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The Great Brand Debate: An Analysis of Consumer Perceptions for Private Labels and National Brands Across Product Categories

by

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Abstract

Title:	The Great Brand Debate: An Analysis of Consumer Perceptions for Private Labels and National Brands Across Product Categories
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Keywords:	Product Category, Brand Type, Private Labels, National Brands, Consumer Perceptions
Thesis Purpose:	The aims of the thesis were (1) to investigate the effect of product categories on the perceptions of relative price, quality, risk, and value and (2) to test a moderation effect of brand types (Private Label or National Brand) on the relationships between the product category and the different perceptions.
Methodology:	A study was conducted with four different products that were representative of two different product categories - food and household, and within each product category different types of brands were selected - private label and national brand.
Theoretical perspective:	The study draws on the literature streams of private label and national brand products and product categories. The Theory of Reasoned Action, further developed as Theory of Planned Behavior and the Cue utilization theories were also applied.
Empirical Data:	The data was collected through a web-based survey (Qualtrics). 123 responses were collected from the platform Prolific.
Conclusion:	Consumers' perceptions of price, and value are significantly impacted by the product category but not in the hypothesised direction. The impact of the product category on perceived quality was inconclusive. The evidence showed that brand type moderates the relationship between product category and consumer perception, but again not in the hypothesised direction.
Practical implications:	Brands should focus on external factors like packaging and branding to influence consumer perceptions of quality, price, and value. A focus on brand equity is also important for companies to stay competitive.

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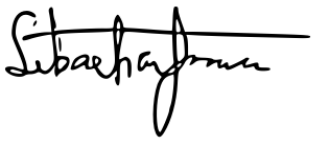

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1. Introduction

1.1 Introducing the phenomenon of Private Labels & National Brands

Regardless of age, gender, nationality, profession or income, the vast majority of a population shares the habit of purchasing products from grocery stores. This is due to the nature of the products that grocery stores offer, most notably edible products. Maslow's hierarchy of needs illustrates how food is a basic need which places grocery stores in a position that is less subjected to the whims of the macroeconomic environment compared to businesses that provide goods or services geared towards psychological needs or self-fulfillment needs. Due to this, there are a plethora of grocery stores that are attempting to present themselves as the primary choice for the consumer, most notably Coop, ICA, Willy's and Lidl in Sweden (Statista, 2020a).

Although food is a basic need, not all food is considered equally vital. The grocery store is essentially an arena where products and brands are competing to be part of the customer's choice of products. Staple foods such as pasta or bread may indeed be a common purchase, however this results in numerous brands contending to be the brand that the consumer ultimately elects to place in their basket. There are a number of factors that food brands use to differentiate themselves from their competitors ranging from competing on price, quality, legacy or flavor (Poonam & Balaji, 2015). Historically, the majority of products in grocery stores were produced by national brands. National brands are brands that are marketed with a brand name owned by the producer. Examples of national brands are Coca-Cola, Barilla, Heinz and Nestlé. Most of them have spent decades providing customers with their product and as a result have created strong brand recognition and a strong brand identity in the mind of the consumer (Nenycz-Thiel & Romaniuk, 2014). An example of this is Kleenex, which is the name of a paper tissue brand which has been so dominant in this market over an extended period of time that some consumers refer to paper tissues as a Kleenex (Douglas, Craig & Nijssen, 2001). As a result of national brands having decades to prove their value and consistency to consumers, their consumption has become ingrained in consumer habits and are therefore often used as a benchmark from which to measure new entrants and alternatives (Douglas, Craig & Nijssen 2001).

For much of the 20th century, national brands were the undisputed rulers of shelf space however since the early 2000's, a new player on the market has begun to challenge this monopoly power on a large scale, private labels (Kwon, Lee & Kwon, 2008). Private label products are products

that are manufactured by a third party on the behalf of a retailer but are then packaged and resold in the name of the retailer (Sgroi & Salamone, 2022). Examples of private label products in Sweden are ICA Basic pasta, Garant bread (Willys) and Coop Änglamark eggs. Across the globe, private label products are now a permanent part of the retail landscape. Private labels, also known as store brands or retailer brands, have been on the rise in Europe over the past decade, and this trend has been particularly notable in Sweden where private label penetration is at 47% of products being sold in grocery stores in 2020 (Statista, 2020b). Also, according to Anselmsson et al. (2005), Sweden possessed the highest penetration rate and growth rate of private label products among Western markets. These stores do not necessarily produce these products themselves, however, they are able to put their name and logos on the packaging so that consumers perceive these products as being from those stores. This represents a fundamental shift in the relationship between suppliers and retailers. Previously, retailers were merely a place where suppliers (national brands) could sell their products but now the retailers themselves have become potential competitors trying to reduce their dependence on national brands to stock shelves and offer consumers viable alternatives to the products they are looking for (Verhoef, Nijssen & Sloot, 2002).

The most significant event that influenced the rise in market share for private label products took place during the 2008 financial crisis (Steenkamp, Van Heerde & Geyskens, 2010). As the housing market collapsed and the stock market tanked, consumers were searching for ways to reduce their spending. As a result, stores like Walmart witnessed an increase in the sales of their private label products and the same trend was also identified on European markets (Steenkamp, Van Heerde & Geyskens, 2010). Previously, private labels have been perceived as a fringe alternative, attracting primarily lower income consumers; however due to the effects of the financial downturn, private label products became more attractive to a wider customer segment. When the economy began to recover, private label sales did lower again. Nevertheless, their consumption remained higher than what it had been before 2008 (Steenkamp, Van Heerde & Geyskens, 2010). Customers had tried private label products and decided that they were suitable alternatives to traditional national brands. It can be concluded from this that in times of financial uncertainty consumers are more inclined to consider private label products, whereas when financial conditions are stable, national brands have the conditions to maintain and even increase their market share (Steenkamp, Van Heerde & Geyskens, 2010).

With rising interest rates and inflation in 2022 and 2023, the macroeconomic environment once again looks challenging. Grocery stores can expect to see an increase in the sales of their private label products as consumers become more price sensitive. Nonetheless, there are still considerable challenges facing both private labels and national brands going forward. For private labels, the main challenges ahead revolve around their ability to attract customers who traditionally have purchased national brands to try their products and more importantly to keep these customers from reverting back to national brands once the macroeconomic conditions

improve. For national brands, their main task is to align themselves as an integral and necessary part of the consumer's shopping basket to ensure that when the consumer considers how to reduce costs, they are unwilling to part with their brand. Essentially, national brands must be able to convince consumers that they are worth buying, even if there is a cheaper private label alternative. There are factors influencing the consumer's decision making that need to be understood so that both private labels and national brands can present their products in a way that maximizes their respective strengths, whilst also reducing the impact of their perceived drawbacks.

1.2 Problem Formulation

For private labels and national brands to be able to strategize and decide on a course of action to mitigate the risk and opportunities of the current economic conditions, they must understand the internal reasoning and beliefs that are held by the consumer. Understanding why the consumer decides to reach for national brands in some cases and why they reach for private labels in other instances is vital to ensure that they leverage their affordances accordingly. Earlier research has indicated that consumers tend to have a number of underlying assumptions about national brands and private labels; however, these assumptions must be investigated and understood in order to explain consumer behavior. These underlying assumptions will be investigated to determine what the root cause in the divergence of assumptions that consumers have between both private labels and national brands could be. Is the fact that a product is either a private label or a national brand what pushes a customer to reach for a product or are there other, more accurate factors that influence their decision-making?

In the majority of product categories, private labels and national brands are now directly competing against one another (Steiner, 2004). Some product categories have seen a much larger increase of private label sales as is the case with frozen products whereas others are still largely dominated by national brands such as in personal care products (Fuduric, Varga, Horvat & Skare, 2022). Product categories in a grocery store are divided based on what purpose they fill and how they are stored (Steiner, 2004). Common grocery store categories are: frozen foods, packaged stable foods (such as rice and pasta), Personal Care (shampoo, toothpaste, etc.) and Household supplies (for example laundry detergent or cleaning material). To deepen the understanding of what could influence the consumer's decision-making when considering which products to purchase, this research will investigate the role of the product category in how consumers perceive different products and if this perception is influenced by whether the product is a private label or from a national brand.

1.3 Research Purpose

The purpose of this research is to determine to what extent consumers' perceptions are impacted by the product category and if the product is a private label or a national brand. Identifying how these two factors influence consumers will provide additional insights into what dictates consumer decision-making. Ultimately, the research conducted will seek to provide valuable insights that can be used practically, by both private labels and national brands, to improve their sales whilst providing theoretical observations that further the understanding of consumer behavior and the broader consumer decision-making process.

1.4 Aimed Contributions

The contributions that this research aims to uncover can be divided into two parts: practical contributions and theoretical contributions. Practical contributions are geared towards providing tangible real-world insights for brand managers and executives within both private label brands and national brands. To contribute to the understanding of the phenomenon, it is necessary to understand which categories the two types of brands perform well in, as well as which categories they perform poorly in. It can also be an indication that product development is more necessary in certain categories and can help guide executives in making long-term strategic decisions about R&D budget allocation. Different brands adopt varying pricing strategies and the results of the research could encourage brands to reconsider their pricing strategies so that they are more aligned to actual customer perceptions. It is important to note that the results that will be documented are not static but that they are a reflection of the sample participants' perceptions at a specific point in time. The results are subject to change both due to time and geographical location and therefore the results should not be seen as an unequivocal truth but rather a guide that should be reproduced on a localized level to yield more accurate insights.

Due to the nature of the research which examines customer perceptions and beliefs, insights regarding consumer behavior and decision-making will be a core theoretical pillar of the research. The results of this research will contribute to the ongoing debate regarding the internal journey consumers go through prior to making purchasing decisions by identifying factors that influence their purchasing decisions. This can result in a strengthening of what prior research has determined to be the primary factors influencing purchasing decisions, it can highlight why some factors are especially important or it could all together indicate tertiary factors that should be investigated further. To ensure that this study adds value to both the practical and theoretical realm, a literature review will be conducted to provide an insight into prior research on the topic and to determine the gaps in existing research.

2 Literature Review of consumer perceptions of Private Labels and National Brands

A major research topic within the field of private labels and national brands was the investigation of the factors that influence customers' perceptions of private labels and national brands as well as their willingness to purchase them. This literature review will set the background for our research. This chapter is divided into two distinct parts. The first part is a review of previous research and the second part elaborates on the gaps found in the research.

2.1 Purchase intention for Private Labels and National Brands

Purchase intention is defined as the likelihood that a consumer is willing or ready to purchase a particular product or service in the future and it is widely used in the literature to predict future purchases (Farris, Bendle, Pfeifer & Reibstein, 2010). In their article, Wu, Yeh, and Hsiao (2011) define purchase intention as a crucial concept in marketing research that refers to the likelihood of consumers buying a particular product or service. The literature has frequently utilized purchase intentions as a predictor of eventual purchase as mentioned by Grewal, Krishnan, Baker, et Borin (1998). The authors mention the importance of establishing positive purchase intentions to encourage consumers to make a purchase and to build positive brand attachments, which has been a key factor in why certain brands have been able to become dominant in their respective product categories.

Marketing professionals strive to increase consumer purchase intentions and as a result, numerous authors have examined the variables that may affect it (Agarwal & Teas, 2001). Authors have investigated factors that influence purchase intentions, including internal factors such as perceived value and external factors such as store image, visual merchandise, store promotions, and consumer factors such as attitude and trust (Bilal & Ali, 2013). Wu, Yeh, and Hsiao (2011) also found that different variables had an effect on what influences consumer's purchasing intentions. They discovered that the purchasing intention was impacted negatively by perceived risk. Private label brand image and perceived quality have been shown to influence consumers' purchasing intentions towards private label products (Calvo Porral & Lang, 2015). The relationship between purchase intention and store image has also been investigated in

previous studies (Buckley, 1991; Dodds, Monroe & Grewal, 1991). In the formulation proposed by Ajzen and Fishbein (1975), attitudes influence behavior through behavioral intentions. Even though purchase intention has been widely studied and results found that different aspects influence the purchase decision, researchers are still trying to understand if other factors influence the purchasing intentions of consumers and how this could be used to influence them in their purchase decision. This is important for private label brands to consider as they seek to upend the longstanding dominance of national brands and it is equally important for national brands that want to maintain their role as market leaders.

2.2 How quality is perceived in Private Labels and National Brands

As Zeithaml (1988) points out, perceived product quality plays a major role in consumers' evaluation of a brand's quality and superiority. It also influences consumers' perceptions of product attributes and their purchase decisions. Consumers' willingness to purchase private label products is greatly influenced by perceived quality, according to Jaafar, Lalp & Naba, (2012). In the conflict between national brands and private brands, perceptions of product quality are also considered decisive in the purchasing decision and therefore understanding differences in how consumers perceive quality between national brands and private labels alternatives is central to understanding the consumer decision-making process (Hoch, 1996).

Although national brands have historically been considered to be of higher quality than private labels (Dick, Jain & Richardson, 1995), recent research suggests that the quality of private label brands is comparable or even better than that of national brands (De Wulf et al., 2005). However, many consumers still consider private labels to be inferior to local brands (Beneke et al., 2013; González Mieres, María Díaz Martín & Trespalacios Gutiérrez, 2006). National brands are still considered higher quality because they are perceived as offering better technology, efficient operational processes and high-quality product design (Steiner, 2004). Consumers often use extrinsic cues such as brand name, price, and packaging to infer the quality of a private label product (Vahie & Paswan, 2006).

Agarwal and Teas (2004) argue that customers analyze a product's quality based on its performance, level of conformity to production and the unique characteristics of the product. Many studies have linked perceived value to perceived product quality (Dodds, Monroe & Grewal, 1991). Research has argued that product quality is a major factor in determining the success of private label brands as well as their purchase by consumers (Grewal et al., 1998). According to Cronin et al. (2017), national brands tend to have a higher perceived value when compared to private label brands. The aforementioned factors have led many retailers to invest

in the quality of their own brands, or at least to portray to customers that the product is made with quality, especially private labels which have traditionally not been perceived as quality products. Perceived quality can be beneficial to brands, depending on how they want to position themselves in the market however it is by no means the only factor that determines a brand's success (Cronin et al., 2017).

2.3 The perceived product value of Private Labels and National Brands

Yang and Peterson (2004) defined perceived product value as a subjective evaluation of a good or service in relation to its perceived cost and appropriate competing options. The researchers discovered that a customer's perception of value is a comprehensive mental assessment. Although conceptualizing and quantifying this construct can be difficult, it is widely acknowledged as being a significant factor in determining purchase intent. According to Woodruff (1997) it is easy to confuse satisfaction with the concept of value (e.g. satisfying customer needs) when discussing perceived value on a general level, especially in practitioner literature. Although perceived value occurs during the prepurchase stage, these constructs differ from one another. According to Yang and Peterson (2004), satisfaction is a post-purchase and post-use evaluation. As a result, while satisfaction depends on using the product or service, value perceptions can be created without ever purchasing or using the good or service. Value for money, as defined by Monroe (2002), is a trade-off between price and quality that determines perceived value. Consumers' perception of value may rise as a result of private label products' lower prices. Consumers should weigh the perceived benefits and costs of making a particular purchase, according to research by Chang and Dibb (2012). The concept of value for money is conceptualized as a trade-off between quality and price, which is one of the main definitions of this construct. According to Grewal et al. (1998), when a buyer pays less than their reference price, their perception of value is enhanced. According to Snoj et al. (2004), people do not buy goods and services for their purely functional benefits. Instead, they buy a set of attributes from which they derive value in accordance with the advantages, or utility, that the products or services offer.

According to Sethuraman and Cole (1999), product value is the main tenet of all marketing initiatives and a significant factor in why people buy private label products. A variety of variables, such as individual preferences, past experiences, and marketing messages, can have an impact on how valuable a product is perceived by an individual. It isn't a set or exact measurement. Businesses can raise the perceived value of their products by improving their quality, lowering their costs, offering exclusive offers or discounts, or emphasizing unique

qualities or benefits. Research by Beneke et al. (2013), Snoj et al. (2004) and Sweeney et al. (1999), have all emphasized the crucial function that perceived product value performs in the consumer decision-making process. Yee and San's (2011) research found that a consumer's perception of value and their purchase decision are directly related.

As reported by researchers like Beneke et al. (2013) and Snoj et al. (2004) Sweeney et al. (1999), these antecedents include perceived product quality, perceived relative price, and perceived product risk. Particularly, it has been discovered that perceived value mediates the connection between these antecedents and consumers' likelihood to purchase private labels rather than national brands (Beneke et al. 2013; Sweeney et al. 1999; Dodds et al.,1991). It is generally agreed that if customers believe a good or service is valuable, the likelihood that they will actually make a purchase will likely increase (Monroe, 2002; Zeithaml, 1988). However, research has shown that conceptualizing and measuring this construct can be challenging.

2.4 The perceived relative price differences between Private Labels and National Brands

Different perspectives are offered on the conceptualisation of price in the literature. Kotler and Amstrong (2012) defined price as “an indicator of the financial sacrifice required to purchase a certain product”. In earlier definitions of price, a specific number was implied, essentially the amount of something “given up or sacrificed to obtain a product” (Zeithaml, 1988). However, the author suggests that a distinction must be made between actual price and perceived price. Dickson and Sawyer (1990) demonstrate this distinction through the behavior of a consumer who does not remember the actual product prices but instead ‘encodes’ or transforms these into a more subjective interpretation of the product's monetary value such as ‘cheap’ or ‘expensive’. According to Jacoby et al. (1971), perceived relative price was the amount encoded by the customer when comparing a product's price to that of substitutes.

A private label brand's perceived relative price can be viewed as a comparison of its price to the price of its non-private label competitors (national brands) within the same product category according to the principles provided by Sweeney et al. (1999). It is important for customers to perceive the price as it is an important extrinsic cue for making purchasing decisions, according to Ralston (2003). As claimed by Zeithaml (1988), consumers' perception of the value of a product are most influenced by sacrifice in terms of cost. Price perception is crucial, according to Ralston (2003), because it is an external signal that gives customers essential information when they need to make purchases. According to Miranda and Joshi (2003), consumers may view private label products as inferior and be willing to pay less than national brands simply because they are frequently less expensive than retailer brand products. The indication of a

lower price serves more as a signal of product inferiority rather than a signal of a good price for the customer. Since price enables customers to compare the cost of a product to that of similar alternatives, the perceived relative price of a product is crucial. According to Herrmann, Xia, Monroe & Huber (2007) although perceived price is an important component of the value equation, other factors like time, effort, and service quality also affect how much customers value a product or service. Just as with the aforementioned factors (purchase intention, quality and value) the price of a product is merely another step along the consumer's decision making process.

2.5 How risk is perceived regarding Private Labels and National Brands

Bauer (1967) first defined the phrase perception of risk originating in the psychological field. According to Stone & Grønhaug (1993), perception of purchase risk refers to the feeling of uncertainty about the effect of purchasing a product or service. As a multidimensional construct, perceived risk is defined by Beneke et al. (2012) as financial, psychological, social, performance/functional, physical, and time risk. Essentially, perceived risk is consumers' subjective expectation of losses, as described by Sweeney et al. (1999). This means that any action a consumer takes will have consequences that cannot be predicted, some of which may be unpleasant (Liljander, Polsa & van Riel, 2009). The concept of financial risk refers to the likelihood of a buyer losing money after purchasing a particular product as a result of the purchase. Mitchell & Harris (2005) define financial risk as "the concern about what a shopping trip will cost relative to an individual's financial resources". A perception of risk arises when consumers are concerned that the product will not deliver its promised benefits or perform satisfactorily. Bettman (1973) argues that consumers tend to judge products based on their knowledge and experience. In the absence of expert advice or information, consumers who buy a product for the first time experience a significant increase in risk. Buying unknown brands therefore entails a high level of risk for consumers. The reason for this is that they have never used those brands before as compared to national brands which have a longer track record of delivering what they promise at a satisfactory level. Consequently, the perception of risk encourages the consumer to select the product he or she believes is best suited to the type of risk they are exposed to (Arslan, Gecti & Zengin, 2013). When buyers deal with uncertainty associated with a new product, they can either perceive risk as favorable or unfavorable (Sheau-Fen, Sun-May & Yu-Ghee, 2012). In other words, if a person feels that a typical product is risky, they are less likely to buy it. To offset the increased perception of risk, private labels often have a lower price to mitigate the risk posed by trying one of their products.

The study by Semeijn et al. (2004) suggests that consumers' evaluations of private label products are negatively influenced by perceived risk. The same findings have been reported by recent research (Wu et al., 2011). Further, Bettman (1973) noticed that perceived risk was negatively correlated with perceived quality. In addition, Sheau-Fen et al. (2012) point out that feelings of uncertainty, including performance and physical risks, negatively affect buyers' perceptions of quality, thus decreasing the likelihood of a purchase. Previous research has demonstrated a relationship between perceived risk and attitude toward private labels, while others suggest a direct effect on purchase intentions and is therefore a topic that does not have a clear consensus. It was found that attitudes toward private labels were influenced by perceived functional risk in the study conducted by Manikandan (2020). In contrast, Mostafa & Elseidi (2018) found that perceived risk was not related to private brand attitudes. Perceived risk is mediated by perceived value, according to Beneke et al. (2012). In accordance with Nguyen-Phuoc, Oviedo-Trespalacios, Vo, & Le (2015), performance risk, perceived quality, and physical risks are essential factors in deciding whether a consumer will buy a product or not.

Researchers have found that a higher perceived quality level reduces the risk associated with a specific product category (Batra & Sinha, 2000; Hoch & Banerji, 1993). Furthermore, there are certain product categories that are more conducive to private labels than others. The literature supports the idea that a customer's perception of quality determines their risk perception (Batra & Sinha, 2000; Sweeney, Soutar & Johnson, 1999).

2.6 The role of Product Category in how consumers perceive Private Label and National Brands

Few articles mention the differences between the different product categories in their studies. Dhar, Hoch & Kumar (2001) have argued that product category selection is a key aspect of managing private labels. In addition to the reported demographics of private brand buyers, managers are largely unaware of the reasons customers make certain buying decisions, which may also vary depending on the product category, as discussed by Goldsmith, Flynn, Goldsmith & Stacey (2010).

Category sensitivity was introduced to refer to the impact that product categories have on purchase intentions (Goldsmith, Flynn, Goldsmith & Stacey, 2010). In their study, they investigated the differences of category sensitivity for orange juice, cereal, and mineral water. Their results showed slight differences in the sensitivity. This is probably due to the fact that the categories are not very distinct from each other as two of the three categories are beverages (belonging to the food category). In another research paper by Retnawati, Ardyan & Farida (2017) it was found that the category sensitivity is impacted by the social aspect of the product.

Indeed, product categories with low social risks, such as salt, wheat, and sugar, have a lower category sensitivity compared to product categories consumed as part of social activities such as wine and coffee (Retnawati, Ardyan & Farida, 2017). This could indicate that private label products associated with low social risk could perform better compared to private label products associated with high social risk, which could also be a factor that national brands could use to strengthen the appeal of their brands. To investigate consumer perceptions, we focused our study on two product categories: coffee and dishwashing products. To test if consumer perceptions vary between product categories with high social risks (coffee) and low social risks (dishwashing products), we intentionally selected a product category with high social risks (coffee).

Other articles looked into the purchase probability depending on the product category. According to Garczarek-Bąk & Disterheft (2018), the purchase probability of private label products may be determined by the type of retailer and product category. A similar conclusion was reached by Fuduric, Varga, Horvat & Skare (2022), who found differences between product categories in purchase intentions. A study conducted by Del Vecchio (2001) investigated the relationship between private label product categories and consumer perceptions of quality. According to the author, as product categories become riskier, consumer perceptions of quality should become increasingly important. In the context of increased importance of quality, private labels are likely to be perceived as relatively inferior (of lower relative quality) to national brands. Bettman (1974) found that category quality variance is one of the most significant factors determining a product category's inherent risk. Based on the assessment of product category characteristics, it appears that perceptions of private label quality are primarily determined by their ability to compete with national brands on functional quality and if the product is considered to be of low or high social involvement.

2.7 Literature Review Conclusion and Research Question

Businesses are using private labels to differentiate themselves and offer consumers a unique value proposition in the retail world. Thus, private label products have become a popular academic research topic. According to our literature review, certain aspects of private labels have been extensively studied, such as the factors that influence how consumers perceive private labels and national brands. On the contrary, a domain that has not been researched thoroughly is how these perceptions of private labels and national brands could change depending on the product category. While exploring the existing research, we discovered that most private label studies focused on simple food products, leaving other categories, such as household and beauty products, largely unexplored. In their limitations and further research. Calvo, Porral and Lang (2015) suggested that research should also explore differences among

product categories. Vo and Nguyen (2015) also recommend further research regarding brand categories as their study only covers food products. Additionally, Beneke et al. (2013) mentioned the importance of looking into product categories in more depth. The authors also stated in their suggested further research that they "are unaware of any studies where this model has been applied across private label and national brand domains simultaneously". After conducting the literature review, we thought that it would be beneficial to conduct research that investigated this gap.

Our aim is to contribute to the existing literature by examining the impact of product categories in the field of private label products and national brands. As mentioned previously, we will explore the consumer perceptions of private labels and national brands in Sweden, which is an understudied area despite the extensive private label penetration. Narrowing down our research to only include Sweden will improve the validity of the results and therefore improve their ability to provide real world implications for brand managers. Therefore, we hope to provide insight that can guide stores in implementing effective private label strategies whilst also helping national brands stay relevant in an increasingly competitive market. Additionally, this research aims to provide ample theoretical insights to further the ongoing debate and discussion regarding how the perception of private labels and national brands could be changing in the mind of consumers.

Based on the literature review that has been conducted, our research question is as follows:

Do consumers' perceptions of a product change depending on the product category and does the brand type (private label or national brand) influence this perception?

3 Theoretical Framework

Having a well-developed theoretical framework is essential for generating testable hypotheses and contextualizing our findings. Theoretical frameworks provide a structured approach to examining complex phenomena. To understand the factors that influence consumers' decisions in the field of private labels or national brands, also called brand types, several theories have been applied. Among these are the Theory of Reasoned Action first introduced in 1967 by Martin Fishbein and further developed as Theory of Planned Behavior by Fishbein and Icek Ajzen (Fishbein, 2008), and the Theory of Cue Utilization developed in 1959 by Easterbrook (Hanoch & Vitouch, 2004).

When it comes to buying private label or national brand products, these two theories can be combined for a more comprehensive understanding. As stated by Collins-Dodd & Lindley (2003) consumers' likelihood to choose one type of product over another can be better predicted by considering both internal factors, such as attitudes and perceptions, and external factors, such as price, brand name, packaging and store name.

3.1 Theory of Reasoned Action (TRA)

The Theory of Reasoned Action (TRA) is a social psychology framework that explores how individuals decide on their actions. It suggests that behavior is determined by a person's intention, which can be influenced by two main factors: their attitude and subjective norm. Attitude is the individual's evaluation of behavior, often shaped by personal experiences, social norms, and cultural values. On the other hand, subjective norm refers to the perceived social pressure to perform or not perform the behavior, which is influenced by people around us and what we perceive as being an accepted behavior. As a tool to understand consumer behavior, TRA has been found useful in predicting preferences for different products (Fishbein, 2008; Madden, Ellen & Ajzen, 1992).

Numerous scholars have utilized the theory of reasoned action (TRA) to explain and forecast consumer behavior. Sheppard, Hartwick & Warshaw (1988) confidently claimed that TRA is highly effective in predicting outcomes in various circumstances. Research has consistently confirmed the validity of TRA across different fields. For instance, Dutta and Singh (2014) employed the theory to explore purchase behavior in relation to healthy food brands, while Lyong Ha (1998) investigated the relationship between behavioral brand loyalty and several

antecedents, introducing the TRA to accomplish this task. TRA differs from other attitude theories as it considers the effect of societal norms on a person's intentions, thus linking their actions to their beliefs. Due to this, the TRA provides an explanation as to why someone's intentions may not match up with their attitudes since external factors can impact their behavior.

The TRA also posits that the stronger an individual's intention to perform a behavior, the more likely they are to engage in that behavior (Montano & Kasprzyk, 2015). The TRA can be applied to consumers' attitudes toward a product category and can influence their perceptions of the product's quality. In other words, consumers may perceive products within a particular product category as being of higher quality than those in other categories if they have a positive attitude toward that category. This is because their attitude towards the category influences their expectations and beliefs about the products within that category depending on if it is a private label or national brand, which in turn shapes their perceptions of quality. Applying this theory to consumers' attitudes towards product categories, it can be hypothesised that consumers' perceptions of product quality will be influenced by their attitudes towards the product category. Perceived quality is also considered the key to success in the battle between national brands and private labels (Hoch & Banerji, 1993). Efforts have been made to understand how perceived product quality and perceived product value differ between national brands and private labels. We begin by hypothesizing the following:

H1: The perceived quality of a product (PPQ), as judged by consumers, is dependent on the category to which it belongs, with the food category being perceived as having superior quality compared to household products.

Ackermann and Palmer (2014) point out that TRA as a stand-alone predictor of behavior does not focus adequately on choice. The Theory of Planned Behavior (TPB) is another theory that extends the TRA and is useful for predicting consumer behavior. Ajzen (1991) introduced the theory of planned behavior (TPB) to predict non-volitional behaviors by adding perceptions of control over behavior as a predictor. It is possible to apply the theory beyond easily performed, voluntary behaviors by considering perceptions of control. In addition to being able to understand complex goals and outcomes that depend on a series of other behaviors, the TPB suggests that behavior is both determined by behavioral intentions, as well as perceived control over the behavior. As both internal and external factors are considered, it refers to an individual's perception of their ability to carry out a specific behavior successfully. In essence, it describes how well a person believes they can perform a behavior successfully based on their perceived resources, skills, and support (Ajzen, 1991).

Consider the case in which a customer wishes to purchase a pack of coffee from a supermarket, and they are trying to decide between a national brand and a private label. There are several factors that may affect their decision-making, including their familiarity with the brands, their perception of the quality, taste of the coffee, and the price of each option. The individual may

feel as if they have a high degree of control over the decision to purchase that particular brand of coffee if they are familiar with the national brand and have had a positive experience with it in the past. In contrast, if the consumer is unfamiliar with the private label brand or has had a negative experience with it, their control over the behavior may be limited. As a result, if the national brand of coffee is significantly more expensive than the private label option, the person's level of control may also be reduced. As a result, they may have a positive attitude towards the national brand but may perceive a lack of control over the behavior of purchasing it due to its high price. However, if the private label coffee is substantially cheaper than the national brand and the individual is satisfied with the quality and taste of the product, he or she may have a greater level of control over their decision to purchase the private label brand.

The TPB provides a more comprehensive understanding of the factors that affect behavioral intention and behavior by incorporating perceived behavioral control into the TRA framework. Behavioral control (perceived behavioral control) is an additional predictor of non-volitional behaviors based on Ajzen (1988). Consumer behavior is particularly affected by factors such as product availability, price, and accessibility. In this way, the TPB and TRA can provide a more complete understanding of consumer behavior when it comes to purchasing national brand products or private label products. Consumer behavior can be predicted and explained better by taking into account both internal factors such as attitudes and subjective norms, as well as external factors such as perceived behavioral control (Montano & Kasprzyk, 2015).

3.2 Cue Utilization Theory

Using the Cue Utilization Theory can also be helpful in predicting consumer behavior. Essentially, cue utilization theory describes products as an array of intrinsic and extrinsic cues that serve as quality indicators. A product's extrinsic cues include price, brand name, packaging, and store name. A product's intrinsic cues, on the other hand, can be found in its ingredients, taste, smell, texture, etc. (Richardson, Dick & Jain, 1994).

The theory suggests that when making a decision, people gather information from the environment, then integrate it to form an overall impression. Several factors contribute to the effectiveness of cues in influencing decision-making, including cue salience, cue relevance, and cognitive capacity. The Cue Utilization Theory can explain how consumers make decisions about which products to purchase based on various cues, including packaging design, brand name, and product placement (Mishra, Malhotra & Saxena, 2020). The Cue Utilization Theory can be used to predict consumer purchase behavior for private label and national brand products. Consumers may rely on different cues when evaluating private labels versus national brands. For example, private labels often have lower brand recognition and lower perceived

quality compared to national brands. As a result, consumers may rely more heavily on cues such as packaging design and product placement when evaluating private labels. By designing packaging that is visually appealing and stands out on the shelf, marketers can increase the likelihood of consumers purchasing their private labels. Similarly, national brands may rely more heavily on cues such as brand reputation and advertising when evaluating national brands. By designing advertising campaigns that emphasize the product's brand reputation and unique features, marketers can increase the likelihood of consumers purchasing their national brands.

According to some theories, product perception is based on cue processing and inference (Burnkrant, 1978). According to the author, cue utilization examines how product perceptions are influenced by cues. By analyzing how cues are combined to give meaning to goods in the consumer's environment, researchers can gain insights into this process. One key cue that provides valuable information about the product's perceived value is its price (Burnkrant, 1978).

The TPB suggests that consumers' attitudes towards a product category can influence their perceptions of the product's price. Therefore, it is hypothesised that certain product categories will be perceived as more expensive than others. Price perception is significant to customers in making purchasing decisions, according to Wangenheim and Bayon (2007), since it is an extrinsic cue that provides access to important information. As Miranda and Joshi (2003) and Scott Morton and Zettelmeyer (2004) suggest, private label products are usually marked lower than branded products by retailers, leading consumers to perceive private labels as of lower quality and therefore willing to pay less for them than national brands. Based on the perceived relative price of a product, Jacoby et al. (1971) explain how customers encode a product's price relative to other substitutable products. Given the above discussion, we predict the following:

H2: Perceived Relative Price (PRP) varies depending on the product category. Consumers tend to perceive products in the food category as more expensive than those in the household category.

The TPB also suggests that consumers' attitudes towards a product category can influence their perceptions of the product's risk. Therefore, it is hypothesised that certain product categories will be perceived as riskier than others. Our next hypothesis is:

H3: Consumers' perceived risk (PR) varies depending on the product category. Product categories such as food are perceived to carry a higher level of risk than household products by consumers.

In terms of perceived risk, Bettman (1973) determined that there are two types: handled risk and inherent risk. Consumers may have a decreased desire to purchase a new product if they have to deal with the unknown. The literature cites these authors extensively for their contributions to understanding perceived risk. Consumer behavior, including purchase intention

and evaluation of product quality, can be negatively affected by perceived risk, according to their research. Although the effects of perceived risk on consumer purchase intention are well established, more research needs to be conducted on how perceived quality impacts it indirectly.

The perception of value is another important aspect. According to Peterson and Yang (2004), perceived value is a subjective estimate of a good or service relative to its perceived cost and appropriate competitor alternatives. Although this construct is challenging to conceptualise and quantify, it is widely regarded as being a crucial factor in determining purchase intent. As mentioned previously and according to Monroe (2002), perceived value is a trade-off between price and quality, a concept known as value for money. The lower price of private label products may increase consumers' perceived value. Product Value is the primary cornerstone of all marketing endeavours and a key driver of the purchase of private label goods (Sethuraman and Cole, 1999). Therefore our next hypothesis is the following.

H4: Perceived product value (PPV) varies depending on the product category, such that consumers perceive products in the food category to be of higher value compared to products in the household category.

There has been a wide range of work done in the realm of Private labels using the Cue utilization theory. Private label brands and national brands perceive quality differently depending on extrinsic cues, according to Sethuraman and Gielens (2014). Cues play an important role in shaping consumers' perception of quality in brands, according to Dawar and Parker (1994). To evaluate private label brands, Mishra, Malhotra, and Saxena (2020) claim that consumers use both intrinsic and extrinsic signals, such as flavor, materials, labeling, price, trademark, and store image. It has been found that merchandising triggers cognitive assessment in a number of studies. It may be an external cue for consumers to enjoy a product more if they perceive that retail stores are better than merchandising. Yan, Xiaojun, Li and Dong (2019) examined the moderating effect of perceived quality on the relationship between category characteristics and purchase intentions by using consumer extrinsic cues. Additionally, Olson and Jacoby (1972) explored Cue Utilization in the Quality Perception Process, showing how this theory can be applied to perception.

Coming back to the theory of planned behavior, numerous studies have employed it to predict different behaviors. Guillaumie et al. (2010) found that the TPB was effective in predicting intentions towards food and vegetable intake. Walsh and Mitchell (2010) focused on private labels and used the TPB to develop their hypotheses regarding consumer intentions to purchase. They identified new drivers of buying intentions for private labels and linked their findings to the theory developed by Ajzen and Fishbein (1975). The authors concluded that the association between attitude and behavioral intention can be weak and depends on the attitude object, situational and consumer characteristics, and being brand conscious may no longer be

incompatible with buying private label brands. Additionally, Carfora et al. (2019) found that TPB constructs were strong predictors of various food choices.

Due to its consideration of the influence of subjective norms on consumer behavior, the TPB can be applied to predict the perceptions of private labels or national brands. The concept of subjective norms refers to the social pressure individuals feel from their reference groups (for example, family, friends, colleagues) to adhere to certain behaviors. The subjective norms that consumers adhere to when purchasing private label products or national brand products can have a profound impact on the purchase decisions they make. As an example, if a consumer's reference group values national brand products and perceives them as status symbols, the consumer is likely to buy national brand products even if private label products are more affordable and have similar quality. In contrast, private label products may be more attractive to consumers whose reference groups emphasize practicality and cost-effectiveness. Based on the effects of subjective norms on consumer behavior, the TPB can provide an accurate prediction of consumers' intentions and actual behavior. Social risk associated with the product category can influence consumer perceptions of product categories, as highlighted in the literature review. For example, purchasing a dishwashing product carries a low social risk, while purchasing coffee and then serving it to guests carries a higher social risk. By investigating consumer perceptions towards private labels and national brands in two different product categories, one with high social risk (coffee) and one with low social risk (a dishwashing product), our study aims to shed light on whether social risk affects consumer attitudes towards private labels and national brands differently.

Following this logic, we can hypothesize that the Brand Type (private label or national brand) has a moderating effect. Our next hypotheses are:

H5: The relationship between Product Category and Perceived Relative Price is moderated by Brand Type such that the effect of Product Category on PRP is stronger for private label products compared to national brand products.

Batra and Sinha (2000) found that consumers perceive significant differences in perceived risk when purchasing different categories of Private labels. As a result, we propose the following hypothesis.

H6: The relationship between Product Category and Perceived Risk (PR) is moderated by Brand Type such that the effect of Product Category on PR is lower for private label products compared to national brand products.

H7: The relationship between Product Category and Perceived Product Quality (PPQ) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.

H8: The relationship between Product Category and Perceived Product Value (PPV) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.

In their study, Armitage & Conner (2001) claimed that TRA and TPB only explain 39% of behavioral intentions and 27% of actual behavior. Therefore, researchers can gain a deeper understanding of consumer behavior when combining the TRA and TPB with the Cue Utilization Theory. In particular, the TRA and TPB provide insights into how internal factors, such as attitudes and social norms, influence behavior, while the Cue Utilization Theory helps researchers understand how external factors, such as price, brand type, packaging, and store name, can influence behavior. By considering both internal and external factors, researchers can develop a more comprehensive model of consumer behavior to help marketers and retailers develop more effective strategies.

3.3 Summary of the hypotheses

H1	The perceived quality of a product (PPQ), as judged by consumers, is dependent on the category to which it belongs, with the food category being perceived as having superior quality compared to household products.
H2	Perceived Relative Price (PRP) varies depending on the product category. Consumers tend to perceive products in the food category as more expensive than those in the household category.
H3	Consumers' perceived risk (PR) varies depending on the product category. Product categories such as food are perceived to carry a higher level of risk than household products by consumers.
H4	Perceived product value (PPV) varies depending on the product category, such that consumers perceive products in the food category to be of higher value compared to products in the household category.
H5	The relationship between Product Category and Perceived Product Quality (PPQ) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.
H6	The relationship between Product Category and Perceived Relative Price (PRP) is moderated by Brand Type such that the effect of Product Category on PRP is stronger for private label products compared to national brand products.

H7	The relationship between Product Category and Perceived Risk (PR) is moderated by Brand Type such that the effect of Product Category on PR is lower for private label products compared to national brand products.
H8	The relationship between Product Category and Perceived Product Value (PPV) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.

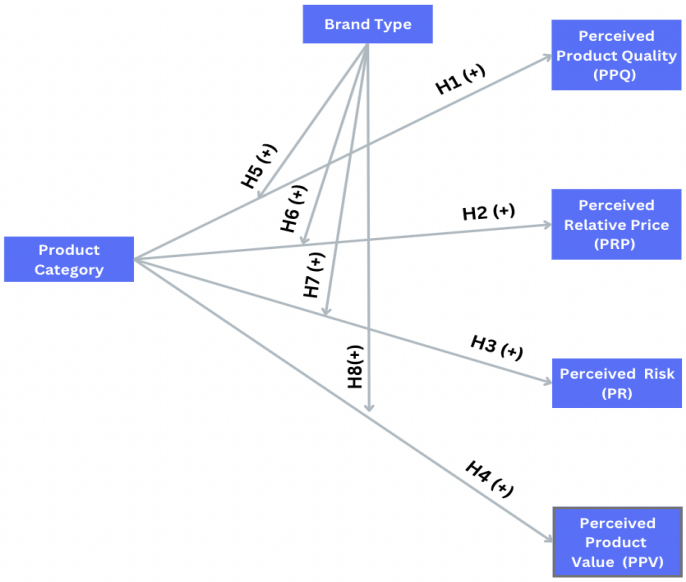


Figure 1: Framework

Based on our hypotheses, we created a model to visually represent how the variables relate to each other. Our model is constructed to explore the impact Product Category has on Perceived Product Quality (PPQ), Perceived Relative Price (PRP), Perceived Risk (PR) and Perceived Product Value (PPV). Furthermore, we will examine if Brand Type has a moderating effect on the aforementioned relationships.

4 Methodology

4.1 Research Approach

The phenomenon that we will investigate is if consumers' perceptions of a product change depending on the product category (food or household) and if the brand type (private label or national brand) influences this perception. To conduct the required research for this phenomenon, a quantitative approach was chosen. This approach was selected as it provides a myriad of advantages that outweigh the benefits that a qualitative approach would provide us. A quantitative approach allows us to gather a large amount of data, thereby expanding our sample size and theoretically improving the external validity as the data is more generalizable to the wider population. Having a larger sample size facilitates the ability to uncover variances within the sample, based on things such as age or gender which could indicate certain patterns and trends. This was considered vital for both our theoretical and managerial aims as it will allow for a new angle from which to examine and discuss the consumer decision-making process whilst providing managers with broad insights into how Swedish consumers could be perceiving their product portfolios. This by no means implies that a qualitative approach is unproductive, on the contrary, a qualitative approach would allow for a deeper understanding of the internal reasoning of the consumer, the "why" behind their choices and actions which would be a valuable nuance to the shallower insights provided by a quantitative approach. The second reason for using a quantitative approach is the ability to limit subjectivity in the interpretation of the data. Quantitative research often employs statistical analyses which are not impacted or skewed by the preconceived perceptions or opinions of the researchers. This leads to research that can be efficiently scrutinized and reproduced, both of which can allow for the research to become more accurate when investigating the phenomenon.

To obtain the required data, a digital survey was created. A survey is a convenient method for recording the responses of participants in a timely and standardized manner whilst being able to distribute it efficiently. We created one survey with four variants to investigate how each variant influenced how participants responded to different stimuli (see Appendix A). All the subsequent statements after the stimuli were identical. This allowed us to investigate how the participants' perceptions of a product could differ between the variants based solely on the product that they were shown, thereby indicating to what extent the brand type and the product category could have an impact on consumer perceptions. The four variants are as follows:

1) A Private Label Coffee Brand

2) A National Brand Coffee Brand
3) A Private Label Dishwashing Soap Brand
4) A National Brand Dishwashing Soap Brand

Each participant had an equal chance of being randomly assigned to one of the four variants. Although the stimuli that was used were different in each variant, the questions used to gauge the participant's perceptions about the products were identical across the variants. The statements that were chosen to be included in the survey can be classified into four categories:

1) Price
2) Quality
3) Risk
4) Value

These categories were selected as relevant question categories due to the research conducted during the literature review, which deduced that these four categories are integral to understanding how consumers perceive products. The actual statements that were posed in the survey can be found below, divided by the statement categories and which past research the statements are based on. The participants responded to each statement via a 5 point Likert Scale ranging from Strongly Disagree to Strongly Agree as this allows for a clear distinction between each answer alternative. A Likert-Scale was chosen as the method of recording participant feedback as this method is intuitive for participants to understand and allows them to share a range of perceptions including a "neutral" option if they are unsure. Additionally, a Likert-scale does not require participants to take a definitive stand on a particular topic but allows them to respond in degrees of agreement/disagreement, adding more nuance to their responses (Albaum, 1997).

Price	Q_1	The price of this brand would have to go up a lot before I would consider switching to another brand in the same category.	Based on Christodoulides et al. (2015)
	Q_2	I am willing to pay a higher price for this brand than for other brands in the same product category.	Based on Christodoulides et al. (2015)
	Q_3	I would buy this brand instead of another brand in the same product category, even if they are the same price.	Based on Christodoulides et al. (2015)

Quality	Q_4	Compared to other brands in this category, I perceive this brand as good quality.	Based on Christodoulides et al. (2015)
	Q_5	This brand is a leading brand within it's product category.	Based on Christodoulides et al. (2015)
	Q_6	This brand has low quality products.	Based on Christodoulides et al. (2015)
Risk	Q_7	This product will live up to my expectations.	Based on Chaudhuri (1997)*
	Q_8	Other people could think badly of me because they see that I have this product.	Based on Chaudhuri (1997)*
	Q_9	This brand's claims about the product are believable.	Based on Christodoulides et al. (2015)
Value	Q_10	This brand has a good reputation.	Based on Christodoulides et al. (2015)
	Q_11	This brand is more appealing than comparable brands offering similar products.	Based on Christodoulides et al. (2015)
	Q_12	I would recommend this brand to friends and relatives.	Based on Christodoulides et al. (2015)

* two of the statements in the "risk" statement category are based on a different research paper

Table 1: The statements from the survey, the variables they are related to and the research they are based on

4.2 Data Collection

Once we had determined the construct and the approach we would take to the research, the process of collecting the data began. A demographic requirement that was set for participants is that they had to be currently living in Sweden, since we are interested in Swedish consumers' perceptions. This research does not have the aim of specifically investigating variances in how different age groups, genders or any other demographic characteristics perceive products so there were no predetermined limitations in this regard. This allows for a broad pool of potential participants, which could result in a sample that is more representative of the wider population but limits its ability to focus on a specific customer segment. The survey was created using the online service Qualtrics. Choosing Qualtrics was based on the possibility of creating different survey versions, the ease of using its user interface, and straightforward tools for exporting data.

To maintain the objectivity of our research, we decided to use Prolific to reach participants. Prolific is a pay-to-use platform that allows researchers to access qualified participants that fit their research requirements. The time it takes for enough participants to complete a survey through Prolific can vary depending on how specific your requirements are and the budget you allocate to your research. In our case, it took us over a week to get 123 participants. Our initial target sample size goal was 250 participants as this will have allowed for approximately 60 participants in each group. At this sample size, the results would have become more reliable and valid, since the data will likely have a smaller standard deviation and margin of error thus making it more representative of the wider Swedish population. Nevertheless, the subsequent analysis into our smaller data pool could still prove to be insightful if significant results are found. The drawback of the smaller data set is that it may be more sensitive to outliers and the data may be less generalizable to the broader Swedish consumer base.

4.3 Data Analysis

To analyze the survey responses, we exported the data to Jamovi via Excel since it is currently not possible to export directly from Qualtrics to Jamovi. Jamovi is a platform that is optimized for analyzing statistical data. All the subsequent statistical analyses were performed in Jamovi.

To begin our analysis, we will first investigate the descriptive statistics of our dataset. This first analysis will be conducted both for the survey as a whole, and for each variant. This will include measures of central tendency such as the mean and median for each subgroup. The descriptive statistics will also yield insights into the age and gender dispersion in the sample, which could

be pivotal to quantifying the results from the research into real world insights into customer segments for managers.

The second analysis that we will conduct is a CFA. This analysis is performed to test our pre-specified measurement model. This is done to ensure that the latent variables we are measuring (perceived, risk, quality, price and value) are actually being measured in the most accurate way. To determine this, the model fit will have to be reported, including the test for exact fit, a reliability analysis, and the fit measures. Depending on the outcome of the CFA, adjustments may be made to improve the model fit provided that these modifications make theoretical sense.

Since we are investigating whether there is a statistically significant interaction effect between Brand Type and Product Category (our two independent variables) on the combined dependent variables (perceived risk, quality, price and value) a Two-Way Manova will be used to analyze our data. We are using a Two-Way Manova because it treats the dependent variables as a multivariate outcome whereas an Anova treats each dependent variable separately as univariate outcomes. Post-hoc tests were conducted for additional insights into the outcome of the analysis.

After this, we conducted a regression with moderation analysis. Assumption checks were first performed. To determine the interaction effect between product category, our independent variable, and four dependent variables (PPQ, PRP, PR and PPV), we conducted linear regressions with moderation.

4.4 Ethical Considerations

When conducting research that is derived from the opinions of participants, maintaining their anonymity is integral to ensure that they are honest in their responses. To ensure anonymity, we have no means of identifying precisely which participant has answered each survey response. In addition to maintaining their anonymity, the results are strictly confidential. The results will not be shared beyond the scope of this research to safeguard that the opinions expressed by the participants are not exploited. The first question of the survey was a question to the participant about if we have their consent to use their response for our research, as we wanted to be open and transparent about our motives. Finally, upon the completion of this research, the responses that we have recorded will be removed and deleted from our computers in accordance with GDPR guidelines.

5 Analysis

5.1 Descriptive statistics

There was a total of 123 respondents to our survey. As a first step, we deleted respondents who did not complete our survey or who were unfamiliar with the brands that we used. A more detailed explanation of this stage is provided in the methodology section. In total, 116 respondents were retained in the sample after this primary data screening step. The respondents were then randomly assigned to one of four surveys covering a private label or national brand product and a food or household category.

Frequencies of Age

Age	Counts	% of Total	Cumulative %
18-28	39	33.6%	33.6%
28-38	51	44.0%	77.6%
38-48	15	12.9%	90.5%
48-58	6	5.2%	95.7%
58-68	5	4.3%	100.0%

Table 3: Frequencies of Age

Frequencies of Gender

Gender	Counts	% of Total	Cumulative %
Female	53	45.7%	45.7%
Male	61	52.6%	98.3%
Other	2	1.7%	100.0%

Table 2: Frequencies of Gender

The age of the respondents ranged from 18 to 68 and was split across five groups. It can be noted that the distribution of respondents for each group is not the same. Most respondents are aged between 28-38 and the group that has the least respondents is the group ranging from 58-68. Regarding gender, the majority of the respondents were male (45.7% female, 53.6% male, 1.7% other).

Descriptives

	Food_Household	PL_NB	Q_1	Q_2	Q_3	Q_4	Q_5	Q_6	Q_7	Q_8	Q_9	Q_10	Q_11	Q_12
N	Food	NB	32	32	32	32	32	32	32	32	32	32	32	32
		PL	28	28	28	28	28	28	28	28	28	28	28	28
	Household	NB	28	28	28	28	28	28	28	28	28	28	28	28
		PL	28	28	28	28	28	28	28	28	28	28	28	28
Missing	Food	NB	0	0	0	0	0	0	0	0	0	0	0	0
		PL	0	0	0	0	0	0	0	0	0	0	0	0
	Household	NB	0	0	0	0	0	0	0	0	0	0	0	0
		PL	0	0	0	0	0	0	0	0	0	0	0	0
Mean	Food	NB	2.34	1.94	2.84	3.41	3.44	3.75	3.66	1.63	3.41	3.69	3.09	3.03
		PL	2.46	1.68	2.00	2.50	2.04	2.71	3.00	2.75	3.39	2.89	2.11	2.57
	Household	NB	2.89	2.64	3.64	4.07	4.25	4.21	4.25	1.57	3.68	4.32	3.68	3.86
		PL	2.68	1.46	1.86	2.32	1.82	2.57	3.36	2.61	3.54	2.82	2.21	2.57
Median	Food	NB	2.00	2.00	3.00	4.00	3.50	4.00	4.00	1.00	3.00	4.00	3.00	3.00
		PL	2.00	2.00	2.00	3.00	2.00	3.00	3.00	3.00	3.50	3.00	2.00	3.00
	Household	NB	2.50	2.00	4.00	4.00	4.00	4.00	4.00	1.00	4.00	4.00	4.00	4.00
		PL	2.50	1.00	2.00	2.00	2.00	2.00	3.50	3.00	4.00	3.00	2.00	3.00
Mode	Food	NB	2.00	2.00	3.00	4.00	4.00	4.00	4.00	1.00	3.00[a]	4.00	4.00	3.00
		PL	2.00	2.00	2.00	3.00	1.00	3.00	3.00	3.00	4.00	3.00	2.00	3.00
	Household	NB	2.00	2.00	4.00	4.00	5.00	4.00	4.00	1.00	4.00	4.00	4.00	4.00
		PL	2.00	1.00	1.00[a]	3.00	2.00	2.00	4.00	3.00	4.00	3.00	2.00	3.00
Standard deviation	Food	NB	1.10	0.840	1.25	0.979	0.914	0.916	0.902	0.793	0.615	0.780	0.818	1.12
		PL	1.14	0.670	0.861	0.745	0.922	0.854	0.816	0.967	0.685	0.916	0.737	1.03
	Household	NB	1.29	1.31	1.22	0.716	0.752	0.630	0.585	0.920	0.772	0.476	0.945	0.891
		PL	1.12	0.508	0.848	0.819	0.723	0.920	0.870	1.07	0.508	0.772	0.995	0.790
Minimum	Food	NB	1	1	1	1	1	2	2	1	2	1	2	1
		PL	1	1	1	1	1	1	1	1	2	1	1	1
	Household	NB	1	1	1	3	3	3	3	1	1	4	2	1
		PL	1	1	1	1	1	1	1	1	3	1	1	1
Maximum	Food	NB	5	4	5	5	5	5	5	4	4	5	4	5
		PL	5	3	4	4	4	4	4	4	4	4	3	4
	Household	NB	5	5	5	5	5	5	5	4	5	5	5	5
		PL	5	2	4	4	3	5	5	5	4	4	5	4

[a] More than one mode exists, only the first is reported

Table 4: Descriptives

Table 4 shows the descriptive statistics for the variables of interest (see table 1 with the variables). The sample consisted of 116 participants, and all variables were more or less normally distributed, as indicated by their means (M) and standard deviations (SD). The range of scores for each variable was within the expected range, and there were no missing values.

The histograms show that the distribution varies between national brand and private label and also between the categories household and food (see appendix B). This is coherent with the fact that the descriptive statistics table shows differences in the means and standard deviation.

5.2 Confirmatory factor analysis

By using the CFA, we aim to determine whether we have accurately measured the latent variables of perceived quality, price, risk and value in our prespecified measurement model. To ensure the accuracy of measurement, it is important to ensure the measurement model is appropriate for the data.

Test for Exact Fit

χ^2	df	p
99.6	48	<.001

Fit Measures

			RMSEA 90% CI	
CFI	TLI	RMSEA	Lower	Upper
0.938	0.915	0.0963	0.0694	0.123

Table 5: CFA - Model Fit

To examine the factor structure of the perceived value of private labels, confirmatory factor analysis was conducted using the PPQ, PRP, PR and PPV constructs as indicators. The results indicate that the model does not fit the data well according to the traditional criteria of exact fit ($\chi 2 = 99.6$, df = 48, p = < 0.01). However, the results shown in Fit Measures (CFI = 0.938, TLI = 0.915, and RMSEA = 0.0963) suggest a good model fit. We can assume that these additional fit measures suggest that the model may still be reasonable to interpret and draw conclusions based on it.

Factor Loadings

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
PRP	Q_1	0.581	0.1077	5.40	<.001	0.501
	Q_2	0.733	0.0810	9.05	<.001	0.755
	Q_3	1.105	0.0983	11.24	<.001	0.872
PPQ	Q_4	0.955	0.0791	12.07	<.001	0.891
	Q_5	1.100	0.0973	11.31	<.001	0.855
	Q_6	0.905	0.0818	11.06	<.001	0.844
PR	Q_7	0.601	0.0962	6.24	<.001	0.659
	reversed Q_8	0.538	0.1006	5.35	<.001	0.503
	Q_9	0.204	0.0694	2.94	0.003	0.314
PPV	Q_10	0.691	0.0785	8.80	<.001	0.721
	Q_11	0.918	0.0815	11.27	<.001	0.855
	Q_12	0.866	0.0856	10.12	<.001	0.797

[3]

Table 6: CFA - Factor Loadings

The threshold used in the analysis to determine significance is p = 0.05. The factor loadings for Perceived Relative Price (PRP), Perceived Product Quality (PPQ), Perceived Risk (PR), and

Perceived Product Value (PPV) were all significant ($p < 0.001$), only one factor (Q_9) was showing a slightly higher p-value (0.003), but it is still considered significant.

CFA factor loadings provide valuable insight into the construct validity of measurement scales by identifying the strength and direction of relationships between observed variables and their underlying factors. Here, the standard estimates are good for PRP as they are all above 0.5 (Q_1: Stand. Estimate = 0.501, Q_2: Stand. Estimate = 0.755 and Q_3 = 0.872) meaning that the observed variables reflect well the construct being measured. In other words, the model measures what it is supposed to measure, which suggests that it has good construct validity. For PPQ, the standard estimates are high (Q_4: Stand. Estimate = 0.891, Q_5: Stand. Estimate = 0.855 and Q_6 = 0.844). Once again, the variables accurately measure the construct. The variable PR is related to the observed variables Q_7, Q_8, and Q_9, but the relationships vary in strength and direction. Indeed, Q_7 shows a relatively strong positive association with the latent factor of perceived risk (Q_7: Stand. Estimate = 0.659). Reversed Q_8 has a moderate positive association with the perceived risk factor (reversed Q_8: Stand. Estimate = 0.503). This could mean that it may also be measuring a different aspect of the construct than the other items because Q_8 is inversely related to perceived risk. It can be observed that Q_9 is very weak (Q_9: Stand. Estimate = 0.314). This suggests that the observed variable may not be a good indicator of the underlying construct. The standard estimates for PPV are strong (Q_10: Stand. Estimate = 0.721, Q_11: Stand. Estimate = 0.855 and Q_12 = 0.797).

To sum up, PRP, PPQ and PPV have strong standard estimates. Accordingly, the measurement model construct is valid, meaning it measures what it is supposed to measure. However, for PR, the standard estimates show different directions. Q_7 (Q_7: Stand. Estimate = 0.659) and Q_8 (Q_8: Stand. Estimate = 0.503) are still considered acceptable, but Q_9 is too weak (Q_9: Stand. Estimate = 0.314). These results indicate that the observed variables do not represent the underlying construct (PR) accurately. There is a possibility that the measurement model does not measure what is intended, thus indicating poor construct validity. This is why we decided to remove Perceived Risk entirely in the subsequent analyses. The implications will be further discussed in the limitations section. As a result, we removed H3 regarding the effect of Product Category on Perceived Risk and H7, as Perceived Risk is also involved in this relationship.

In the next table, we show the differences that result from removing PR.

Test for Exact Fit

χ^2	df	p
50.8	24	0.001

Fit Measures

			RMSEA 90% CI	
CFI	TLI	RMSEA	Lower	Upper
0.963	0.944	0.0982	0.0602	0.136

Table 7: CFA - Model Fit

As a result of the PR being removed from the Model, there was a slight improvement in the Model fit.

Factor Loadings

Factor	Indicator	Estimate	SE	Z	p	Stand. Estimate
PRP	Q_1	0.582	0.1077	5.41	<.001	0.502
	Q_2	0.735	0.0808	9.10	<.001	0.757
	Q_3	1.102	0.0982	11.23	<.001	0.870
PPQ	Q_4	0.949	0.0796	11.92	<.001	0.886
	Q_5	1.105	0.0973	11.36	<.001	0.859
	Q_6	0.907	0.0820	11.06	<.001	0.845
PPV	Q_10	0.683	0.0788	8.67	<.001	0.713
	Q_11	0.924	0.0810	11.41	<.001	0.861
	Q_12	0.867	0.0855	10.14	<.001	0.798

[3]

Table 8: CFA - Factor Loadings (without PR)

Factor Covariances

		Estimate	SE	Z	p	Stand. Estimate
PRP	PRP	1.000 [a]				
	PPQ	0.827	0.0475	17.4	<.001	0.827
	PPV	0.948	0.0350	27.1	<.001	0.948
PPQ	PPQ	1.000 [a]				
	PPV	0.969	0.0267	36.3	<.001	0.969
PPV	PPV	1.000 [a]				

[a] fixed parameter

Table 9: CFA - Factor Estimates

The covariances can be used to assess the degree to which the latent factors are related to each other. Here, we can notice that for all the factor estimates, the p-value is significant meaning p <.001. The standard estimates are all very strong. To be more specific, this means that there is a high correlation between the different factors. The factor loadings for the PRP construct are statistically significant and have a strong positive relationship with PPQ ($p < 0.001$, Stand. Estimate = 0.826). PRP also has a strong positive relationship with PPV ($p < 0.001$, Stand. Estimate = 0.947). The factor loadings for PPQ are also significant and have a strong positive relationship with PPV ($p < 0.001$, Stand. Estimate = 0.970). This means that the correlation between the factors is high implying that changes in one variable could also impact the other variable.

Factor Loadings – Modification Indices

	PRP	PPQ	PPV
Q_1		9.00	8.9888
Q_2		1.13	1.2897
Q_3		1.14	0.8633
Q_4	0.00323		0.0382
Q_5	1.17288		1.2043
Q_6	1.35508		1.7645
Q_10	8.56993	8.38	
Q_11	1.04674	1.08	
Q_12	1.81328	1.68	

Table 10: CFA - Factor loadings - modification indices

The table factor loadings - modification indices show us that the model may be improved if Q_1 was loaded to the PPQ category instead, however no theoretical basis was found that would validate this action, so we decided to keep the categories as they were.

5.3 Reliability Analysis

After conducting a confirmatory factor analysis (CFA), it is important to perform a reliability analysis to evaluate the internal consistency and stability of the measured constructs.

Scale Reliability Statistics

	Cronbach's α	McDonald's ω
scale	0.892	0.897

[4]

Table 11: Reliability Analysis PPQ

Scale Reliability Statistics

	Cronbach's α	McDonald's ω
scale	0.762	0.787

[4]

Table 12: Reliability Analysis PRP

Scale Reliability Statistics

	Cronbach's α	McDonald's ω
scale	0.832	0.834

[4]

Table 13: Reliability Analysis PPV

Upon analysing the data, it was found that the Cronbach's α and McDonald's ω values for the variables PRP, PPQ and PPV were above the acceptable threshold of 0.70. The Reliability for the following variables were: Perceived Relative Price (α = 0.762, ω = 0.787), Perceived Product Quality (α = 0.892, ω = 0.897), Reliability for PPV (α = 0.832, ω = 0.834). This indicates that the internal consistency and reliability of the measured constructs PRP, PPQ and PPV are satisfactory.

5.4 Two-Way MANOVA

A MANOVA (Multivariate Analysis of Variance) analysis was conducted because we have three dependent variables (Average PRP, Average PPQ, Average PPV) and two independent variables (Product Category and the Brand Type). This analysis was used instead of a regular ANOVA because an ANOVA only allows us to include one dependent variable in the analysis. Our aim with this analysis is to determine if there is a statistically significant difference in the means of our dependent variables depending on our independent variables.

Box's Homogeneity of Covariance Matrices Test		
χ^2	df	p
25.2	18	0.120

Table 14: Box's Homogeneity of Covariance Matrices Test

In the table above we can see that the p-value is not significant (p = 0.120) using an alpha of 0.05. This means that the assumption of equal covariance has not been violated which implies that the covariance matrices are equal. This allows us to proceed with our MANOVA analysis as one of the assumptions of this analysis is the equal variances and covariances between the groups.

Shapiro-Wilk Multivariate Normality Test	
W	p
0.974	0.021

Table 15: Shapiro-Wilk Multivariate Normality test

In the table above we can see that the p-value is significant (p = 0.021) using an alpha of 0.05. This means that our dataset is not normally distributed. This does not necessarily indicate that the results are inaccurate, but rather that there could be a significant amount of outliers in our dataset, skewness or kurtosis impacting the analysis.

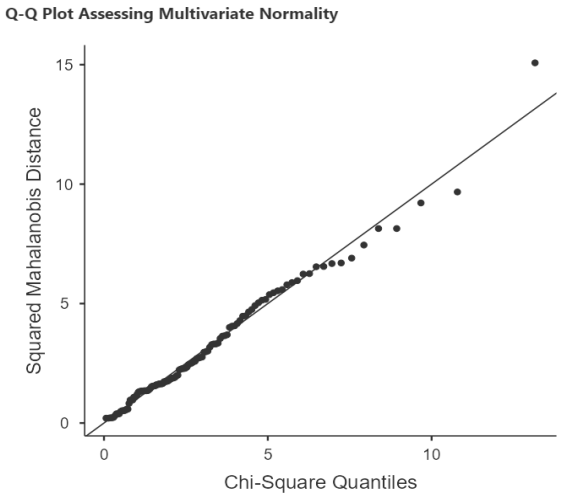


Figure 2: Q-Q Plot Assessing Multivariate Normality

The plot above is a visual representation of the distribution of the dataset. The points should be as close as possible to the straight line if it is normally distributed. Since our p-value is 0.021 (assuming an alpha of 0.05) it can be deduced that our data is not normally distributed.

Multivariate Tests

		value	F	df1	df2	p
PL_NB	Pillai's Trace	0.5646	47.55	3	110	< .001
	Wilks' Lambda	0.435	47.55	3	110	< .001
	Hotelling's Trace	1.2969	47.55	3	110	< .001
	Roy's Largest Root	1.2969	47.55	3	110	< .001
Food_Household	Pillai's Trace	0.0650	2.55	3	110	0.060
	Wilks' Lambda	0.935	2.55	3	110	0.060
	Hotelling's Trace	0.0695	2.55	3	110	0.060
	Roy's Largest Root	0.0695	2.55	3	110	0.060
PL_NB ✻ Food_Household	Pillai's Trace	0.0877	3.53	3	110	0.017
	Wilks' Lambda	0.912	3.53	3	110	0.017
	Hotelling's Trace	0.0962	3.53	3	110	0.017
	Roy's Largest Root	0.0962	3.53	3	110	0.017

Table 16: Multivariate Tests

In the table above we can see the results of our analysis on the impact of our independent variables (Brand type which is represented by PL_NB and Product Category which is represented by Food_Household). There are four tests to analyze significance: Pillai's Trace, Wilks Lambda, Hotelling's Trace, Roy's Largest Root. We are using an alpha of 0.05 to measure the significance level.

In all four of the aforementioned tests of significance for the Brand Type, the p-value is <0.001 indicating that the PL_NB has a statistically significant impact on the dependent variables. For Food_Household, the p-value is = 0.060 indicating that the product category does not significantly impact the dependent variables.

The final third of the tables examines the interaction effect of the Brand Type and the Product Category. The same four tests of significance were used while also using an alpha of 0.05. The resulting p-value in all four cases is 0.017. This indicates that the combination of the Brand Type and the Product Category does have a significant impact on the dependent variables.

Univariate Tests

	Dependent Variable	Sum of Squares	df	Mean Square	F	p
PL_NB	Ave. PRP	13.03	1	13.027	17.82	< .001
	Ave. PPQ	65.69	1	65.691	138.05	< .001
	Ave. PPV	32.49	1	32.492	66.59	< .001
Food_Household	Ave. PRP	3.16	1	3.156	4.32	0.040
	Ave. PPQ	1.78	1	1.775	3.73	0.056
	Ave. PPV	3.70	1	3.698	7.58	0.007
PL_NB ✻ Food_Household	Ave. PRP	3.87	1	3.873	5.30	0.023
	Ave. PPQ	4.93	1	4.929	10.36	0.002
	Ave. PPV	3.24	1	3.240	6.64	0.011
Residuals	Ave. PRP	81.89	112	0.731		
	Ave. PPQ	53.29	112	0.476		
	Ave. PPV	54.65	112	0.488		

Table 17: Univariate Tests

The Univariate Table above allows us to examine how the independent variables impact each of our dependent variables individually. The subsequent p-values will be interpreted based on a p-value of 0.05 with a p-value of $p < 0.05$ indicating significance.

Starting with the impact of the Brand Type, we can deduce that the PRP, PPQ and PPV are all significantly impacted by the Brand Type as their p-values are each < 0.001.

The impact of the Product Category was then examined. The Product Category was found to be significant on the PRP ($p = 0.040$) and the PPV ($p = 0.007$) indicating that the Product Category did significantly impact these perceptions of the products for the respondents. PPQ with a p-value of 0.056 (above our pre-set alpha of 0.05) indicates the Product Category did not impact the respondent's perceived quality of the product. This therefore means that H1 can be rejected as our analysis shows that the Product Category does not significantly impact PPQ.

The impact of the interaction effect of the Brand Type and the Product Category was examined. The interaction effect of these two independent variables was shown to significantly impact PRP (p=0.023), PQP (P=0.002), PPV (P=0.011). This implies that the combination of the Brand Type and the Product Category could impact how consumers perceive products in these specific domains.

Finally, because of the significant univariate tests for PRP and PPV, post-hoc tests were conducted for these two variables to determine which specific pairs of groups are significantly different from each other so that H2 and H4 can be accepted or rejected (based on the direction of the hypotheses).

Post-Hoc Test for PRP:

Normality Tests

		statistic	p
Ave. PRP	Shapiro-Wilk	0.943	< .001
	Kolmogorov-Smirnov	0.148	0.012
	Anderson-Darling	1.86	< .001

Table 18: Normality Test for Post-Hoc on PRP

Since the Shapiro-Wilk p-value is significant ($P < 0.001$), this suggests a violation of the assumption of normality. This does not mean that the subsequent analysis is invalid but it could impact the accuracy and the reliability of the post-hoc test results.

Homogeneity of Variances Tests

		Statistic	df	df2	p
Ave. PRP	Levene's	2.29	1	114	0.133
	Bartlett's	2.47	1		0.116

Table 19: Homogeneity of Variance test for PRP

As Levene's p-value is 0.133, this indicates that there is homogeneity of variance, and that this assumption has been met.

Tukey Post-Hoc Test – Ave. PRP

		Food	Household
Food	Mean difference	—	−0.308
	t-value	—	−1.77
	df	—	114
	p-value	—	0.079
Household	Mean difference		—
	t-value		—
	df		—
	p-value		—

Table 20: Tukey Post-Hoc Test - Ave. PRP

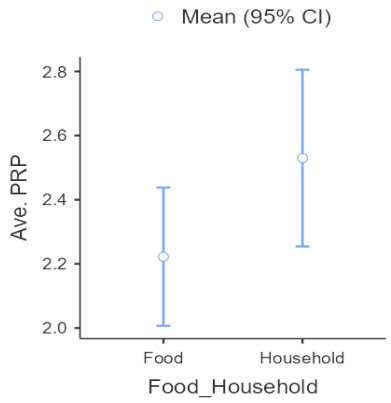


Figure 3: Average PRP Food-Household

The Post-Hoc Test (Using the Tukey correction to adjust p) indicates that there is no statistically significant difference in PRP between Household and Food Products (p = 0.079). As a result, H2 can be rejected.

Post-Hoc Test for PPV:

Normality Tests

		statistic	p
Ave. PPV	Shapiro-Wilk	0.973	0.021
	Kolmogorov-Smirnov	0.100	0.194
	Anderson-Darling	0.958	0.015

Table 21: Normality test for Post-Hoc on PPV

Since the Shapiro-Wilk p-value is significant (P <0.021), this suggests a violation of the assumption of normality. This does not mean that the subsequent analysis is invalid, but it could impact the accuracy and the reliability of the post-hoc test results.

Homogeneity of Variances Tests

		Statistic	df	df2	p
Ave. PPV	Levene's	3.07	1	114	0.082
	Bartlett's	1.20	1		0.274

Table 22: Homogeneity of Variance for PPV

As Levene's p-value is 0.082, this indicates that there is homogeneity of variance, and that this assumption has been met.

Tukey Post-Hoc Test – Ave. PPV

		Food	Household
Food	Mean difference	—	−0.322
	t-value	—	−1.94
	df	—	114
	p-value	—	0.055
Household	Mean difference		—
	t-value		—
	df		—
	p-value		—

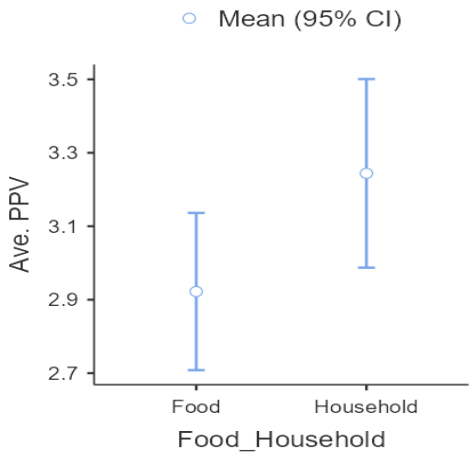


Table 23: Tukey Post-Hoc Test - Ave. PPV

Figure 4: Average PPV Food-Household

The Post-Hoc Test (Using the Tukey correction to adjust p) indicates that there is no statistically significant difference in PPV between Food and Household Products (p = 0.055). As a result, H4 can be rejected.

5.5 Assumption checks for linear regression

Assumption checks should be conducted before performing the regression with moderation analysis to verify the reliability of the results.

Correlation Matrix

		Ave. PRP	Ave. PPQ	Ave. PPV
Ave. PRP	Pearson's r	—		
	p-value	—		
Ave. PPQ	Pearson's r	0.638	—	
	p-value	< .001	—	
Ave. PPV	Pearson's r	0.720	0.852	—
	p-value	< .001	< .001	—

Table 24: Correlation matrix for assumption checks

In the table above we can see that all three of the variables are correlated (p <.001). This means that there is multicollinearity in our data with the primary implication that it could be difficult to measure the individual effect of our independent variables on our dependent variables since the effects on a variable can be confounded with the effects on other variables. This does not necessarily mean that the data is inaccurate, however it could undermine the validity of the results and should be considered when making practical and theoretical inferences based on the data.

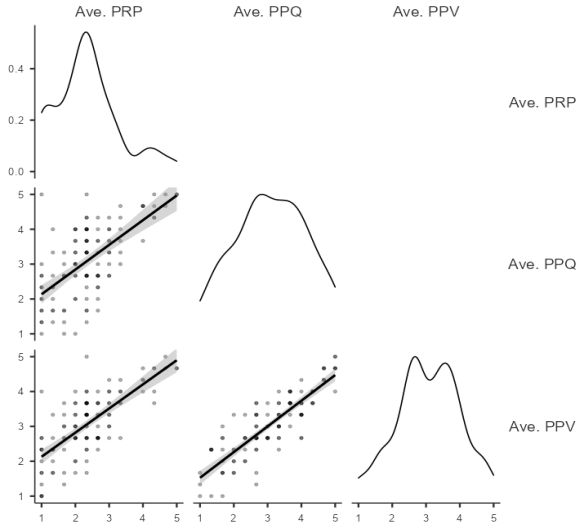


Figure 5: Correlation Plot Matrix for assumption checks

Collinearity Statistics

	VIF	Tolerance
PL_NB	2.11	0.475
Ave. PPQ	5.02	0.199
Ave. PPV	3.66	0.273

Table 25: Collinearity statistics for PRP - assumption checks

The VIF value should be around 1, here the values are a above for PL_NB: VIF = 2.11, Ave. PPQ = 5.02, Ave. PPV = 3.66. However, as the values are still under 10, they are considered acceptable.

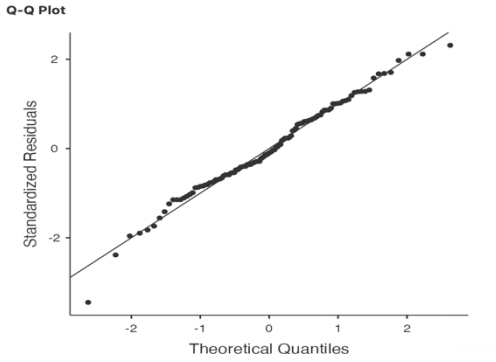


Figure 6: Q-Q Plot for PRP - assumption checks

The normal distribution of the residuals was verified using a Q-Q plot. The normal probability plot (Q-Q plot) of the residuals indicated a tendency for linearity, suggesting that the residuals are normally distributed. Based on this assumption check, the linear regression model is appropriate.

Collinearity Statistics		
	VIF	Tolerance
PL_NB	1.55	0.646
Ave. PPV	2.81	0.356
Ave. PRP	2.11	0.474

Table 26: Collinearity Statistics for PPQ - assumption checks

The VIF value should be around 1, here the values are above but still considered good. PL_NB: VIF = 1.55, Ave. PPV = 2.81, Ave. PRP = 2.11.

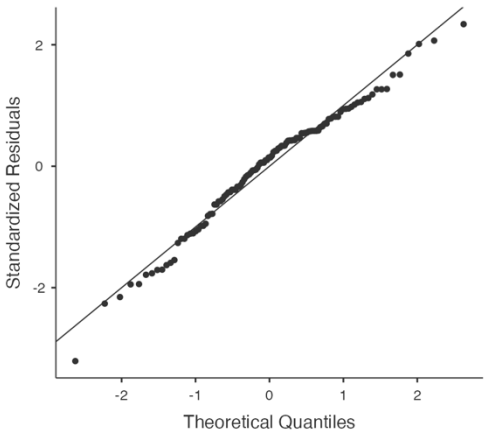


Figure 7: Q-Q Plot for PPQ - assumption checks

The normal distribution of the residuals was verified using a Q-Q plot. The normal probability plot (Q-Q plot) of the residuals indicated a tendency for linearity, suggesting that the residuals are normally distributed. Based on this assumption check, the linear regression model is appropriate.

Collinearity Statistics

	VIF	Tolerance
PL_NB	2.18	0.459
Ave. PRP	1.75	0.571
Ave. PPQ	3.20	0.312

[5]

Table 27: Collinearity Statistics for PPV - assumption checks

The values are above 1 for PL_NB: VIF = 2.18, Ave. PPQ = 1.75, Ave. PPV = 3.20. However, as it is still under 10, this is acceptable.

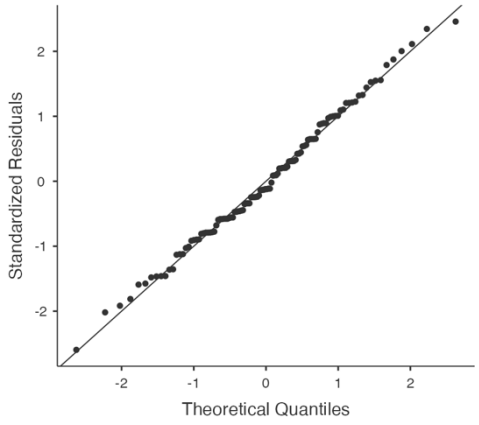


Figure 8: Q-Q Plot for PPV - assumption checks

The normal distribution of the residuals was verified using a Q-Q plot. The normal probability plot (Q-Q plot) of the residuals indicated a tendency for linearity, suggesting that the residuals are normally distributed. Based on this assumption check, the linear regression model is appropriate.

5.6 Regression with moderation

3 linear regressions with moderation were conducted to investigate the interaction effect between product category, our independent variable and the three dependent variables (PPQ, PRP and PPV) with Brand Type as the moderator.

Moderation Estimates

	Estimate	SE	Z	p
Category cont.	0.249	0.126	1.97	0.048
PL_NB cont.	−1.513	0.126	−12.02	<.001
Category cont. ✻ PL_NB cont.	−0.826	0.252	−3.28	0.001

Table 28: Moderation estimates PPQ

Simple Slope Estimates

	Estimate	SE	Z	p
Average	0.249	0.132	1.889	0.059
Low (-1SD)	0.661	0.184	3.586	<.001
High (+1SD)	−0.164	0.184	−0.892	0.373

Note. shows the effect of the predictor (Category cont.) on the dependent variable (Ave. PPQ) at different levels of the moderator (PL_NB cont.)

Table 29: Simple Slopes Estimates PPQ

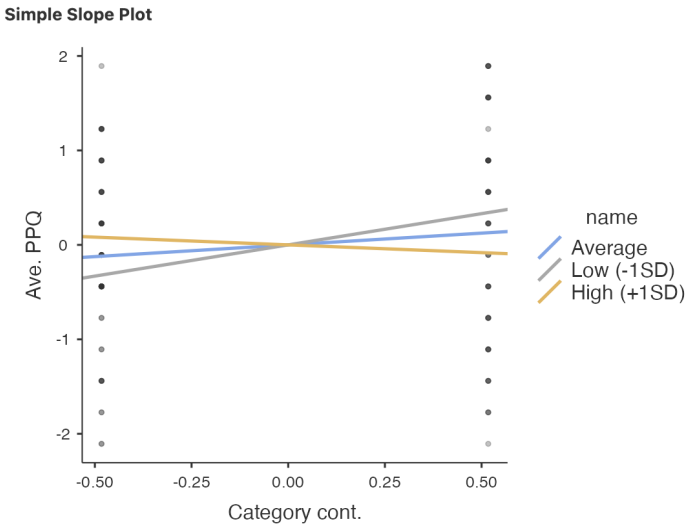


Figure 9: Simple Slope Plot PPQ

The results in the moderation estimates table show that the interaction effect between product category and PL_NB was found to be significant, E = -0.826, SE = 0.252, z = -0.892 and p = 0.001.

When looking at the simple slope analysis, it can be seen that varying levels of brand type, either PL or NB, changes the participants PPQ. The Moderation Estimates Table for PPQ indicates that there is a significant correlation between the PPQ and the brand type (p = 0.001). The simple slope estimates show that at low levels of brand type (meaning NB) (-1SD) (b = 0.661, SE = 0.184, z = 3.586 , p < 0.001) the effect of product category on perceived product quality is higher than on high levels on brand type (meaning PL) (+1SD) (b = -0.164, SE = 0.184, z = -0.892 and p=0.373). The results for the high level (meaning PL) (+1SD) are inconclusive due to the non-significant p-value. These results suggest that the relationship between product category and perceived product quality is dependent on the Brand Type. Specifically, when the Brand Type is a national brand, the product category has a positive impact on perceived product quality. Therefore, H5 is rejected because we hypothesised that private labels would have a significant impact on PPQ, however the results indicate that only national brands impacted PPQ.

Moderation Estimates

	Estimate	SE	Z	p
Category cont.	0.331	0.156	2.12	0.034
PL_NB cont.	–0.681	0.156	–4.36	<.001
Category cont. ✻ PL_NB cont.	–0.732	0.313	–2.34	0.019

Table 30: Moderation estimates PRP

Simple Slope Estimates

	Estimate	SE	Z	p
Average	0.3311	0.160	2.072	0.038
Low (-1SD)	0.6969	0.225	3.098	0.002
High (+1SD)	–0.0348	0.224	–0.155	0.877

Note. shows the effect of the predictor (Category cont.) on the dependent variable (Ave. PRP) at different levels of the moderator (PL_NB cont.)

Table 31: Simple Slopes Estimates PRP

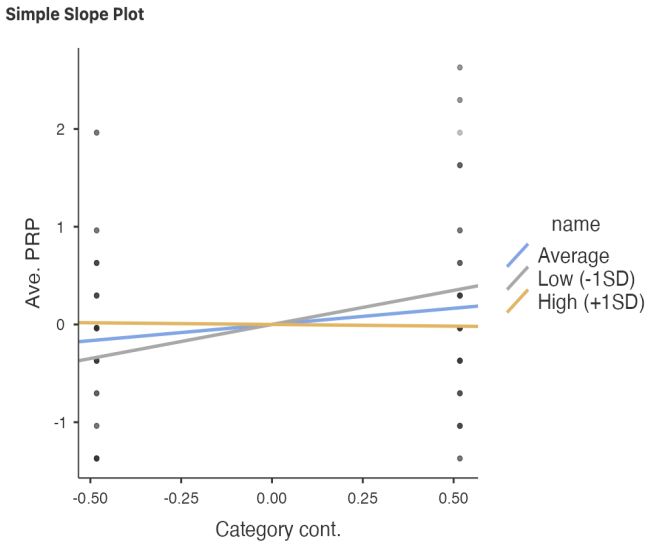


Figure 10: Simple Slope Plot PRP

The results in the moderation estimates table show that the interaction effect between product category and PL_NB was found to be significant, E = -0.732, SE = 0.313, z = -2.34 and p = 0.019.

When looking at the simple slope analysis, it can be seen that varying levels of brand type, so either PL or NB, have different impacts on PRP. The Moderation Estimates Table for PRP indicates that at low levels of brand type (meaning NB) (-1SD) (b = 0.69, SE = 0.225, z = 3.01, p = 0.002) the effect of product category on perceived relative price is higher than on high levels on brand type (meaning PL) (+1SD) (b = -0.0348, SE = 0.224, z = -0.155 and p = 0.877). The results for the high level (meaning PL) (+1SD) are inconclusive due to the non-significant p-value. There is a significant correlation between the PRP and the brand type (p = 0.019). The simple slope estimates show that for the high level (meaning PL) (+1SD) is inconclusive due to the non-significant p-value. Therefore, we can reject H6 because we hypothesised that private labels would have a significant impact on PRP, however the results indicate that only national brands impacted PRP.

Moderation Estimates

	Estimate	SE	Z	p
Category cont.	0.358	0.128	2.81	0.005
PL_NB cont.	−1.070	0.128	−8.39	<.001
Category cont. ✻ PL_NB cont.	−0.670	0.255	−2.62	0.009

Table 32: Moderation estimates PPV

Simple Slope Estimates

	Estimate	SE	Z	p
Average	0.3583	0.131	2.729	0.006
Low (-1SD)	0.6929	0.185	3.754	<.001
High (+1SD)	0.0236	0.184	0.128	0.898

Note. shows the effect of the predictor (Category cont.) on the dependent variable (Ave. PPV) at different levels of the moderator (PL_NB cont.)

Table 33: Simple Slopes Estimates PPV

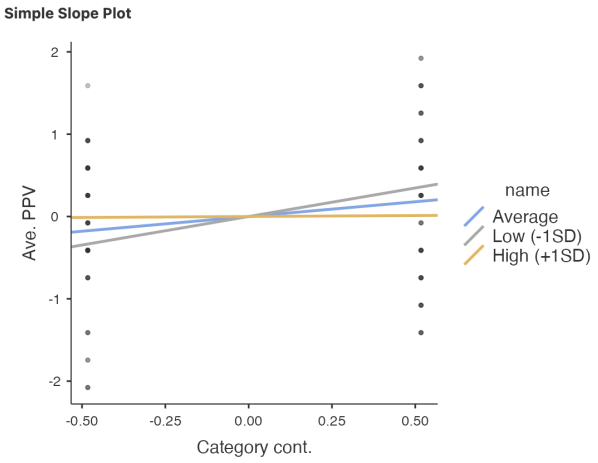


Figure 11: Simple Slope Plot PPV

The results in the moderation estimates table show that the interaction effect between product category and PL_NB was found to be significant, E = -0.670, SE = 0.255, z = -2.62 and p = 0.019.

When looking at the simple slope analysis, it can be seen that varying levels of brand type, so either PL or NB, brings different impacts on PPV. The Moderation Estimates Table for PPV

indicates that there is a significant correlation between the PPV and the brand type ($p = 0.009$). The simple slope estimates show that at low levels of brand type (meaning NB) (-1SD) ($b = 0.69$, $SE = 0.185$, $z = 3.754$, $p < 0.001$) the effect of product category on perceived product value is higher than on high levels on brand type (meaning PL) (+1SD) ($b = 0.0236$, $SE = 0.184$, $z = 0.128$ and $p = 0.898$). The results for the high level (meaning PL) (+1SD) are inconclusive due to the non-significant p-value. Therefore, we can reject H8 because we hypothesised that private labels would have a significant impact on PPV, however the results indicate that only national brands impacted PPV.

5.7 Summary of the hypotheses after analysis

H1	The perceived quality of a product (PPQ), as judged by consumers, is dependent on the category to which it belongs, with the food category being perceived as having superior quality compared to household products.	Rejected
H2	Perceived Relative Price (PRP) varies depending on the product category. Consumers tend to perceive products in the food category as more expensive than those in the household category.	Rejected
H3	Consumers' perceived risk (PR) varies depending on the product category. Product categories such as food are perceived to carry a higher level of risk than household products by consumers.	Removed*
H4	perceived product value (PPV) varies depending on the product category, such that consumers perceive products in the food category to be of higher quality compared to products in the household category.	Rejected
H5	The relationship between Product Category and Perceived Product Quality (PPQ) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.	Rejected
H6	The relationship between Product Category and Perceived Relative Price (PRP) is moderated by Brand Type such that the effect of Product Category on PRP is stronger for private label products compared to national brand products.	Rejected

H7	The relationship between Product Category and Perceived Risk (PR) is moderated by Brand Type such that the effect of Product Category on PR is lower for private label products compared to national brand products.	Removed*
H8	The relationship between Product Category and Perceived Product Value (PPV) is moderated by Brand Type such that the effect of Product Category on PPQ is lower for private label products compared to national brand products.	Rejected

*The hypotheses containing the risk variable were removed because of the inaccurate measurement of risk (see 5.2 Confirmatory Factor Analysis)

6 Discussion

In this section, the results of the analyses for each hypothesis will be discussed regarding our literature review and the theories presented in the theoretical framework. The aim of this section is to understand the "why" behind our results by providing a theoretical basis from which to understand the outcome of our data analysis and the subsequent rejection and removal of our hypotheses. The implications of our results, both theoretically and practically, will be discussed in the conclusion.

6.1 Impact of the Product Category

The first four hypotheses focused on the role of the product category on being able to impact perceived product quality (H1), perceived relative price (H2), perceived risk (H3) and perceived product value (H4). H3 was removed due to the CFA indicating that our analysis was not accurate enough. The direction of the hypotheses was such that food products were hypothesised to be of higher perceived quality and higher perceived price. Food products would also be perceived with a higher level of perceived risk, and finally that food was hypothesised to be perceived as having higher value than household products. Our analysis indicated that product category did have significant impact on PRP and PPV however not in the direction that we hypothesised. Therefore, H2 and H4 were rejected. Regarding H1, this hypothesis was rejected because the p-value was not significant.

The choice of investigating the impact of the product category was made based on two recommendations for this as a relevant topic for future research by both Calvo, Porral and Lang (2015) and Beneke et al. (2013). According to them, it could add a new layer of depth to understanding why consumers make the choices they do, which also touches upon one of our core theories, the Theory of Reasoned Action (TRA). Based on this previous research and TRA, we believed that the product category could have been a useful lens from which to examine PPQ, PRP, PR and PPV. However, due to our rejection and removal of our hypotheses, this cannot be inferred.

As mentioned before, the hypothesis regarding PR was removed since the statements that we used to measure how consumers perceive the risk of the products was found to be too inaccurate to make any reliable claims or inferences. It was only the statements that related to PR that were found to be too inaccurate to be used in the data analysis and this could be because the

statements for PR were the only ones that were based on different previous research than all the other statements. Therefore, based on our research, this means that we cannot confirm or deny the impact of product category on perceived risk but only that the statement we used was not accurate enough.

In regard to PPQ, PRP and PPV, the analysis shows that for PRP and PPV, the product category does significantly influence these two variables. This is an indication that consumers have fundamentally different perceptions of what constitutes a valid price and what is considered value along different product categories. Despite the significant role of product category on PRP and PPV, we have to reject our hypotheses regarding product category and PRP and PPV because the results of the analysis did not support our hypothesised direction, that the food category would be perceived as more expensive and of higher value. The product category did not have a significant impact on PPQ and therefore we did not investigate the direction of the effect leading to the immediate rejection of the hypothesis regarding PPQ.

There are a number of potential reasons why our hypotheses were rejected. Firstly, we discussed the impact of category sensitivity in the literature review and how different external motivations impact the choices that are made in grocery stores. A core pillar in the discussion of category sensitivity was that this sensitivity was driven by consumers' sense of social risk regarding a product. Food products were considered to be of greater social risk because of its nature as a product that could be shared with others and therefore consumers would be more pensive regarding the choices they make because it carries greater potential risk (Retnawati, Ardyan & Farida, 2017). Household products however are not typically considered as a social product and therefore consumers would not perceive them as a social risk. This heightened risk associated with food is also what led us to hypothesise that food would be perceived as higher quality, in price and value due to more consumer consideration. Based on the outcome of the analysis, these assumptions may have been false meaning that there could be other factors at play influencing the consumers' perceptions rather than just the product category itself. The assumption of category sensitivity and social risk was based on internal factors however it is possible that external factors would have been a more relevant explanation for our results. Two such factors could be the product packaging and the brand name. Collins-Dodd & Lindley (2003) determined that both internal and external factors, but especially external factors for most consumers, are chiefly responsible for explaining how a consumer perceives a product.

Ultimately, part of the aim of this study was to examine the impact of product categories on consumer perceptions, and we found that the overall impact of product categories on consumer perceptions was significant for some variables but not in the direction that we anticipated. This could have been simply because the product categories are separate to the extent that comparing them is not an effective method for measuring their impact on consumers' perceptions or, more plausibly, there are other more effective ways to determine perceived quality, price and value than comparing product categories.

6.2 Moderating effect on product categories

The latter half of the hypotheses examined whether the brand type had a moderating effect on the product categories and consumers' perceptions of perceived quality, price, and value. The results of these analyses did indeed show that the brand type did have a significant moderating impact on the perceptions of quality, price and value however not in the direction that was hypothesised (hence the rejection of the hypotheses). Dick, Jain & Richardson (1995) highlighted how national brands have historically been considered superior in quality in the minds of the consumer. The publication is almost 30 years old, and since then, private labels have become increasingly prevalent and therefore the validity of their claim regarding the superiority of national brands has been questioned. It was found, however, that consumers' perceptions were significantly influenced by the presence of national brands compared to private labels. This could signal that the long-held belief of national brands being perceived as superior remains true today. Participants' perceptions of private labels were not significantly affected, neither positively or negatively differences in quality, price, or value. This reinforces and further validates the aforementioned research by Dick, Jain & Richardson regarding the favorable perception of national brands. This does not mean however that private labels are condemned to being perceived as inferior indefinitely. On the contrary, the fact that private labels were not significantly associated with negative perceptions of PPQ, PRP and PPV could be an indication that they are not seen as vastly inferior to national brands.

The cue utilization theory in regards to private labels championed by Mishra, Malhotra & Saxena (2020) proposes that if private labels can improve their perception in any key cue, either intrinsically (in the perceived value, price or quality) or extrinsically (in the packaging or shelving positioning etc.) this will lead to improvements in their perception in other cues. In simpler terms, if their perception in one cue improves, this could have spill-over effects to other cues, ultimately helping them achieve parity in perception with national brands.

7 Conclusion

7.1 Theoretical Contribution

The theoretical contributions of our research can be divided into two categories: How our research was an answer to the calls for future research regarding the relationship between product categories and consumer perceptions, secondly, if our research contradicts or supports the existing literature. As stated previously, the catalyst for our research was the call to action by Calvo, Porral and Lang (2015) and Beneke et al. (2013) for the need to investigate the role of product categories on how consumers perceive products. Ultimately, our research indicates that the product category can have an impact on how consumers perceive products, depending on the variable being measured, but that there is no significant difference in perceptions between food and household products. In the pursuit of understanding how consumers perceive products, research that leads to insignificant results is still valuable, as it can be an indication of which direction research should take to come closer to attaining an accurate understanding of consumer reasoning. Additionally, by conducting the research that Calvo, Porral and Lang (2015) and Beneke et al. (2013) perceived as necessary, we believe that we have concluded one of their suggested avenues for future research.

Our second theoretical contribution, which was in relation to the existing theoretical knowledge, revolved primarily around the role of the brand type in consumer perceptions. By adding this layer of depth to our research, our aim was to provide a more nuanced view of the role of the product category by dividing the product categories by brand type to determine if the brand type has a significant moderating effect on product perceptions across product categories. The existing theoretical consensus propagated the view that national brands were firmly ahead in terms of perceived quality, value, price and that private labels were perceived as a greater risk. In this regard, our research largely supported this view. National brands do indeed enjoy a significantly favorable perception by consumers nevertheless this perception was not mirrored negatively in regards to private labels. Previous research has indicated that private labels are associated with negative perceptions however our data did not show this. This could be an indication that although national brands remain the primary player, private labels could be improving their perception in the minds of the consumer. This carries practical implications for managers in both national brands and private labels.

7.2 Practical Contributions

The days in which national brands were the undisputed champions of the fast-moving consumer goods market may still be true but private labels are increasingly becoming a viable alternative. Previous research has highlighted the need for private labels to continue monitoring and learning from national brands to grow their market share and improve their offerings but the lessons that national brands can draw from the rise of private labels have been neglected. For private labels, their steady rise in consumption can be partly attributed to the improvement in the brand equity of their respective stores (Calvo, Portal and Lang, 2015). As consumers try an ICA Basic product and are satisfied, this satisfaction is transferred to ICA as a store resulting in consumers being more likely to try other ICA private label products, it becomes a self-fulfilling prophecy. Maintaining private label momentum requires that they continue to live up to consumer expectations, which are lower than those of their national brand competitors, making it easier for them to do so. By doing this, private labels can continue to build a brand identity that resonates with their target consumers. To get consumers to make the leap of faith of choosing their products instead of a national brand competitor, private labels should recalibrate themselves from the role of follower to that of a market driver. Private label products are often copies of products launched by national brands but at a lower price point and we believe that the next step for private labels to improve their overall brand equity is to take the lead in product innovation.

National brands should be weary of the changing market dynamics. National brands should view private labels as equals (although our research shows that they are not yet equal in how consumers perceive them) from which they can learn and improve their offerings. National brands will find it difficult to compete on price due to the economies of scale that private label brands have via their store infrastructure and logistics however they still have undeniable positions of strength. This comes primarily in the form of their marketing and branding. The great question for national brands is whether or not they will be able to justify their more expensive products. Can they convince consumers to pay more for their dishwashing product compared to a private label dishwashing product which essentially fulfills the same purpose? To do this, they need to continue driving the narrative and stabilizing their position as a premium product. National brand marketing managers should strive to establish a relationship with their consumers in which the consumers believe that if they were to forego buying their products, the alternative would be a significantly worse product.

7.3 Limitations

All research has some degree of limitation and this paper is by no means an exception. To begin with, while conducting the necessary literature review, there was a significant amount of quality research that had been done however the majority was more than 10 years old. This does not automatically negate the research however it calls into question if the research is still valid and reliable enough to use as a basis for our research. Such is the nature of research that deals with consumer perceptions, they are usually bound by geographical area and are representative of a particular period of time. Perceptions are likely to change over time and therefore the results of our research should be not interpreted as an all-encompassing and definitive addition to the field of consumer perceptions but rather as an indication of what may be true at this time in Sweden.

Secondly, we had a limited number of participants in Sweden who responded through the Prolific Platform. There were fewer respondents than we expected in Sweden, so we were only able to obtain 123 respondents compared to the 250 which we initially aimed for. The impact of this smaller sample size is that the generalizability of our findings is reduced implying that the extrapolation of our results to the wider population becomes less reliable. This can also skew the outcomes of the data meaning that the subsequent theoretical and practical implication that we propose may in fact not be relevant to the wider population but only relevant to our sample which would be irrelevant for marketers in private labels and national brands to consider.

Thirdly, we used two different sources to measure the perceived risk variable (see table 1). The risk variable was the only variable whose statements were based on a different previous research. To reduce external factors that could impact our data collection, statements used to measure variables should ideally be based on the same research. The risk variable was shown to be too unreliable to accurately measure participants perceived risk, which could have been due to the use of two different sources on which we based our statements.

During the analysis of our data, the issue of multicollinearity between the dependent variables was found. This means that the effect of the product category and the brand type on each dependent variable was difficult to measure individually. This makes it harder to establish the exact effect of the independent variables on each variable and therefore the results can become skewed as the dependent variables impact each other.

7.4 Further research

We believe that more research is needed to get a more complete understanding of what determines consumer perceptions. To begin with, this could be in the form of repeating our research while taking into consideration the aforementioned limitations to achieve greater reliability and validity. Once this has been undertaken, the results that are derived from this improved research will provide a more accurate indication of what should be researched further in order to add both theoretical and practical insights to the topic at hand. With that said, there are still a number of areas that we have identified as places where further research could be valuable addition to the discussion:

1) A Cross-Cultural Analysis: Due to the high penetration of private labels in Sweden, it would be interesting to conduct the same research in a country with lower penetration to determine if the outcome in terms of the perceptions of private labels and national brands is comparable. This could highlight to what extent perceptions could change as private label adoption continues to increase. The case of Sweden could then be used as a guide for both private labels and nationals when considering how perceptions may change in the future.

2) Online vs Offline Comparison: As the share of people doing their grocery shopping online continues to grow, the need to understand how consumer perceptions in regards to private labels and national brands are translated into the digital realm continues to increase. If, for example, private labels perform significantly better in online stores than physical stores this could be an area in which private label marketers should exploit and redirect their efforts accordingly.

3) Investigating the role of private label tiers: Some private labels are now multidimensional meaning that they have a tiered structure with a lower tier being primarily aimed at price conscious consumers and a higher tier for consumers looking for a premium alternative. Such a model could undermine the role of national brands as private labels could satisfy the needs of a wide range of consumers. It would be relevant to investigate, perhaps through a qualitative approach in the form of interviews, both how marketing managers view a tier based structure but also how consumers perceive this. Do consumers view all private label products similarly or are consumers able to distinguish between the tiers?

Although the Great Brand Debate has by no means been settled, national brands still appear to have the upper hand. This does not mean that private labels are condemned to being the second choice indefinitely, on the contrary, private labels are increasingly becoming a problem for national brands. Only time will tell if national brands and private labels will one day be perceived as equals in the minds of consumers.

References

Albaum, G., 1997. The Likert scale revisited. *Market Research Society. Journal.*, *39*(2), pp.1-21.

Agarwal, S. & Teas, R. K. (2001). Perceived Value: Mediating Role of Perceived Risk, *Journal of Marketing Theory and Practice*, vol. 9, no. 4, pp.1–14

Agarwal, S. & Teas, R. K. (2004). Cross-national Applicability of a Perceived Risk-value Model, *Journal of Product & Brand Management*, vol. 13, no. 4, pp.242–256

Ajzen, I. (1991). The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp.179–211

Ajzen, I. (1998). Models of Human Social Behavior and Their Application to Health Psychology, *Psychology & Health*, vol. 13, no. 4, pp.735–739

Ajzen, I. & Fishbein, M. (1975). A Bayesian Analysis of Attribution Processes, *Psychological Bulletin*, vol. 82, no. 2, pp.261–277

Anselmsson, J., Johansson, U., Maranõn, A., Persson, N. and Ulver, S. (2005), Retailer Brands and Effects on Swedish Consumer Prices, 2005/1, *Lund International Food Studies*

Armitage, C. J. & Conner, M. (2001). Efficacy of the Theory of Planned Behaviour: A Meta-Analytic Review, *British Journal of Social Psychology*, vol. 40, no. 4, pp.471–499

Arslan, Y., Gecti, F. & Zengin, H. (2013). Examining Perceived Risk and Its Influence on Attitudes: A Study on Private Label Consumers in Turkey, *Asian Social Science*, vol. 9, no. 4, p.p158

Batra, R. & Sinha, I. (2000). Consumer-Level Factors Moderating the Success of Private Label Brands, *Journal of Retailing*, vol. 76, no. 2, pp.175–191

Bauer, R. A. (1967). Consumer Behavior as Risk Taking, Marketing: Critical perspectives on business and management.

Beneke, J., Flynn, R., Greig, T. & Mukaiwa, M. (2013). The Influence of Perceived Product Quality, Relative Price and Risk on Customer Value and Willingness to Buy: A Study of Private Label Merchandise, *Journal of Product & Brand Management*, vol. 22, no. 3, pp.218–228

Bettman, J. R. (1973). Perceived Risk and Its Components: A Model and Empirical Test, *Journal of Marketing Research*, vol. 10, no. 2, pp.184–190

Bilal, M. & Ali, T. (2013). Factors Influencing Consumers Purchase Intentions towards Private Brands, *JISR management and social sciences & economics*, vol. 11, no. 2, pp.17–28

Buckley, Patrick G. (1991). An SOR Mode of the Purchase of an Item in Store, *Advances in Consumer Research*, vol. Volume 18

Burnkrant, R. E. (1978). Cue Utilization in Product Perception, *Advances in Consumer Research*, no. 5(1), pp.724–729

Calvo Porral, C. & Lang, M. F. (2015). Private Labels: The Role of Manufacturer Identification, Brand Loyalty and Image on Purchase Intention, *British Food Journal*, vol. 117, no. 2, pp.506–522

Carfora, V., Cavallo, C., Caso, D., Del Giudice, T., De Devitiis, B., Viscecchia, R., Nardone, G. & Cicia, G. (2019). Explaining Consumer Purchase Behavior for Organic Milk: Including Trust and Green Self-Identity within the Theory of Planned Behavior, *Food Quality and Preference*, vol. 76, pp.1–9

Chang, C. & Dibb, S. (2012). Reviewing and Conceptualising Customer-Perceived Value, *The Marketing Review*, vol. 12, no. 3, pp.253–274

Chaudhuri, A., 1997. Consumption emotion and perceived risk: A macro-analytic approach. Journal of Business Research, 39(2), pp.81-92.

Christodoulides, G., Cadogan, J.W. and Veloutsou, C., 2015. Consumer-based brand equity measurement: lessons learned from an international study. *International Marketing Review*.

Collins-Dodd, C. & Lindley, T. (2003). Store Brands and Retail Differentiation: The Influence of Store Image and Store Brand Attitude on Store Own Brand Perceptions, *Journal of Retailing and Consumer Services*, vol. 10, no. 6, pp.345–352

Cronin, J. J., Brady, M. K. & Hult, G. T. M. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments, *Journal of Retailing*, vol. 76, no. 2, pp.193–218

Dawar, N. & Parker, P. (1994). Marketing Universals: Consumers' Use of Brand Name, Price, Physical Appearance, and Retailer Reputation as Signals of Product Quality, *Journal of Marketing*, vol. 58, no. 2, pp.81–95

De Wulf, K., Odekerken-Schröder, G., Goedertier, F. & Van Ossel, G. (2005). Consumer Perceptions of Store Brands versus National Brands, *Journal of Consumer Marketing*, vol. 22, no. 4, pp.223–232

DelVecchio, D. (2001). Consumer Perceptions of Private Label Quality: The Role of Product Category Characteristics and Consumer Use of Heuristics, *Journal of Retailing and Consumer Services*, vol. 8, no. 5, pp.239–249

Dhar, S. K., Hoch, S. J. & Kumar, N. (2001). Effective Category Management Depends on the Role of the Category, *Journal of Retailing*, vol. 77, no. 2, pp.165–184

Dick, A., Jain, A. & Richardson, P. (1995). Correlates of Store Brand Proneness: Some Empirical Observations, *Journal of Product & Brand Management*, vol. 4, no. 4, pp.15–22

Dickson, P. R. & Sawyer, A. G. (1990). The Price Knowledge and Search of Supermarket Shoppers, *Journal of Marketing*, vol. 54, no. 3, pp.42–53

Dodds, W. B., Monroe, K. B. & Grewal, D. (1991). Effects of Price, Brand, and Store Information on Buyers' Product Evaluations, *Journal of Marketing Research*, vol. 28, no. 3, pp.307–319

Douglas, S.P., Craig, C.S. & Nijssen, E.J. (2001). Executive insights: Integrating branding strategy across markets: Building international brand architecture. *Journal of International Marketing*, 9(2), pp.97-114.

Dutta, K. & Singh, S. (2014). Applying the Theory of Planned Behavior to Understand Indian Housewives' Purchase Behavior Towards Healthy Food Brands, *IUP Journal of Brand Management*, vol. 11(4)

Farris, P.W., Bendle, N., Pfeifer, P.E., & Reibstein, D. (2010). Marketing metrics: The definitive guide to measuring marketing performance. Pearson Education.

Fishbein, M. (2008). Reasoned Action, Theory Of, in W. Donsbach (ed.), *The International Encyclopedia of Communication*, [e-book] Chichester, UK: John Wiley & Sons, Ltd, p.wbiecr017, Available Online: https://onlinelibrary.wiley.com/doi/10.1002/9781405186407.wbiecr017 [Accessed 7 April 2023]

Fuduric, M., Varga, A., Horvat, S. & Skare, V. (2022). The Ways We Perceive: A Comparative Analysis of Manufacturer Brands and Private Labels Using Implicit and Explicit Measures, *Journal of Business Research*, vol. 142, pp.221–241

Garczarek-Bąk, U. & Disterheft, A. (2018). EEG Frontal Asymmetry Predicts Product Purchase Differently for National Brands and Private Labels., *Journal of Neuroscience, Psychology, and Economics*, vol. 11, no. 3, pp.182–195

Goldsmith, R. E., Flynn, L. R., Goldsmith, E. & Stacey, E. C. (2010). Consumer Attitudes and Loyalty towards Private Brands, *International Journal of Consumer Studies*, vol. 34, no. 3, pp.339–348

González Mieres, C., María Díaz Martín, A. & Trespalacios Gutiérrez, J. A. (2006). Antecedents of the Difference in Perceived Risk between Store Brands and National Brands, *European Journal of Marketing*, vol. 40, no. 1/2, pp.61–82

Grewal, D., Krishnan, R., Baker, J. & Borin, N. (1998). The Effect of Store Name, Brand Name and Price Discounts on Consumers' Evaluations and Purchase Intentions, *Journal of Retailing*, vol. 74, no. 3, pp.331–352

Guillaumie, L., Godin, G. & Vezina-Im, L.-A. (2010). Psychosocial Determinants of Fruit and Vegetable Intake in Adult Population: A Systematic Review, *International Journal of Behavioral Nutrition and Physical Activity*, vol. 7, no. 1, p.12

Hanoch, Y. & Vitouch, O. (2004). When Less Is More: Information, Emotional Arousal and the Ecological Reframing of the Yerkes-Dodson Law, *Theory & Psychology*, vol. 14, no. 4, pp.427–452

Herrmann, A., Xia, L., Monroe, K. B. & Huber, F. (2007). The Influence of Price Fairness on Customer Satisfaction: An Empirical Test in the Context of Automobile Purchases, *Journal of Product & Brand Management*, vol. 16, no. 1, pp.49–58

Hoch, S. J. (1996). How Should National Brands Think about Private Labels?, *MIT Sloan Management Review, 37(2)*, p.p.89

Hoch, S. J. & Banerji, S. (1993). When Do Private Labels Succeed?, *MIT Sloan Management Review, 34(4)*, p.p.57

Jaafar, S.N., Lalp, P. E. & Naba, M.M. (2012). Consumers' Perceptions, Attitudes and Purchase Intention towards Private Label Food Products in Malaysia, *Asian Journal of Business and Management Sciences*, pp.73–90

Jacoby, J., Olson, J. C. & Haddock, R. A. (1971). Price, Brand Name, and Product Composition Characteristics as Determinants of Perceived Quality, *Journal of Applied Psychology*, vol. 55, no. 6, pp.570–579

Kotler, P. & Armstrong, G. (2012). Principles of Marketing, 14th ed., Boston: Pearson Prentice Hall

Kwon, K.N., Lee, M.H. & Jin Kwon, Y., (2008). The effect of perceived product characteristics on private brand purchases. *Journal of Consumer Marketing*, 25(2), pp.105-114.

Liljander, V., Polsa, P. & van Riel, A. (2009). Modelling Consumer Responses to an Apparel Store Brand: Store Image as a Risk Reducer, *Journal of Retailing and Consumer Services*, vol. 16, no. 4, pp.281–290

Lyong Ha, C. (1998). The Theory of Reasoned Action Applied to Brand Loyalty, *Journal of Product & Brand Management*, vol. 7, no. 1, pp.51–61

Madden, T. J., Ellen, P. S. & Ajzen, I. (1992). A Comparison of the Theory of Planned Behavior and the Theory of Reasoned Action, *Personality and Social Psychology Bulletin*, vol. 18, no. 1, pp.3–9

Manikandan, M. K. M. (2020). Store Brand and Perceived Risk on Private Label Brand Attitude, *Journal of Indian Business Research*, vol. 12, no. 1, pp.133–150

Miranda, M. J. & Joshi, M. (2003). Australian Retailers Need to Engage with Private Labels to Achieve Competitive Difference, *Asia Pacific Journal of Marketing and Logistics*, vol. 15, no. 3, pp.34–47

Mishra, S., Malhotra, G. & Saxena, G. (2020). In-Store Marketing of Private Labels: Applying Cue Utilisation Theory, *International Journal of Retail & Distribution Management*, vol. 49, no. 1, pp.145–163

Mitchell, V. & Harris, G. (2005). The Importance of Consumers' Perceived Risk in Retail Strategy, *European Journal of Marketing*, vol. 39, no. 7/8, pp.821–837

Monroe, K. B. (2002). Pricing: Making Profitable Decisions, 3rd ed., Boston: McGraw-Hill/Irwin

Montano, D. E. & Kasprzyk, D. (2015). Theory of Reasoned Action, Theory of Planned Behavior, and the Integrated Behavioral Model. *Health behavior: Theory, research and practice*, 70(4), p.231.

Mostafa, R. H. A. & Elseidi, R. I. (2018). Factors Affecting Consumers' Willingness to Buy Private Label Brands (PLBs): Applied Study on Hypermarkets, *Spanish Journal of Marketing - ESIC*, vol. 22, no. 3, pp.338–358

Nenycz-Thiel, M. and Romaniuk, J. (2014). The real difference between consumers' perceptions of private labels and national brands. *Journal of Consumer Behaviour*, 13(4), pp.262-269.

Nguyen-Phuoc, D.Q., Oviedo-Trespalacios, O., Vo, N.S., Le, P.T., & Van Nguyen, T. (2021). How does perceived risk affect passenger satisfaction and loyalty towards ride-sourcing services?. *Transportation Research Part D: Transport and Environment*, *97*, p.102921.

Olson, J. C. & Jacoby, J. (1972). Cue Utilization in the Quality Perception Process, *Third Annual Conference of the Association for Consumer Research,* p.Pages: 167-179.

Ponnam, A. & Balaji, M.S. (2015). Investigating the effects of product innovation and ingredient branding strategies on brand equity of food products. *British Food Journal*, 117(2), pp.523-537.

Ralston, R. W. (2003). The Effects of Customer Service, Branding, and Price on the Perceived Value of Local Telephone Service, *Journal of Business Research*, vol. 56, no. 3, pp.201–213

Retnawati, B.B., Ardyan, E., & Farida, N. (2018). The important role of consumer conviction value in improving intention to buy private label product in Indonesia. *Asia Pacific Management Review*, *23*(3), pp.193-200.

Richardson, P. S., Dick, A. S. & Jain, A. K. (1994). Extrinsic and Intrinsic Cue Effects on Perceptions of Store Brand Quality, *Journal of Marketing*, vol. 58, no. 4, pp.28–36

Scott Morton, F. & Zettelmeyer, F. (2004). The Strategic Positioning of Store Brands in Retailer–Manufacturer Negotiations, *Review of Industrial Organization*, vol. 24, no. 2, pp.161–194

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*, vol. 11, no. 4, pp.247–258

Sethuraman, R. & Cole, C. (1999). Factors Influencing the Price Premiums That Consumers Pay for National Brands over Store Brands, *Journal of Product & Brand Management*, vol. 8, no. 4, pp.340–351

Sethuraman, R. & Gielens, K. (2014). Determinants of Store Brand Share, *Journal of Retailing*, vol. 90, no. 2, pp.141–153

Sgroi, F. & Salamone, P.A. (2022). Private label food products: Consumer perception and distribution strategies. *Journal of Agriculture and Food Research*, *8*, p.100287.

Sheau-Fen, Y., Sun-May, L. & Yu-Ghee, W. (2012). Store Brand Proneness: Effects of Perceived Risks, Quality and Familiarity, *Australasian Marketing Journal*, vol. 20, no. 1, pp.48–58

Sheppard, B. H., Hartwick, J. & Warshaw, P. R. (1988). The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research, *Journal of Consumer Research*, vol. 15, no. 3, p.325

Snoj, B., Pisnik Korda, A. & Mumel, D. (2004). The Relationships among Perceived Quality, Perceived Risk and Perceived Product Value, *Journal of Product & Brand Management*, vol. 13, no. 3, pp.156–167

Statista. (2020a). Market Share of grocery retailers in Sweden in 2020, available at: https://www.statista.com/statistics/565650/market-share-of-selected-grocery-retailers-in-sweden/ [Accessed 22 March 2023]

Statista. (2020b). Private Label share of supermarkets' sales volume in Europe in 2020, by country, available at: https://www.statista.com/statistics/1194649/private-label-share-of-total-supermarkets-sales-volume-europe/ [Accessed 22 March 2023]

Steenkamp, J.B.E., Van Heerde, H.J. & Geyskens, I. (2010). What makes consumers willing to pay a price premium for national brands over private labels? *Journal of marketing research*, 47(6), pp.1011-1024.

Steiner, R. L. (2004). The Nature and Benefits of National Brand/Private Label Competition, *Review of Industrial Organization*, vol. 24, no. 2, pp.105–127

Stone, R. N. & Grønhaug, K. (1993). Perceived Risk: Further Considerations for the MarketingDiscipline, *European Journal of Marketing*, vol. 27, no. 3, pp.39–50

Sweeney, J. C., Soutar, G. N. & Johnson, L. W. (1999). The Role of Perceived Risk in the Quality-Value Relationship: A Study in a Retail Environment, *Journal of Retailing*, vol. 75, no. 1, pp.77–105

Vahie, A. & Paswan, A. (2006). Private Label Brand Image: Its Relationship with Store Image and National Brand, *International Journal of Retail & Distribution Management*, vol. 34, no. 1, pp.67–84

Verhoef, P.C., Nijssen, E.J. & Sloot, L.M. (2002). Strategic reactions of national brand manufacturers towards private labels: An empirical study in The Netherlands. *European Journal of Marketing*, 36(11/12), pp.1309-1326.

Walsh, G. & Mitchell, V.-W. (2010). Consumers' Intention to Buy Private Label Brands Revisited, *Journal of General Management*, vol. 35, no. 3, pp.3–24

Wangenheim, F. & Bayón, T. (2007). The Chain from Customer Satisfaction via Word-of-Mouth Referrals to New Customer Acquisition, *Journal of the Academy of Marketing Science*, vol. 35, no. 2, pp.233–249

Woodruff, R. B. (1997). Customer Value: The next Source for Competitive Advantage, *Journal of the Academy of Marketing Science*, vol. 25, no. 2, pp.139–153

Wu, P. C. S., Yeh, G. Y.-Y. & Hsiao, C.-R. (2011). The Effect of Store Image and Service Quality on Brand Image and Purchase Intention for Private Label Brands, *Australasian Marketing Journal*, vol. 19, no. 1, pp.30–39

Yan, L., Xiaojun, F., Li, J. & Dong, X. (2019). Extrinsic Cues, Perceived Quality, and Purchase Intention for Private Labels: Evidence from the Chinese Market, *Asia Pacific Journal of Marketing and Logistics*, vol. 31, no. 3, pp.714–727

Yang, Z. & Peterson, R.T. (2004). Customer perceived value, satisfaction, and loyalty: The role of switching costs. *Psychology & marketing*, *21*(10), pp.799-822.

Yee, C.J. & San, N.C. (2011). Consumers' perceived quality, perceived value and perceived risk towards purchase decision on automobile. *American journal of economics and business administration*, *3*(1), pp.47-57.

Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence, *Journal of Marketing*, vol. 52, no. 3, pp.2–22

Appendix A

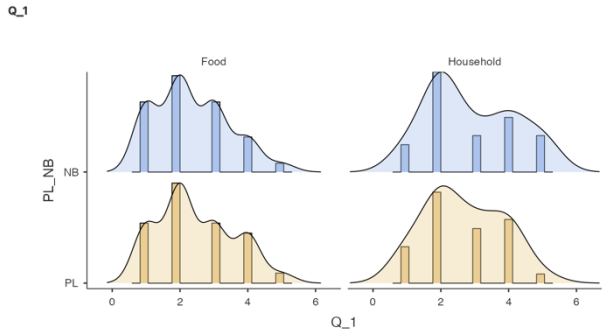
Image used for Food category - Private Label

Image used for Food category - National Brand

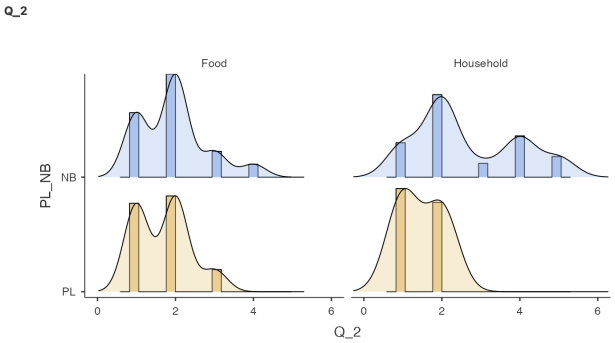
Image used for Household category - Private Label

Image used for Household category - National Brand

Appendix B



Histogram Q_1



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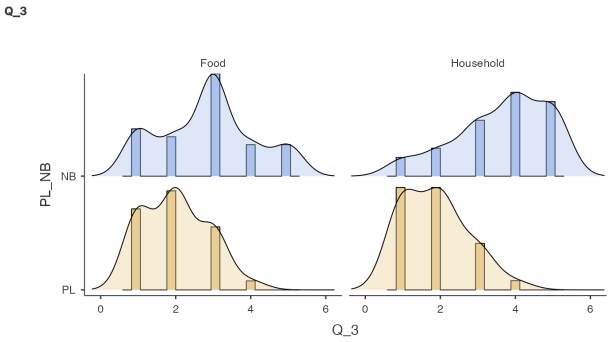

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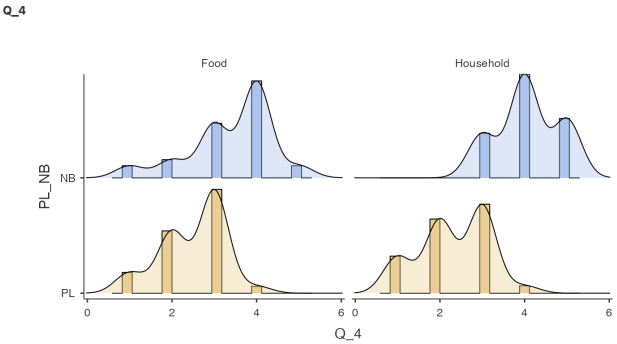

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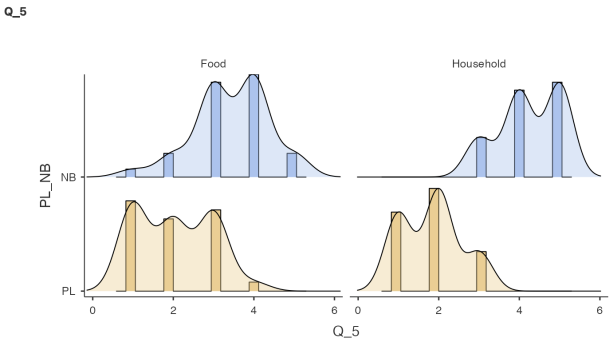

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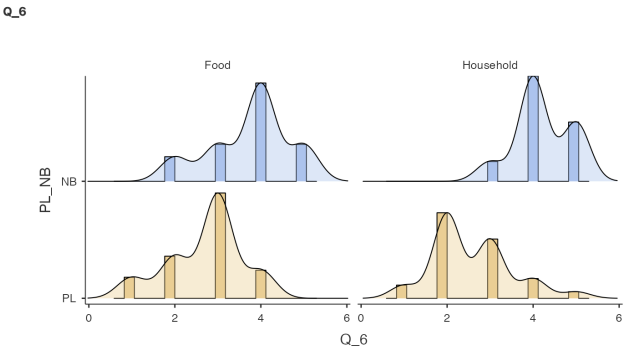

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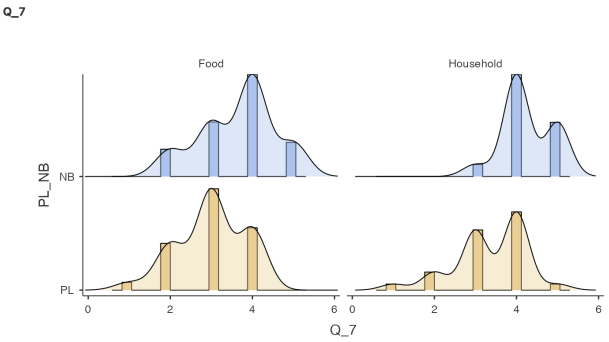

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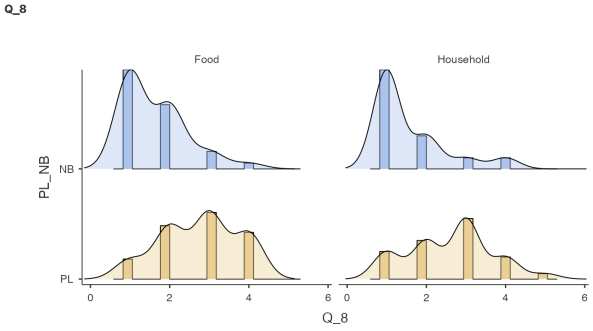
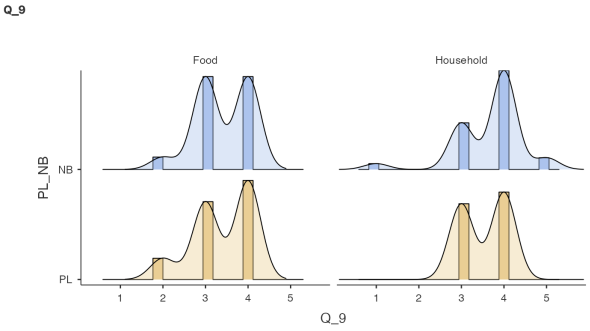
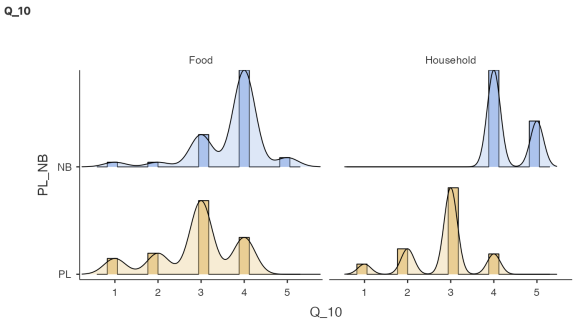


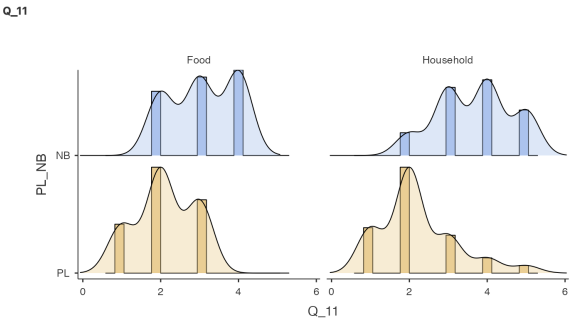
Histogram Q_8



Histogram Q_9



Histogram Q_10



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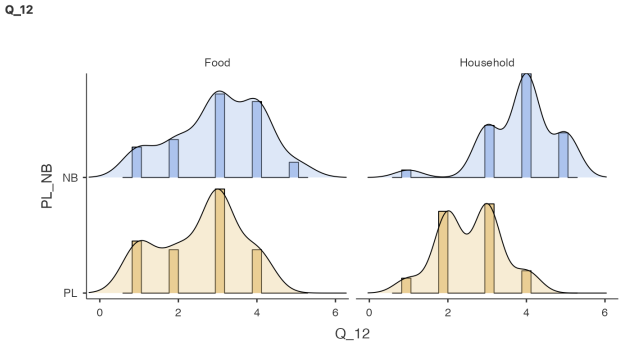

Histogram Q_12