets, and explore other moderators and mediators.

Reference List

1. Aaker, D. A. (1991). *Managing brand equity*. Free Press.
2. Aaker, D. A. (1996). *Building strong brands*. Free Press.
3. Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211.
4. Akçura, M. T., Sinapuelas, I. C., & Wang, R. J. (2019). Effects of multitier private labels on marketing national brands. *Journal of Product & Brand Management*.
5. Bao, Y., Bao, Y., & Sheng, S. (2011). Motivating purchase of private brands: Effects of store image, product signatureness, and quality variation. *Journal of Business Research*, 64(2), 220-226.
6. Bhaskaran, S., & Sukumaran, N. (2007). Contextual and methodological issues in country-of-origin studies. *Marketing Intelligence & Planning*, 25(1), 66–81.
7. Calvo Porral, C., & Lang, M. (2015). Private label brand image and purchase intention. *Journal of Retailing and Consumer Services*, 24, 94–100.
8. Cifçi, S., Ekinçi, Y., Whyatt, G., Japutra, A., Molinillo, S., & Siala, H. (2016). A cross-validation of Consumer-Based Brand Equity models: Driving customer equity in retail brands. *Journal of Business Research*, 69(9), 3740-3747.
9. Connor, J. M., & Peterson, E. B. (1992). Market-structure determinants of national brand-private label price differences of manufactured food products. *Journal of Industrial Economics*, 40(2), 157–171.
10. Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.
11. Farquhar, P. H. (1989). Managing brand equity. *Marketing Research*, 1(3), 24–33.
12. Farris, P. W., Bendle, N. T., Pfeifer, P. E., & Reibstein, D. J. (2010). *Marketing metrics: The definitive guide to measuring marketing performance* (2nd ed.). FT Press.
13. Garvin, D. A. (1987). Competing on the eight dimensions of quality. *Harvard Business Review*, 65(6), 101–109.
14. Gielens, K., Ma, Y., Namin, A., Sethuraman, R., et al. (2021). The future of private labels. *Journal of Retailing*, 97(1), 99–115.
15. Grewal, D., Krishnan, R., Baker, J., & Borin, N. (1998). The effect of store name, brand name and price discounts on consumers' evaluations. *Journal of Retailing*, 74(3), 331–352.
16. Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis* (3rd ed.). Guilford Press.

17. Hoch, S. J. (1996). How should national brands think about private labels? *Sloan Management Review*, 37(2), 89–102.
18. Holbrook, M. B. (1996). Customer value—A framework for analysis and research. *Advances in Consumer Research*, 23, 138–142.
19. Hübner, A., & Kuhn, H. (2012). Retail category management: State-of-the-art review of quantitative research and software applications in assortment and shelf space management. *OR Spectrum*, 34(1), 173–194.
20. Instituto Nacional de Estatística. (2025). *Comércio a retalho alimentar ou com predominância alimentar*
21. Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, 57(1), 1–22.
22. Kothari, C.R. (2004). *Research Methodology: Methods and Techniques*. 2nd Edition, New Age International Publishers, New Delhi.
23. Kumar, R. (2019). *Research Methodology: A Step-by-Step Guide for Beginners (Vol. 4)*. Sage Publications Limited.
24. Malhotra, N. K., Nunan, D., & Birks, D. (2017). *Marketing research: An applied approach*. Pearson.
25. Mantrala, M., Levy, M., Kahn, B., et al. (2010). *Retailing in the 21st century: Current and future trends*. Springer.
26. Mittal, B. (1995). A comparative analysis of four scales of consumer involvement. *Psychology & Marketing*, 12(7), 663–682.
27. Olbrich, R., & Grewe, G. (2013). Profitability of private label products: A multiple case study from the German food retailing sector. *International Journal of Retail & Distribution Management*, 41(5), 332–353.
28. Olbrich, R., Jansen, H.-C., & Hundt, M. (2017). Effects of pricing strategies and product quality on private label and national brand performance. *Journal of Retailing and Consumer Services*, 34, 294–301.
29. Saxena, P., & Kumar, D. (2023). The influence of perceived quality on purchase intention: Evidence from consumer goods markets. *International Journal of Consumer Studies*, 47(2), 220–235.
30. Seltman, H. J. (2015). *Experimental design and analysis*. Carnegie Mellon University.
- White, B. P., & Rayner, S. (2014). *Dissertation Skills for Business and Management Students*. Cengage Learning.
31. Semeijn, J., Van Riel, A. C. R., & Ambrosini, A. B. (2004). Consumer evaluations of store brands: Effects of store image and product attributes. *Journal of Retailing and Consumer Services*, 11(4), 247–258.

32. Spears, N., & Singh, S. N. (2004). Measuring attitude toward the brand and purchase intentions. *Journal of Current Issues and Research in Advertising*, 26(2), 53–66.
33. Stanton, J. V., Wiley, J. B., Hooker, N. H., & Salnikova, E. (2015). Relationship of product claims between private label and national brands. *International Journal of Retail & Distribution Management*, 43(4/5), 390–408.
34. Steenkamp, J.-B. E. M., Van Heerde, H. J., & Geyskens, I. (2010). What makes consumers willing to pay a price premium for national brands? *Journal of Marketing Research*, 47(6), 1011–1028.
35. Stoppacher, F., et al. (2024). Always on your mind? Investigating consideration sets and private labels at the retailer and category level. Working paper.
36. Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple-item scale. *Journal of Retailing*, 77(2), 203–220.
37. Veloutsou, C., Gioulistanis, E., & Moutinho, L. (2004). Own labels' choice criteria and perceived characteristics in Greece and Scotland: Factors influencing the willingness to buy. *Journal of Product & Brand Management*, 13(4), 228–241.
38. Woodruff, R. B. (1997). Customer value: The next source for competitive advantage. *Journal of the Academy of Marketing Science*, 25(2), 139–153.
39. Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, 52(1), 1–14.
40. Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of Consumer Research*, 12(3), 341–352.
41. Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means–end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2–22.

Appendices

Appendix A – Complete Survey

Caro(a) participante,

Obrigada por aceitar participar neste estudo académico! Esta investigação faz parte de uma tese de mestrado da Católica Lisbon School of Business & Economics e tem como objetivo compreender as preferências dos consumidores em supermercados portugueses. O questionário demora aproximadamente 7-9 minutos a completar.

Os seus dados serão tratados de forma anónima e confidencial.

Não existem respostas certas ou erradas.

Os dados serão utilizados exclusivamente para fins académicos.

Ao clicar em "Concordo e quero participar", confirma que:

- ✓ Tem 18 anos ou mais
- ✓ Compreendeu o objetivo do estudo
- ✓ Concorda voluntariamente em participar

Se tiver alguma dúvida, pode contactar: s-ftmagalhaes@ucp.pt

Concorda em participar neste estudo?

- Sim
- Não

Costuma fazer compras de produtos alimentares em supermercados?

- Sim
- Não

Compra queijo fresco e requeijão?

- Sim, regularmente
- Sim, ocasionalmente
- Não

Tem 18 anos, ou mais?

- Sim
- Não

Vive, ou já viveu em Portugal?

- Sim
- Não

Em qual dos seguintes supermercados faz compras com mais frequência?

- Continente
- Pingo Doce
- Lidl
- Mercadona
- Auchan
- Intermarché
- Minipreço
- Outro

Com que frequência faz compras no supermercado que selecionou na pergunta anterior?

- Várias vezes por semana
- Uma vez por semana
- 2-3 vezes por mês
- Uma vez por mês
- Menos de uma vez por mês

Com que frequência compra queijo fresco e requeijão?

- Várias vezes por semana
- Uma vez por semana
- 2-3 vezes por mês
- Uma vez por mês
- Menos de uma vez por mês

Na próxima página, será apresentada uma imagem de uma prateleira de supermercado com produtos de queijo fresco e requeijão. Imagine que está no supermercado e está a considerar comprar um produto desta categoria. Por favor, observe atentamente a imagem antes de responder às próximas questões.

Apresentação randomizada dos estímulos (see appendix C)

Na imagem que acabou de ver, qual era o peso aproximado de marcas na prateleira?

- 100% de marcas próprias (marcas do supermercado)
- 66% de marcas próprias (marcas do supermercado) e 34% de marcas nacionais (Philadelphia, Galbani, Matinal e Santiago)
- 34% de marcas próprias (marcas do supermercado) e 66% de marcas nacionais (Philadelphia, Galbani, Matinal e Santiago)
- Não reparei/ não tenho a certeza

Tendo em conta os produtos que viu na prateleira, indique o seu grau de concordância com as seguintes afirmações: (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
Os produtos desta prateleira têm preços razoáveis.							
Os produtos desta prateleira oferecem uma boa relação qualidade-preço.							
Os produtos desta prateleira são uma boa compra pelo preço.							
Os produtos desta prateleira proporcionam um bom valor pelo seu custo.							

Pensando nos produtos que viu na prateleira, indique o seu grau de concordância com as seguintes afirmações: (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
Os produtos desta prateleira são de alta qualidade.							
Os produtos desta prateleira são muito fiáveis.							
Os produtos desta prateleira são superiores.							
Os produtos desta prateleira têm muito boa qualidade.							

As seguintes questões referem-se ao SUPERMERCADO onde faz compras com MAIS FREQUÊNCIA. Indique o seu nível de concordância com cada afirmação. (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
O supermercado onde vou habitualmente seria a minha primeira escolha							
O supermercado onde vou habitualmente seria a minha primeira escolha							
Não compro noutros supermercados se o supermercado onde vou habitualmente estiver disponível.							
Faz sentido comprar no supermercado onde vou habitualmente, em vez de qualquer outro supermercado, mesmo que sejam iguais.							
Mesmo que outro supermercado tenha as mesmas características, prefiro comprar no supermercado onde vou habitualmente.							

As seguintes questões são relativas às **MARCAS NACIONAIS** de queijo fresco e requeijão. Indique o seu nível de concordância com cada afirmação. (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
Considero-me leal às marcas nacionais desta categoria.							
As marcas nacionais são a minha primeira escolha nesta categoria.							
Não compraria marcas próprias se marcas nacionais estivessem disponíveis.							
Prefiro marcas nacionais mesmo que as marcas próprias tenham a mesma qualidade.							

As seguintes questões referem-se à **CATEGORIA** de queijo fresco e requeijão na sua globalidade, e não a cada produto ou marca. Por favor, indique o seu nível de concordância com cada afirmação. (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
Queijo fresco e requeijão são produtos importantes para mim							
Tenho muito interesse em produtos de queijo fresco e requeijão							
Costumo procurar informação antes de comprar queijo fresco e requeijão							
Gosto de discutir sobre produtos de queijo fresco e requeijão com outras pessoas							
Os produtos de queijo fresco e requeijão refletem quem eu sou							
Sentiria falta se não tivesse acesso a produtos de queijo fresco e requeijão							

Tendo em conta a prateleira que viu, indique o seu grau de concordância com as seguintes afirmações: (1 = discordo totalmente, 7 = concordo totalmente)

	1	2	3	4	5	6	7
Eu definitivamente compraria um produto desta prateleira.							
Eu tenho intenção de comprar um produto desta prateleira.							
Tenho um elevado nível de interesse em comprar um produto desta prateleira.							
Eu NÃO compraria um produto desta prateleira.							
Eu provavelmente compraria um produto desta prateleira.							

Qual é a sua idade?

- 18-24 anos
- 25-34 anos
- 35-44 anos
- 45-54 anos
- 55-64 anos
- 65+ anos

Qual foi o último nível de escolaridade que completou?

- Ensino básico (até 9º ano)
- Ensino secundário (10º-12º ano)
- Licenciatura
- Mestrado
- Doutoramento

Qual é a sua situação profissional?

- Estudante
- Empregado(a) por conta de outrem
- Trabalhador(a) independente
- Desempregado(a)
- Reformado(a)

Qual é o rendimento mensal bruto do seu agregado familiar?

- Menos de 1.000€
- 1.000€ - 1.999€
- 2.000€ - 2.999€
- 3.000€ - 4.999€
- 5.000€ ou mais
- Prefiro não responder

Quantas pessoas tem no seu agregado familiar?

- 1 (vivo sozinho/a)
- 2
- 3
- 4
- 5 ou mais

Em que região de Portugal reside/residiu?

- Norte
- Centro
- Lisboa e Vale do Tejo
- Alentejo
- Algarve
- Açores
- Madeira

Appendix B – Survey Flow

Survey Flow
Show Block: Initial Message (2 questions)
Show Block: Screening Questions (4 questions)
Show Block: Shopping Behaviour (1 question)
Show Block: Shopping Frequency (2 questions)
Show Block: Stimulus (1 question)
Then branch if:
If Em qual dos seguintes Supermercados faz compras com mais frequência? Continente is selected
Randomly present
Stimulus 1: 100% Continente
Stimulus 2: 1/3 Continente
Stimulus 3: 2/3 Continente
If Em qual dos seguintes Supermercados faz compras com mais frequência? Lidl Is selected
Stimulus 1: 100% Lidl
Stimulus 2: 1/3 Lidl
Stimulus 3: 2/3 Lidl
If Em qual dos seguintes Supermercados faz compras com mais frequência? Lidl Is not selected And If Em qual dos seguintes Supermercados faz compras com mais frequência? Continente Is not selected
Stimulus: 100% Continente
Stimulus 2: 1/3 Continente
Stimulus 3: 2/3 Continente
Stimulus 1: 100% Lidl
Stimulus 2: 1/3 Lidl
Stimulus 3: 2/3 Lidl
Show Block: Experimental Manipulation (1 question)
Randomly present 5 of the following elements
Show Block: Value for Money (1 question)
Show Block: Perceived Quality (1 question)
Show Block: Retailer Brand Equity (1 question)
Show Block: National Brand Equity (1 question)
Show Block: Category Involvement (1 question)
Show Block: Purchase Intention (1 question)
Show Block: Demographics (6 questions)
End of Survey

Appendix C – Stimuli Used



Figure 1 - 100% Continente



Figure 2 - 1/3 Continente



Figure 3 - 2/3 Continente



Figure 4 - 100% Lidl



Figure 5 - 1/3 Lidl

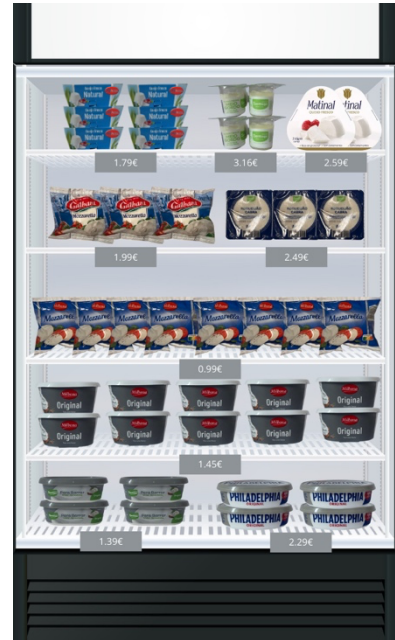


Figure 6 - 2/3 Lidl

Appendix D: SPSS Outputs

Appendix D1: Hypothesis 1

ANOVA

PI_Mean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.748	2	9.874	6.758	.002
Within Groups	149.039	102	1.461		
Total	168.786	104			

Appendix D2: Hypothesis 2a

ANOVA

VfM_Mean					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.681	2	2.841	2.885	.060
Within Groups	100.441	102	.985		
Total	106.123	104			

Appendix D3: Hypothesis 2b

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.271 ^a	.074	.065	1.23204

a. Predictors: (Constant), VfM_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.440	1	12.440	8.195	.005 ^b
	Residual	156.346	103	1.518		
	Total	168.786	104			

a. Dependent Variable: PI_Mean

b. Predictors: (Constant), VfM_Mean

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound Upper Bound	
1	(Constant)	3.738	.597		6.263	<.001	2.554	4.922
	VfM_Mean	.342	.120	.271	2.863	.005	.105	.580

a. Dependent Variable: PI_Mean

Appendix D4: Hypothesis 3

a) Condition B VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****
      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*****
Model: 4
  Y: PI_Mean
  X: Dummy_B
  M: VfM_Mean

Sample
Size: 105
*****

OUTCOME VARIABLE:
  VfM_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .2223   .0494   .9794   5.3527   1.0000   103.0000   .0227

Model
      coeff      se      t      p      LLCI      ULCI
constant   5.0779   .1267   40.0740   .0000   4.8266   5.3292
Dummy_B    -.4529   .1957   -2.3136   .0227   -.8411   -.0647
*****

OUTCOME VARIABLE:
  PI_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3076   .0946   1.4982   5.3295   2.0000   102.0000   .0063

Model
      coeff      se      t      p      LLCI      ULCI
constant   3.3749   .6384   5.2869   .0000   2.1088   4.6411
Dummy_B    .3811   .2483   1.5348   .1279   -.1114   .8736
VfM_Mean   .3840   .1219   3.1506   .0021   .1422   .6257
*****

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .3811      .2483   1.5348   .1279   -.1114   .8736

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
VfM_Mean   -.1739      .1205      -.4697      -.0083
*****

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

----- END MATRIX -----
```

b) Condition C VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****
                Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
                Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*****
Model: 4
  Y: PI_Mean
  X: Dummy_C
  M: VfM_Mean

Sample
Size: 105

*****

OUTCOME VARIABLE:
  VfM_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .0652   .0042   1.0259   .4391   1.0000  103.0000   .5090

Model
      coeff      se      t      p      LLCI      ULCI
constant   4.8467   .1170  41.4393   .0000   4.6147   5.0786
Dummy_C    .1450   .2188   .6627   .5090   -.2890   .5790

*****

OUTCOME VARIABLE:
  PI_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .3493   .1220   1.4528   7.0888   2.0000  102.0000   .0013

Model
      coeff      se      t      p      LLCI      ULCI
constant   3.6497   .5851   6.2378   .0000   2.4892   4.8102
Dummy_C    .6183   .2609   2.3696   .0197   .1007   1.1359
VfM_Mean   .3243   .1173   2.7656   .0067   .0917   .5568

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .6183   .2609   2.3696   .0197   .1007   1.1359

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
VfM_Mean   .0470   .0761   -.0823   .2246

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

----- END MATRIX -----
```

Appendix D5: Hypothesis 4a

ANOVA

PQ_Mean		Sum of Squares	df	Mean Square	F	Sig.
Between Groups		7.330	2	3.665	3.358	.039
Within Groups		111.310	102	1.091		
Total		118.640	104			

Appendix D6: Hypothesis 4b

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.502 ^a	.252	.244	1.10738

a. Predictors: (Constant), PQ_Mean

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.479	1	42.479	34.641	<.001 ^b
	Residual	126.307	103	1.226		
	Total	168.786	104			

a. Dependent Variable: PI_Mean

b. Predictors: (Constant), PQ_Mean

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.615	.487		5.366	<.001	1.648	3.581
	PQ_Mean	.598	.102	.502	5.886	<.001	.397	.800

a. Dependent Variable: PI_Mean

Appendix D7: Hypothesis 5

a) Condition B VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****
                Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
                Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*****
Model: 4
  Y: PI_Mean
  X: Dummy_B
  M: PQ_Mean

Sample
Size: 105

*****

OUTCOME VARIABLE:
  PQ_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .1471    .0216    1.1269    2.2790    1.0000    103.0000    .1342

Model
      coeff      se      t      p      LLCI      ULCI
constant    4.5410    .1359    33.4094    .0000    4.2714    4.8105
Dummy_B     .3170    .2100    1.5096    .1342    -.0994    .7334

*****

OUTCOME VARIABLE:
  PI_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
    .5017    .2517    1.2382    17.1566    2.0000    102.0000    .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    2.6129    .4902    5.3306    .0000    1.6407    3.5852
Dummy_B     .0179    .2225    .0807    .9359    -.4234    .4593
PQ_Mean     .5971    .1033    5.7816    .0000    .3923    .8020

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
    .0179    .2225    .0807    .9359    -.4234    .4593

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
PQ_Mean    .1893    .1373    -.0509    .4941

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

----- END MATRIX -----
```

b) Condition C VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****
      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*****
Model: 4
  Y: PI_Mean
  X: Dummy_C
  M: PQ_Mean

Sample
Size: 105

*****

OUTCOME VARIABLE:
  PQ_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .0900   .0081   1.1425   .8403   1.0000  103.0000   .3615

Model
      coeff      se      t      p      LLCI      ULCI
constant  4.6133   .1234  37.3776   .0000   4.3685   4.8581
Dummy_C   .2117   .2309   .9167   .3615  -.2463   .6696

*****

OUTCOME VARIABLE:
  PI_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .5374   .2888   1.1768  20.7114   2.0000  102.0000   .0000

Model
      coeff      se      t      p      LLCI      ULCI
constant  2.5566   .4780   5.3481   .0000   1.6084   3.5048
Dummy_C   .5431   .2353   2.3080   .0230   .0763   1.0098
PQ_Mean   .5776   .1000   5.7760   .0000   .3793   .7760

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .5431   .2353   2.3080   .0230   .0763   1.0098

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
PQ_Mean   .1223   .1335   -.1098   .4244

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

----- END MATRIX -----
```

Appendix D8: Hypothesis 6a

a) Condition B VS Condition A

***** PROCESS Procedure for SPSS Version 5.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model: 1
Y: PI_Mean
X: Dummy_B
W: BE_Mean

Sample
Size: 105

OUTCOME VARIABLE:
PI_Mean

Model Summary
R R-sq MSE F df1 df2 p
.2372 .0562 1.5772 2.0065 3.0000 101.0000 .1178

Model
coeff se t p LLCI ULCI
constant 6.3205 .4655 13.5787 .0000 5.3971 7.2439
Dummy_B -1.0004 .7813 -1.2804 .2033 -2.5503 .5495
BE_Mean -.2420 .1062 -2.2799 .0247 -.4526 -.0314
Int_1 .2909 .1743 1.6696 .0981 -.0547 .6366

Product terms key:
Int_1 : Dummy_B x BE_Mean

Test(s) of highest order unconditional interaction(s):
R2-chng F df1 df2 p
X*W .0260 2.7875 1.0000 101.0000 .0981

Focal predict: Dummy_B (X)
Mod var: BE_Mean (W)

Conditional effects of the focal predictor at values of the moderator(s):

BE_Mean Effect se t p LLCI ULCI
2.7500 -.2003 .3610 -.5549 .5802 -.9165 .5158
4.0000 .1633 .2528 .6461 .5197 -.3382 .6649
5.7600 .6754 .3623 1.8640 .0652 -.0434 1.3941

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

b) Condition C VS Condition A

***** PROCESS Procedure for SPSS Version 5.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model: 1

Y: PI_Mean

X: Dummy_C

W: BE_Mean

Sample

Size: 105

OUTCOME VARIABLE:

PI_Mean

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3167	.1003	1.5036	3.7519	3.0000	101.0000	.0133

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.4024	.4305	12.5489	.0000	4.5484	6.2565
Dummy_C	1.9020	.8116	2.3434	.0211	.2919	3.5121
BE_Mean	-.0429	.0963	-.4454	.6570	-.2340	.1482
Int_1	-.2974	.1835	-1.6207	.1082	-.6613	.0666

Product terms key:

Int_1 : Dummy_C x BE_Mean

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0234	2.6265	1.0000	101.0000	.1082

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

----- END MATRIX -----

Appendix D9: Hypothesis 6b

a) Condition B VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****
                Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
                Documentation available in Hayes (2022). www.guilford.com/p/hayes3
*****
Model: 1
  Y: PI_Mean
  X: Dummy_B
  W: RBE_Mean

Sample
Size: 105

*****

OUTCOME VARIABLE:
  PI_Mean

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .1809    .0327    1.6165    1.1389    3.0000    101.0000    .3371

Model
      coeff      se      t      p      LLCI      ULCI
constant    6.0013    .4850    12.3740    .0000    5.0392    6.9634
Dummy_B     -.8925    .7754    -1.1511    .2524    -2.4306    .6456
RBE_Mean    -.1489    .1005    -1.4812    .1417    -.3484    .0505
Int_1       .2402    .1594    1.5062    .1351    -.0761    .5565

Product terms key:
  Int_1      :      Dummy_B x      RBE_Mean

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W      .0217      2.2685      1.0000      101.0000      .1351

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

----- END MATRIX -----
```

b) Condition C VS Condition A

***** PROCESS Procedure for SPSS Version 5.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model: 1
 Y: PI_Mean
 X: Dummy_C
 W: RBE_Mean

Sample
 Size: 105

OUTCOME VARIABLE:
 PI_Mean

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2729	.0745	1.5467	2.7095	3.0000	101.0000	.0491

Model

	coeff	se	t	p	LLCI	ULCI
constant	5.1940	.4384	11.8467	.0000	4.3242	6.0637
Dummy_C	1.6132	.8181	1.9718	.0514	-.0097	3.2361
RBE_Mean	.0060	.0906	.0660	.9475	-.1738	.1858
Int_1	-.2055	.1680	-1.2236	.2239	-.5387	.1277

Product terms key:

Int_1 : Dummy_C x RBE_Mean

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0137	1.4973	1.0000	101.0000	.2239

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
 95.0000

----- END MATRIX -----

Appendix D10: Hypothesis 7

a) Condition B VS Condition A

```
***** PROCESS Procedure for SPSS Version 5.0 *****  
  
Written by Andrew F. Hayes, Ph.D. www.afhayes.com  
Documentation available in Hayes (2022). www.guilford.com/p/hayes3  
  
*****  
Model: 1  
Y: PI_Mean  
X: Dummy_B  
W: CI_Mean  
  
Sample  
Size: 105  
  
*****  
  
OUTCOME VARIABLE:  
PI_Mean  
  
Model Summary  
R R-sq MSE F df1 df2 p  
.3126 .0977 1.5078 3.6470 3.0000 101.0000 .0152  
  
Model  
coeff se t p LLCI ULCI  
constant 4.6099 .4711 9.7849 .0000 3.6753 5.5445  
Dummy_B -.6101 .7511 -.8123 .4185 -2.1000 .8798  
CI_Mean .1949 .1211 1.6093 .1107 -.0454 .4352  
Int_1 .2344 .1971 1.1894 .2371 -.1566 .6255  
  
Product terms key:  
Int_1 : Dummy_B x CI_Mean  
  
Test(s) of highest order unconditional interaction(s):  
R2-chng F df1 df2 p  
X*W .0126 1.4147 1.0000 101.0000 .2371  
  
***** ANALYSIS NOTES AND ERRORS *****  
  
Level of confidence for all confidence intervals in output:  
95.0000  
  
----- END MATRIX -----
```

b) Condition C VS Condition A

***** PROCESS Procedure for SPSS Version 5.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
 Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model: 1
 Y: PI_Mean
 X: Dummy_B
 W: CI_Mean

Sample
 Size: 105

OUTCOME VARIABLE:
 PI_Mean

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3126	.0977	1.5078	3.6470	3.0000	101.0000	.0152

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.6099	.4711	9.7849	.0000	3.6753	5.5445
Dummy_B	-.6101	.7511	-.8123	.4185	-2.1000	.8798
CI_Mean	.1949	.1211	1.6093	.1107	-.0454	.4352
Int_1	.2344	.1971	1.1894	.2371	-.1566	.6255

Product terms key:

Int_1 : Dummy_B x CI_Mean

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0126	1.4147	1.0000	101.0000	.2371

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
 95.0000

----- END MATRIX -----

Appendix D11: Reliability Analysis

a) Purchase Intention

Reliability Statistics

Cronbach's Alpha	N of Items
.853	5

b) Perceived Quality

Reliability Statistics

Cronbach's Alpha	N of Items
.843	4

c) Category Involvement

Reliability Statistics

Cronbach's Alpha	N of Items
.801	6

d) Value for Money

Reliability Statistics

Cronbach's Alpha	N of Items
.864	4

e) Retailer Brand Equity

Reliability Statistics

Cronbach's Alpha	N of Items
.870	5

f) National Brand Equity

Reliability Statistics

Cronbach's Alpha	N of Items
.795	4

Appendix D12: Randomization Check

a) Age by Experimental Condition

		Condition (Numeric)			Total
		A (100% PL)	B (34% PL)	C (66% PL)	
Qual é a sua idade?	18-24 anos	7	11	6	24
	25-34 anos	5	8	7	20
	35-44 anos	4	4	6	14
	45-54 anos	3	5	0	8
	55-64 anos	11	11	9	31
	65+ anos	1	5	2	8
Total		31	44	30	105

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.819 ^a	10	.647
Likelihood Ratio	10.023	10	.438
Linear-by-Linear Association	.077	1	.782
N of Valid Cases	105		

a. 8 cells (44.4%) have expected count less than 5. The minimum expected count is 2.29.

b) Education Level by Experimental Condition

		Condition (Numeric)			Total
		A (100% PL)	B (34% PL)	C (66% PL)	
Qual foi o último nível de escolaridade que completou?	Ensino secundário (10º-12º ano)	6	3	3	12
	Licenciatura	13	22	16	51
	Mestrado	11	16	11	38
	Doutoramento	1	3	0	4
Total		31	44	30	105

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.238 ^a	6	.514
Likelihood Ratio	6.037	6	.419
Linear-by-Linear Association	.054	1	.816
N of Valid Cases	105		

a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is 1.14.

c) Household Income by Experimental Condition

		Condition (Numeric)			Total
		A (100% PL)	B (34% PL)	C (66% PL)	
Qual é o rendimento mensal bruto do seu agregado familiar?	Menos de 1.000€	5	1	1	7
	1.000€ – 1.999€	2	4	5	11
	2.000€ – 2.999€	5	8	3	16
	3.000€ – 4.999€	8	7	8	23
	5.000€ ou mais	4	14	5	23
	Prefiro não responder	7	10	8	25
Total		31	44	30	105

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.290 ^a	10	.208
Likelihood Ratio	12.653	10	.244
Linear-by-Linear Association	.866	1	.352
N of Valid Cases	105		

a. 8 cells (44.4%) have expected count less than 5. The minimum expected count is 2.00.

Appendix D13: Data Cleansing

a) Outliers by Experimental Condition

Condition (Numeric)		MAH_Outliers		Total
		.00	1.00	
A (100% PL)	Count	86	0	86
	% within Condition (Numeric)	100.0%	0.0%	100.0%
	Count	91	0	91
B (34% PL)	% within Condition (Numeric)	100.0%	0.0%	100.0%
	Count	84	1	85
C (66% PL)	% within Condition (Numeric)	98.8%	1.2%	100.0%
	Count	261	1	262
Total	% within Condition (Numeric)	99.6%	0.4%	100.0%

b) Finished answers by Experimental Condition

			Finished		Total
			False	True	
Condition (Numeric)	A (100% PL)	Count	16	86	102
		% within Condition (Numeric)	15.7%	84.3%	100.0%
	B (34% PL)	Count	15	91	106
		% within Condition (Numeric)	14.2%	85.8%	100.0%
	C (66% PL)	Count	20	85	105
		% within Condition (Numeric)	19.0%	81.0%	100.0%
Total		Count	51	262	313
		% within Condition (Numeric)	16.3%	83.7%	100.0%

c) Duplicate Respondent by Experimental Condition

		Q_DuplicateRespondent		Total
			true	
Condition		85	10	95
	A	102	6	108
	B	106	2	108
	C	105	3	108
Total		398	21	419

Appendix D14: Manipulation Checks

a) Condition by Manipulation Checks

		Na imagem que acabou de ver, qual era o peso aproximado de marcas na prateleira?				Total	
		100% de marcas próprias (marcas do supermercado)	66% de marcas próprias (marcas do supermercado) e 34% de marcas nacionais (Philadelphia, Galbani, Matinal e Santiago)	34% de marcas próprias (marcas do supermercado) e 66% de marcas nacionais (Philadelphia, Galbani, Matinal e Santiago)	Não reparei/ não tenho a certeza		
Condition	A	Count	31	24	7	24	86
		% within Condition	36.0%	27.9%	8.1%	27.9%	100.0%
	B	Count	2	25	44	20	91
		% within Condition	2.2%	27.5%	48.4%	22.0%	100.0%
	C	Count	0	30	40	14	84
		% within Condition	0.0%	35.7%	47.6%	16.7%	100.0%
Total		Count	33	79	91	58	261
		% within Condition	12.6%	30.3%	34.9%	22.2%	100.0%