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"Inflation coping mechanisms by manufacturers and their impact on brand trust, moderated by brand loyalty, product type (staple vs. specialty) and brand type (private label vs. A-brand)"

Master Thesis

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Abstract

Businesses and consumers are facing significant threats from rising inflation, resulting in increasing prices and decreasing purchasing power. In response, manufacturers in the consumer goods industry are responding by implementing both controversial and creative strategies to mitigate the impact on their business outcomes. Two key strategies are shrinkflation, where the size or quantity of a product is reduced without a corresponding price decrease, and price increases, where the price of a product is raised while maintaining the same size/weight. This study explores inflation coping strategies, focusing on the relationship between inflation coping strategies (shrinkflation or price increase) and brand trust, as well as how price increases have an impact on brand trust and the corresponding purchasing decisions that are being made by consumers.

The core of this research revolves around understanding how consumers are reacting to these practices of manufacturers that are reducing the content or weight of their products, or increase the price, and whether these changes affect brand trust. This will be done by analysing survey results from a wide range of consumers. This research aims to thoroughly assess how well these strategies maintain brand trust during times of high inflation. Additionally, the study explores whether product type (staple vs. specialty goods) and brand type (A-brands vs. private labels) influence how consumers react to shrinkflation and price changes. It also lays the foundation for future research on consumer behaviour in high-inflation economies, focusing on the ethical concerns of shrinkflation.

This research is relevant as it researches how consumers respond to shrinkflation and price changes regarding product and brand types. Staple goods, which are frequently purchased, may cause stronger negative reactions to shrinkflation, while consumers who are purchasing specialty goods may prioritize the product's unique qualities over a size reduction. Furthermore, A-brands, with their established brand equity, may be better able to maintain consumer trust compared to private labels, which are more sensitive to price perceptions. These insights are critical for manufacturers that are seeking to adjust their marketing strategies to preserve brand trust and brand loyalty during periods of high inflation.

The results of this study will improve the understanding of how consumers respond to economic challenges, especially in situations with high inflation. It will explore strategies that

help businesses handle high inflation effectively. This information is valuable for companies trying to adapt and succeed in fluctuating economic conditions especially in periods of high inflation. Overall, this study provides practical guidance for businesses operating in the Fast-Moving Consumer Goods (FMCG) sector, helping them to navigate the challenges of this dynamic and competitive environment.

In conclusion, this study adds to academic research and business strategies by looking closely at how consumers are responding to inflation coping strategies. It shows how price increases and shrinkflation impact brand trust and underlines the importance of transparent communication by manufacturers. These insights are valuable for manufacturers who are seeking to maintain brand trust and protect their brand in times of high inflation.

Keywords: Shrinkflation, Price Increase, Product Downsizing, Inflation coping strategies, Consumer Response, Brand Trust, Consumer reaction.

Contents

Chapter One: Introduction

On March 7, 2024, President of the United States Joe Biden gave his annual State of the Union speech. During this speech, it is common for the sitting president to give advice on the measures that the president thinks are appropriate. During his speech, Biden specifically discussed the issue of shrinkflation, highlighting it as an area of concern that affects consumers directly.

"That's why we're cracking down on corporations that engage in price gouging and deceptive pricing, from food to healthcare to housing. In fact, the snack companies think you won't notice if they change the size of the bag and put a hell of a lot fewer — same — same size bag -— put fewer chips in it. No, I'm not joking. It's called shrinkflation" (Joe Biden, 2024).

This speech shows that Biden recognises the problems with shrinkflation and stresses that he will act against companies that overcharge and mislead prices. Later in the State of the Union, Biden also gave an example. He spoke about a Snickers chocolate bar advertisement, pointing out that the package has 10% less Snickers but is still sold at the same price (Joe Biden, 2024)

Pippa Malmgren stated; "We speak of shrinkflation when a product reduces its size, its quantity, or the number of units sold in the same package without a reduction in price. It is giving less for the same thing" (2016, p. 146).

In the Netherlands, consumer dissatisfaction with shrinkflation has been obvious, as the Consumentenbond reported receiving 900 complaints about shrinkflation as of February 2023 (Joyce Donat, 2023). The Dutch TV-program Radar even presented the "Kleinste Trofee" to a product that had reduced its contents while keeping the price the same or higher, showing the growing awareness and frustration regarding shrinkflation (Antoinette Hertsenberg, 2023).

Dekimpe & van Heerde (2023) argue that it is currently unclear which inflation coping strategy consumers prefer: a regular price increase or shrinkflation (a decrease in size). If consumers were given a choice which one, would they rather have? Christine Lagarde (2022) describes the term high inflation as when inflation rates significantly exceed the European

Central Bank's (ECB) target of around 2%, especially when they reach double digits. In these cases, there's a risk that inflation could become persistent, keeping prices under continuous upward pressure. Research has taken place on price increase, yet this has not taken place in times of high inflation and compared with the inflation coping strategy called shrinkflation. The influences of the three moderators: private label vs A-brand, brand loyalty and whether the product is a staple vs specialty good moderate the relationship between inflation coping strategies and brand trust have also not been taken into consideration.

While research has separately addressed shrinkflation and price increases, the combination of these two inflations coping mechanisms during periods of high inflation, particularly in the FMCG sector, has been less explored.

Chaudhuri & Holbrook (2001) highlight the importance of brand trust particularly within consumer loyalty, but most research focuses on price increases, often neglecting the inflation coping strategy shrinkflation, which is often perceived as deceptive and may cause significant harm. Carter & Curry (2010) suggest that clear communication can reduce the impact of price increases, while the subtle nature of shrinkflation may result in stronger negative reactions, as Ordabayeva & Chandon (2013) found when consumers often fail to notice size reductions (see Table 1 for further details).

Additionally, product type (staple vs. specialty goods) and brand type (A-brand vs. private label) have not been thoroughly explored. Kotler & Armstrong (2018) suggest shrinkflation is more noticeable in staple goods, while Palmeira & Thomas (2011) argue A-brands may be more resilient to brand trust loss. Erciş et al. (2012) and Knox & Walker (2001) also note that loyal consumers may be more forgiving of shrinkflation. This study will address these gaps by comparing the impacts of shrinkflation and price increases on brand trust, focusing on product type, brand type, and brand loyalty, and offering insights into managing brand trust during times of high inflation.

1.1 Goal of the study

This quantitative study aims to understand how inflation coping mechanisms, price increase and shrinkflation initiated from the perspective of companies producing FMCG impact brand trust. By using questionnaires, the study will systematically examine how consumers respond to and perceive various inflation coping mechanisms. The study will also explore how these impacts are moderated by brand loyalty, brand type (A-brand vs. private label), and product type (staple or specialty good).

Manufacturers of FMCG will find valuable insights regarding consumer behaviour in times of high inflation. Additionally, the goal of the study is to guide businesses in implementing strategies to maintain brand trust. Lastly, the study aims to contribute to academic literature on brand trust during periods of high inflation.

1.2 Research Questions

In order to measure the impact of inflation coping mechanisms on brand trust, the following research questions have been formulated.

RQ 1: How does shrinkflation impact brand trust compared to price increases?

RQ2: How does the effect of shrinkflation on brand trust differ between staple goods and specialty goods?

RQ3: How does the effect of shrinkflation on brand trust differ between A-brands and private label brands?

RQ4: How does brand loyalty influence the effect of shrinkflation on brand trust?

1.3. Motivation for the study

Limited research has been conducted on the topic of shrinkflation, despite its growing relevance in the context of rising inflation. As manufacturers face higher production costs, they may resort to shrinkflation to maintain profit margins without increasing prices. This study aims to understand consumer responses to both regular price increases and shrinkflation, and to assess the impact on brand trust. By exploring these factors, the study tries to provide valuable insights for businesses and contribute to the academic literature on consumer behaviour and brand trust during periods of high inflation.

1.4 Structure of the study

This study is structured into six chapters to provide a clear and systematic presentation of the content. Firstly, Chapter 1, the introduction, discusses the purpose of the study, the research questions, the motivation behind the study, as well the structure of the research. Secondly, Chapter 2 concentrates on the theoretical framework, focusing on the systematic collection of literature to gain a deeper understanding of the existing literature on inflation coping mechanisms and their impact on consumers. Following this, Chapter 3 explains the methodology, including the research design and chosen measurement scales. Next, Chapter 4 presents the results clearly and objectively. Chapter 5 covers a discussion of the findings; it includes the theoretical and practical implications and the limitations of the study. Lastly, chapter 6 provides the conclusion including a summary of the findings.

Chapter Two: Theoretical framework

This chapter focuses on existing research that is relevant to this study. It highlights key findings from previous studies and identifies gaps in the current literature. This chapter examines the literature related to how inflation coping mechanisms, such as price increases and shrinkflation, impact brand trust, while also exploring how this relationship is influenced based on factors like brand loyalty, brand type (A-brand vs. private label) and product type (staple vs. specialty goods).

2.1 Search strategy

To provide insights into how consumers respond to the use of shrinkflation in consumer goods, a systematic literature review was conducted. The literature review consists of three phases. Firstly, the identification phase involves gathering articles based on search terms from the Scopus and Web of Science databases. In the second phase, the screening process, the papers will be assessed to ensure they are in English, identify whether the search results include conceptual or theoretical studies and remove any duplicates from the total number of articles that were found. The third step is the selection phase, where the abstracts are reviewed and evaluated to determine their relevance to the research topic.

The first search was conducted in Scopus using the following search query: TITLE-ABS-KEY ("shrinkflation" OR "product downsizing" OR "package downsizing" OR "economic shrinkage" OR "product size reduction" OR "hidden inflation" OR "product size decrease") AND SRCTITLE ("retail*" OR "marketing" OR "business" OR "consumer" OR "management"). This search yielded a total of 11 journal articles. Subsequently, a search was conducted in Web of Science using the following query: (ALL=("shrinkflation" OR "product downsizing")) AND ALL=("shrinkflation" OR "product downsizing" OR "package downsizing" OR "economic shrinkage" OR "product size reduction" OR "hidden inflation" OR "product size decrease"), which resulted in 22 papers.

An overview of the search queries and corresponding URL can be found in Appendix A. Therefore, the total number of articles identified was 33, During the screening phase, it was noted that 8 articles were duplicates and that there were 7 non-academic articles, such as editorial materials and proceeding papers, all of which came from the Web of Science

database. In the selection phase, the remaining 18 articles were reviewed and checked for relevance. Out of the remaining 18 papers, 7 papers were identified that were not focusing on shrinkflation and subsequent consumer response.

Therefore, the final selection consisted of 11 papers for this systematic literature review. The visualized overview of the 11 articles is shown in Figure 1. All of these 11 articles were written in English, accessible and empirical from nature. Table 1, Detailed overview relevant papers provides an overview of the relevant literature, including the title of the paper, author(s), source, year of publication, main insights, and the database from which the selected papers were extracted. Additionally, relevant papers that were not found in de initial systematic literature review were included. These papers have delivered valuable insights and were reviewed based upon their relevance to the research objective. These additional papers were added onto the already identified 11 papers to be able to ensure a thorough review.

Figure 1

Schematic of the systematic assessment process

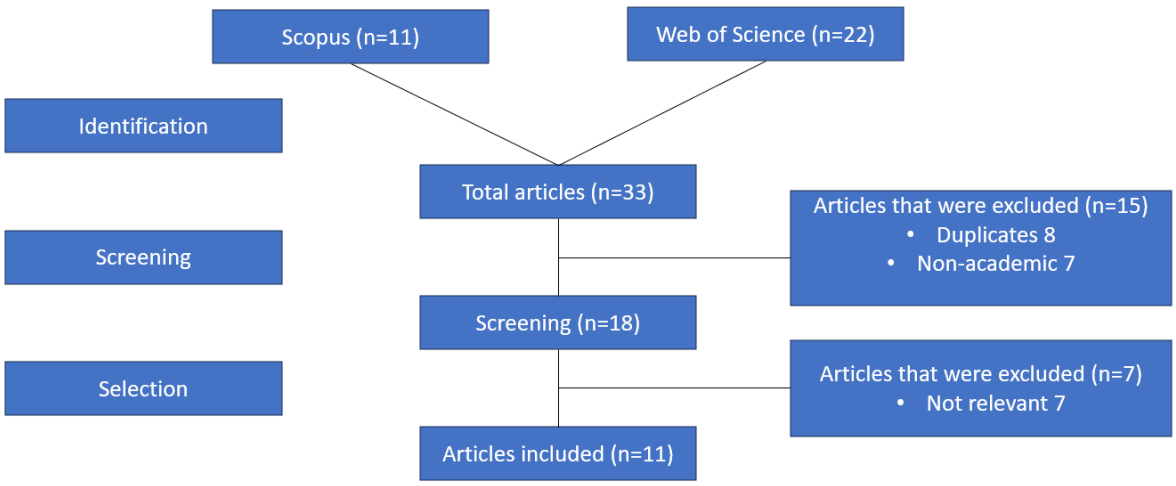


Table 1

Detailed overview relevant papers

Title	Author	Source	Year of publication	Main Insights	Database
Predicting and Managing Consumers' Package Size Impressions	Ordabayeva N, Chandon P	Journal of Marketing, (2013), 123-137, 77	2013	The paper has developed a model named the AddChange heuristic model that is able to show that consumers are adding the dimension which is responsible for a biased impression of the realized changes in the dimensions of the product. Additionally, it found evidence that consumers are able to detect shrinkflation more accurately when the changes are solely focused on one specific dimension. Lastly, one important finding was that when the height of a product increases but width and length decrease, consumers focus on the increased height and underestimate the overall size reduction, this phenomenon is described as elongated downsizing.	Scopus
Consumer Response to Package Downsizing: Evidence from the Chicago Ice Cream Market	Çakir M, Balagtas J	Journal of Retailing, (2014), 1-12, 90(1)	2014	The paper found that there was a difference between size elasticity and price elasticity; size elasticity was approximately one-fourth, indicating the effectiveness of the strategy. Next to this, it found evidence that demographics, especially families with higher incomes and households who are working, were less sensitive to downsizing compared to bigger households. Lastly, it showed that by downsizing and therefore increasing the unit price, production costs of manufacturers can be passed through easily without immediate backlash from consumers.	Scopus

Consumers' behavioural intentions after experiencing deception or cognitive dissonance caused by deceptive packaging, package downsizing or slack filling	Wilkens S, Beckenuyte C, Butt M	European Journal of marketing, (2016), 213-235, 50(1-2)	2016	Firstly, the paper goes into detail regarding the phenomenon of slack filling, which can be seen as the practice of filling the package partly with air, as seen in products like chips. Secondly, the phenomenon of cognitive dissonance is discussed, as a result of deceiving packaging leading to negative behavior from consumers, leading to consumers switching to other brands or becoming upset with the respective brand. Thirdly, consumers that are highly connected to a brand are more forgiving of these tactics compared to consumers who are less familiar with a brand. Lastly, it mentioned that while package downsizing can be an effective strategy to boost profit in the short term, the significant long-term risks in regard to consumer loyalty and the reputation of a brand are outweighing the short-term gains.	Scopus
Competitive Package Size Decisions	Yonezawa K, Richards T	Journal of Retailing, (2016), 445-469, 92(4)	2016	The paper discusses that decreasing the package size is seen as a covert way for manufacturers to raise the unit price, while it can be limited to an extent by the strategic constraints which lead to a regular price increase instead. It also points out that this can lead to competitive actions from other manufacturers, potentially resulting in a price war. It also suggests that supermarkets can gain from the practice of package downsizing due to lower pricing and a higher profit margin within the specific category. Lastly, it is underlined that these decisions regarding product downsizing cannot be taken lightly due to demand-side factors like preference by consumers and consumer buying preference, and factors from the supply side regarding competitors and the supply chain.	Scopus

Cheaper and smaller or more expensive and larger: how consumers respond to unit price increase tactics that simultaneously change product price and package size	Yao J, Oppewal H, Wang D	Journal of the Academy of Marketing Science, (2020), 1075-1094, 48(6)	2020	The main findings of this paper indicate that consumers are in general more affected by changes in the unit price in comparison to the package size. Next to this, consumers preferred a decrease in price and packaging compared to an increase in price and packaging due to the impact on the perception of the value of the product. It also confirmed that consumers who in general are more price conscious showed stronger responses than consumers who are less interested in the price. Another interesting finding was that consumers who are good with numbers are able to calculate the price changes and can make their decisions based upon the calculation, while on the other hand, consumers who are less numerate were not able to see these changes and would therefore respond less affected by a simultaneous decrease of the unit price and size of the product.	Scopus
FMCG firms' margin management: consumer trade-offs among product price, quantity and quality	Wilkens S, Ireland J	Journal of Strategic Marketing, (2022), 764-781, 30(8)	2022	This paper found that there is a difference in price sensitivity when products are more expensive, in comparison to cheaper products, especially regarding products that can be seen as impulsive purchases. The aspects that consumers value from a specific product are dependent on the specific product category; for example, for cheaper products, quantity is the main driver while for more expensive products, quality is seen as the most important aspect. In general, it is found that the practice of downsizing is more accepted than reducing the quality, known as skimpflation. A solution instead of downsizing products could be to offer multiple product package sizes when there is room for this on the shelves.	Scopus
Consumers' preference for downsizing over	Kim I	Journal of Economics and Management Strategy (2024), 25-52, 33(1)	2024	The researcher found that there was clear evidence that consumers have a preference for downsizing in comparison to price increases, even when they would end up at the same unit	Scopus

package price increases				price. This preference remained constant over time, and they did not change their minds. It was found that consumers were affected on average 4.6 times more by price hikes than by downsizing. Manufacturers are therefore able to implement this as an effective strategy to increase sales instead of a regular price increase. This study did not consider the effect that competitors could have on this phenomenon and should therefore be approached carefully.	
Frontiers: Shrinkflation Aversion: When and Why Product Size Decreases Are Seen as More Unfair than Equivalent Price Increases	Evangelis I	Marketing Science, (2023)	2023	The findings of this paper conclude that in general, consumers consider product downsizing less fair when compared to price increases, within this paper this is mentioned as shrinkflation aversion. Next to this, they see it as being deceptive due to it being less noticeable. Transparent communication from manufacturers about the reasons for product downsizing can justify the practice. When manufacturers are hit by increasing costs, consumers seem to find both inflation coping mechanisms more acceptable while there remains a preference for a price increase. The role of transparent communication is especially important for products that are being reduced in size.	Scopus
Product Downsizing and Hidden Price Increases: Evidence from Japan's Deflationary Period	Imai S, Watanabe T	Asian Economic Policy Review, (2014), 69-89, 9(1)	2014	The researchers focused their research on the deflationary period within Japan, during which product downsizing was seen as an often-utilized strategy implemented by manufacturers. This was shown by the fact that one third of all product replacements involved a decrease in the size or weight of the product. The prices of the downsized products were not influenced significantly, while when the product decrease was more substantial, an increase in the price was visible. Consumers within Japan were seen as equally sensitive to a price increase in comparison to a weight or size decrease. It	Scopus

				was witnessed that companies primarily chose to downsize their product to ensure that the products remained affordable during this period of deflation.	
Retail pass-through of package downsizing	Çakır M	Agribusiness, (2022), 259-278, 38(2)	2022	The first finding of the paper was that manufacturers can increase the unit price while keeping it acceptable for consumers. Secondly, retailers benefit from downsized products by passing through these products at prices on average 8.4% higher compared with non-downsized products. Thirdly, it can therefore be seen as a practice that not only benefits the manufacturer or retailer but can enable them both to profit from this practice. Lastly, it is important to note that the prices that are being implemented by retailers and the corresponding promotion mechanisms have an important role within the successful implementation of downsized products.	WOS
Effects of Package Size on Household Food Purchases	Çakır M, Balagtas J, Okrent A et al.	Applied Economic Perspectives and Policy, (2021), 781-801, 43(2)	2021	The paper shows that when products are being downsized, the total volume of the product being sold reduces, indicating that consumers are not buying as much of the product as they did beforehand. Next to this, it is shown that this leads to a significant negative purchase volume for the measured categories: tuna at 7.2% and peanut butter at 6.1%. Another key finding was that consumers reduced their purchase volumes without switching to alternatives unaffected by downsizing. This shows that package size influences household purchases and consumption and underscores the importance of managing product package sizes for manufacturers.	WOS

2.2 Brand trust under inflationary pressure

Fast Moving Consumer Goods (FMCG) are also known as necessities and include a category of products like food, beverages, personal hygiene items and household cleaning products just to name a few (Liczmańska-Kopcewicz et al., 2019). Relationships between consumers and brands are built on brand trust, particularly regarding the FMCG-industry where there is intense rivalry among competitors and products are being purchased frequently. FMCG-products are being characterized by being affordable, frequently purchased and widely available. The significance of brand trust lies in its ability to impact consumer loyalty, a willingness to pay a higher price and the total equity of a brand (Chaudhuri & Holbrook, 2001). When brands are implementing inflation coping mechanisms like price increase and shrinkflation, it becomes even more essential to maintain brand trust. These inflation coping mechanisms can be implemented to maintain profit margins especially in times of high inflation. When companies fail to meet expectations or act inconsistently, it can severely harm brand trust that is fundamental to maintaining strong consumer relationships and sustaining brand equity (Delgado-Ballester & Luis Munuera-Alemán, 2005).

2.3 Price increases effect on brand trust

When production costs increase, action must be taken, which can be done in different ways: firstly, by raising the selling price (price increase); secondly, by reducing the quantity or volume of the product known as shrinkflation or downsizing; and thirdly, lowering the quality of the product ingredients which is called skimpflation (Wilkins & Ireland, 2022).

Price increases are seen as a common response to inflationary pressures when production costs are rising. When these increases are communicated clearly and transparently, especially when the reasons are beyond the brands control, consumers are more likely to perceive them as fair and maintain their brand trust (Carter & Curry, 2010). Research by Yao et al. (2020) highlight that the perceived fairness of the reasoning behind a price increase has a positive impact on the willingness of a consumer to purchase once again. Additionally, Wilkins & Ireland (2022) found that consumers prioritize quality over price or quantity in FMCG products, making them more sensitive to skimpflation than to price increases or reductions in product size. While downsizing, also known as shrinkflation, might be expected to impact consumers similarly to a price increase. Gourville & Koehler (2004)

found that consumers are more sensitive to price changes than to reductions in product size. ''However, product downsizing can be a risky strategy: consumers find it deceitful and associate smaller sizes with lower value'' (Vermeer et al. 2010, as cited in Ordabayeva & Chandon, 2013).

Brand trust can be seen as crucial because it builds on consistently keeping promises, while ensuring that consumers trust the brands value build through production, development, sales, service and advertising (Delgado-Ballester & Luis Munuera-Alemán, 2005). According to Awad Alhaddad (2015) marketing managers should focus on maintaining high levels of brand trust to foster consumer loyalty. Chaudhuri & Holbrook (2001) argue that brand trust can be described as the willingness of the average consumer to rely on the ability of the brand to perform its stated function.

This study utilizes the Brand Trust Scale developed by Delgado Ballester (2011) given their thorough approach in defining and measuring these scales. According to Delgado Ballester (2011) brand trust is a multidimensional construct that includes the two dimensions fiability and intentionality. Fiability can be described as the belief that consumers have in a brand in consistently meeting the consumer needs and promises. Within this dimension there is emphasis on the significance of a steady performance and being a reliable brand. This dimension is supported by a sense of predictability that the brand constantly provides positive solutions to meet the demands of their consumers (Delgado Ballester, 2011).

In addition, brand trust includes the dimension of intentionality, which is the emotional assurance that the brand will look out for them, not take advantage of their weaknesses and give consumers faith that the brand will be considerate and trustworthy (Delgado Ballester, 2011). The Delgado Ballester Brand Trust Scale is appropriate for measuring brand trust in the FMCG-industry focusing on specific brands because it includes for both intent and reliability, two aspects that are essential in a market where ethical behavior and consistent standards are to be expected. The broad range of uses and demonstrated reliability make it an invaluable instrument for determining brand trust related to FMCG-products.

2.4 Impact of shrinkflation on brand trust

The tactic of shrinkflation is often implemented by brands that want to avoid increasing the price of a specific product. However, this strategy may damage the consumers perceptions of a brand, especially if they are unaware of how much a product is being reduced in size. Research by Yonezawa & Richards (2016) discovered that while package downsizing might reduce price competition among manufacturers, the manufacturer that implements a package downsizing is still not able to raise the unit price as anticipated due to a price decrease response from competing manufacturers. Consumers generally do not read the content information listed on the product. Therefore, they miss package downsizing because they estimate the package size by solely looking at the product (Lennard et al. 2001 as cited in Wilkins et al. 2016).

According to research by Ordabayeva & Chandon (2013) consumers often are unable to fully notice product size decreases, especially if multiple dimensions change at the same time or in opposite directions. For example, when a product is elongated meaning that one dimension is increased while the others are reduced. For instance, a cereal box may become taller while its width and depth are reduced, making the overall size decrease less noticeable. These perception errors happen not because consumers fail to notice the changes in height, width, or length, but because they are combining these changes within the dimensions incorrectly.

An interesting finding that resulted from the research by Çakir & Balagtas (2014) is that, on average, consumers are about four times more responsive to price changes than to package size changes; the estimated demand elasticity for package size is 0.12, while price elasticity is -0.51. This implies that, consumers are more responsive when being confronted with price increases which are immediate and visible in comparison to the more subtle changes when the content of a product has been decreased. Supported by the findings of Imai & Watanabe (2014), a 1% reduction in regard to the product size only leads to a 0.45% price decrease. Meaning that on average the price of the product is not equally lowered to the corresponding reduction.

Additional research has shown that downsizing can result in an increase of the price per ounce by between 10% to 33%, and it can result in a 8.4% higher pass-through rate in

comparison to product that were not downsized, this allows retailers to be able to pass the costs to the consumers and benefit from doing so (Çakır et al., 2021,Çakır, 2022). This conclusion is further supported by Kim (2023), who has demonstrated that consumers on average are approximately 4.6 times more sensitive to price increases in comparison to product downsizing. Evangelidis (2023) also notes that shrinkflation feels more unfair than price increases because it often goes unnoticed and seems deceptive, though clear communication can reduce this negative perception.

H1: Shrinkflation will have a more negative impact on brand trust than a price increase.

This hypothesis suggests that because shrinkflation is subtle and often goes unnoticed, it is more likely to be seen as deceptive, leading to a stronger negative impact and a greater loss of brand trust when shrinkflation is being noticed. When consumers feel deceived it can have a more negative impact on their future purchasing behaviour than a transparent and justified price increase.

2.5 Product type: staple vs. specialty goods

To better understand consumer responses to shrinkflation and price increase and their effect on brand trust, it is important to clarify the existing product categories. As stated by Kotler & Armstrong (2018), consumer products are categorized according to the frequency of purchase, the amount of work required for a purchasing decision and the characteristics of the product (p. 250).

Convenience products, often known as staple goods, are frequently purchased. They tend to be inexpensive and everyday items that are easy to find and routinely required within the house. Customers are typically buying these convenience products out of habit, focusing on convenience and ease. Zeithaml (1988) supports this by showing that regarding low-involvement purchases, consumers often focus on the perceived value, prioritizing convenience and affordability. However, because staple goods are purchased frequently and routinely, consumers may be less attentive to changes in product size or weight.

Specialty products, on the other hand, offer unique characteristics and attract buyers who are prepared to invest more effort and time in their purchase. These products are often more expensive and due to their specific qualities or specific use cases. Specialty goods

buyers are more selective and are placing a higher value on a product's distinctive characteristics than on convenience or cost (Kotler & Armstrong, 2018). Due to this higher focus on the products characteristics, any change in the products weight/size might be more easily noticed and perceived as a violation of brand trust. Consumers that are purchasing specialty products may expect a higher level of value and quality, resulting in a larger sensitivity to changes regarding the weight or size of the product.

H2: The negative effect of shrinkflation on brand trust will be smaller for staple goods than for specialty goods.

This hypothesis suggests that customers of staple goods, who buy them regularly and value convenience, may pay less attention to shrinkflation, leading to a smaller negative effect on brand trust in comparison to specialty goods. However, consumers of specialty goods, who care more about a product's unique features and consistency, are likely to view shrinkflation as more negative, resulting in a greater negative impact on their brand trust.

2.6 Brand type: A-brand vs. private label

Private label is a term often used and can be replaced by several synonyms, namely: retailer own-brands, retailer brands, store brands and own labels (Huang & Huddleston, 2009). Morris (1979) has defined private label as: "consumer products produced by, or on behalf of distributors and sold under the distributor's own name or trademark through the distributor's own outlet". The private label products that are being sold in supermarkets are characterized by being affordable alternatives to national or A-brands, offering consumers the same category of products but at lower price points due to reduced marketing and distribution costs. Private labels attract shoppers who care primarily about saving money, with low prices being the main reason they choose these products (Sethuraman et al., 2000).

While on the other hand A-brands or premium brands are perceived by consumers as brands of higher quality coupled with a higher price additionally, consumers expect a premium brand to possess superior quality compared to a private label brand (Palmeira & Thomas, 2011). A-brands are expected not to compete on price but rather to excel through superior quality, better-designed packaging, or efforts made in the field of marketing (Nenycz-Thiel & Romaniuk, 2012). According to (Aaker, 1992), a strong brand equity is built by delivering quality, trust, and loyalty. A-brands are typically focusing on building strong

brand equity, allowing them to charge premium prices and maintain a loyal customer base resulting in reoccurring revenue.

Private labels, which focus on low prices, may be more affected by shrinkflation. Their customers are commonly more price-sensitive and value-conscious, so a decrease of the content of a product without a corresponding lower price could feel like a loss of value.

H3: The negative effect of shrinkflation on brand trust will be smaller for A-brands than for private label brands.

This hypothesis suggests that A-brands, who have a strong emphasis on brand equity and perceived quality are likely to experience a smaller negative impact on brand trust when shrinkflation is being implemented. Consumers may be more forgiving of A-brands because of their reputation for maintaining quality, even if the product size decreases.

2.7 Brand loyalty

Jacoby & Chestnut (1978) have analyzed over 200 studies to examine the nature of brand loyalty and the corresponding characteristics. Their research resulted in a wide range of characteristics, which highlight the diverse perspectives on brand loyalty. Knox & Walker (2001) further advanced this understanding of brand loyalty by developing a practical measure of brand loyalty, particularly in the context of grocery brands. They introduced a framework that considers both brand commitment and brand support as essential components of loyalty. This empirical study segmented consumers into four distinct purchasing styles: loyals, habituals, variety seekers and switchers. Loyals are consistently purchasing the same brand due to their trust in the products quality, while habituals do this primarily out of convenience, variety seekers switch brands regarding the novelty aspect, and switchers change frequently based on prices or promotions.

According to Arslan (2020), customer loyalty plays a significant role in achieving sustainable competitive advantage by fostering long-term relationships with customers and enhancing customer satisfaction. Hwang et al. (2021) found that product and service quality, customer satisfaction, trust, and cost drive brand loyalty in retail, with these factors influencing loyalty differently between private label and national brands (A-brands).

Brand loyalty and repurchase intentions are strongly influenced by affective commitment and brand trust, according to a Erciş et al. (2012). Even when being faced by negative changes, consumers who have emotional attachment to a brand and trust are more likely to stay loyal towards the specific brand. Affective commitment is the term that is used to describe this phenomenon in literature.

H4: The negative effect of shrinkflation on brand trust will be smaller for consumers with high brand loyalty compared to those with low brand loyalty.

This hypothesis suggests that loyal consumers, who feel strongly connected to a brand, are more likely to forgive negative changes like shrinkflation. They are hypothesized to justify size reductions while prices stay the same and may see it as a compromise to maintain the quality of the product.

2.8 Conceptual Framework

The conceptual model for this study integrates the discussed concepts and hypotheses, providing a structured approach to investigate the research question. The model illustrates the relationships between shrinkflation, price increase, brand trust, brand loyalty, brand type and product type.

Based on the theoretical framework and identified research gap, the following conceptual model has been developed (see Figure 2). The corresponding hypotheses are detailed in Table 2.

Figure 2

Conceptual model

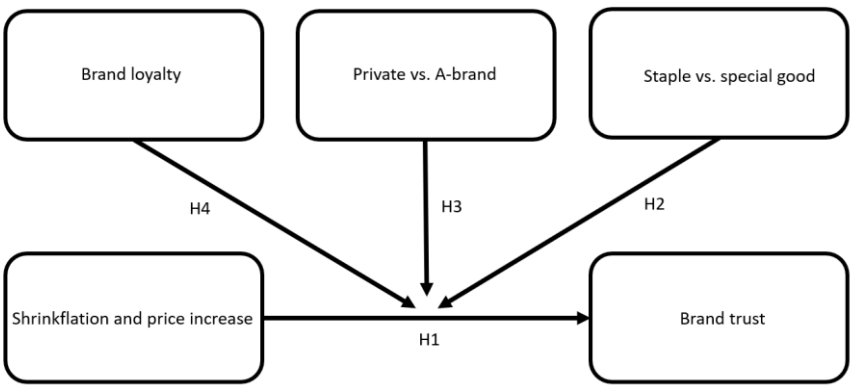


Table 2

Research hypotheses overview

Hypothesis	Description
H1	Shrinkflation will have a more negative impact on brand trust than a price increase.
H2	The negative effect of shrinkflation on brand trust will be smaller for staple goods than for specialty goods.
H3	The negative effect of shrinkflation on brand trust will be smaller for A-brands than for private label brands.
H4	The negative effect of shrinkflation on brand trust will be smaller for consumers with high brand loyalty compared to those with low brand loyalty.

Chapter Three: Methodology

This chapter Methodology explains the method used in this research, including the research design, data collection, and data analysis. Section 3.1 describes the research design, Sections 3.2 and 3.3 detail the data collection and data analysis methods, resulting in a systematic way to be able answer the research question.

3.1 Research design

A research design is a structured plan that guides researchers through their study. A good research design is essential for conducting systematic, valid, and reliable research in any field. The three main types of research designs are qualitative, quantitative, and mixed methods (Mosquera Pérez, 2021). It is essential in any field, including marketing, where choosing the appropriate research design can significantly impact the quality of the data and the conclusions drawn. In this study, the use of quantitative methods is supported by the need to measure the constructs brand trust and loyalty, where the established scale like the Brand Trust Scale developed by Delgado Ballester was employed (Delgado Ballester, 2011).

3.1.1 Consumer Perception Pre-test

First, a Consumer Perception Pre-test was developed (Appendix B), consisting of ten closed questions and one open-ended question. The aim of this pre-test was to refine and evaluate the survey materials before their implementation into the main questionnaire. This included testing whether the hypothetical product scenarios were believable and realistic, gathering feedback to make the main questionnaire more realistic and accurate, and finally, validating the overall questionnaire design to ensure it captured the data effectively without causing bias or confusion. The Consumer Perception Pre-Test can be found in Appendix B.

The pre-test results showed that the respondents had a good understanding of the terms "A-brand," "private label," "staple good," and "specialty product". Of the 36 questions related to these terms, 34 were answered correctly. Additionally, the scenarios were generally perceived as realistic. Feedback was provided regarding the font used in the product descriptions, which was subsequently changed in the main version. Lastly, it is important to note that the received feedback highlighted the complexity of the questionnaire due to it only being available in the English language. To mitigate the impact on respondents who are not proficient in English and to maintain the target demographic, consumers who shop at supermarkets either physically or online, the final questionnaire has been translated into Dutch while also remaining accessible in English for non-Dutch speakers.

3.1.2 Main questionnaire

The main research instrument that was utilized within this study consisted of a questionnaire that was created through the Qualtrics platform accessed through the license of the University of Twente. The questions have been formulated based upon the operationalization as shown in Table 3 and are based upon a validated scale.

Table 3

Operationalization of variables and survey questions

Variable	Definition	Description	Questions/statements
Inflation coping mechanisms (shrinkflation and price increase) (IV)	Strategies used by manufacturers to manage rising production costs during inflation.	Measured through different scenarios where either shrinkflation (size decrease) or price increase (price rise) is introduced.	'Due to inflation, the content of UltraFresh has decreased by 20%, from 1000ml to 800ml, while the price remains the same. This reduction helps the manufacturer cover rising production and raw material costs. Please answer the questions below'' (Shrinkflation). / ''Due to inflation, the price of UltraFresh has increased by 20%, from €X,XX to €X,XX*, while the product quantity remains the same. This increase helps the manufacturer cover rising production and raw material costs.'' (Price increase). * €X,XX is dependent on the product type and brand type.
Product Type (Staple vs. Specialty Goods) (Moderator)	Products categorized by their frequency of purchase and use case in daily life.	Products are categorized as either staple goods or specialty goods.	'UltraFresh can be used daily and is known for reliable performance meeting everyday needs.'' (Staple) / ''UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.'' (Specialty)
Brand Type (A-brand vs. Private Label) (Moderator)	Distinction between A-brands and private label brands.	Brand types are differentiated between A-brands and private Label.	'UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers.'' (A-brand) / ''UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings.'' (Private label)

Brand Loyalty (Moderator)	A strong commitment to keep buying a preferred product or service.	This measures the consumer's loyalty and willingness to stay with their preferred brand, despite potential changes in price or product size.	Measured on a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree): • "I consider myself to be loyal to my preferred laundry detergent brand." • "I am willing to pay more for my preferred laundry detergent brand than for other brands on the market." • "If my preferred laundry detergent brand is not available at the store, I would go to another store to purchase it." • "I often recommend my preferred laundry detergent brand to others." • "I feel a strong connection to my preferred laundry detergent brand." • "I would continue to buy my preferred laundry detergent brand even if the price increases." Based on (Delgado Ballester, 2011).
Brand Trust (DV)	The confidence consumers have in a brand to consistently meet their expectations and act in their best interest. It includes believing the brand will perform reliably and treat consumers fairly.	This variable measures how much consumers trust the brand to consistently deliver on their promises.	Measured on a 7-point Likert scale twice (1 = Strongly Disagree, 7 = Strongly Agree): • "With UltraFresh I obtain what I look for in a laundry detergent." • "UltraFresh is always at my consumption expectations level." • "UltraFresh gives me confidence and certainty in the consumption of a laundry detergent." • "UltraFresh would never disappoint me." • "UltraFresh would be honest and sincere in its explanations." • "I could rely on UltraFresh." • "UltraFresh would make any effort to make me be satisfied." • "UltraFresh would repay me in some way for the problem with the laundry detergent." Based on (Delgado Ballester, 2011).
Demographic Factors	Basic personal information such as age, gender, education, and income.	These factors help group respondents and see if their background	• "What is your age?" • "What is your gender?" • "What is your highest achieved education?"

		affects how they respond to price increases or shrinkflation.	
Shopping Behavior	How consumers shop and choose brands.	Looks at where people shop, which brands they prefer, and how they react to price changes or shrinkflation.	• "What is your preferred laundry detergent brand?" • "At which retailer do you primarily shop for your groceries?" • "When purchasing goods, do you prefer private label brands or A-brands?" • "What is the main reason for your brand preference?" • "How often do you purchase private label brands?" • "How often do you purchase A-brands?" • "Do you tend to switch from A-brands to private label brands when faced with price increase?" • "Do you tend to switch from A-brands to private label brands when products get smaller but the prices stay the same (shrinkflation)?" • "How frequently do you notice shrinkflation in the products you purchase?" • "To what extent has the increase in prices influenced your brand loyalty?" • "How has the rise in inflation affected your grocery shopping behavior?" • "How has the rise in inflation affected your grocery shopping behavior?"

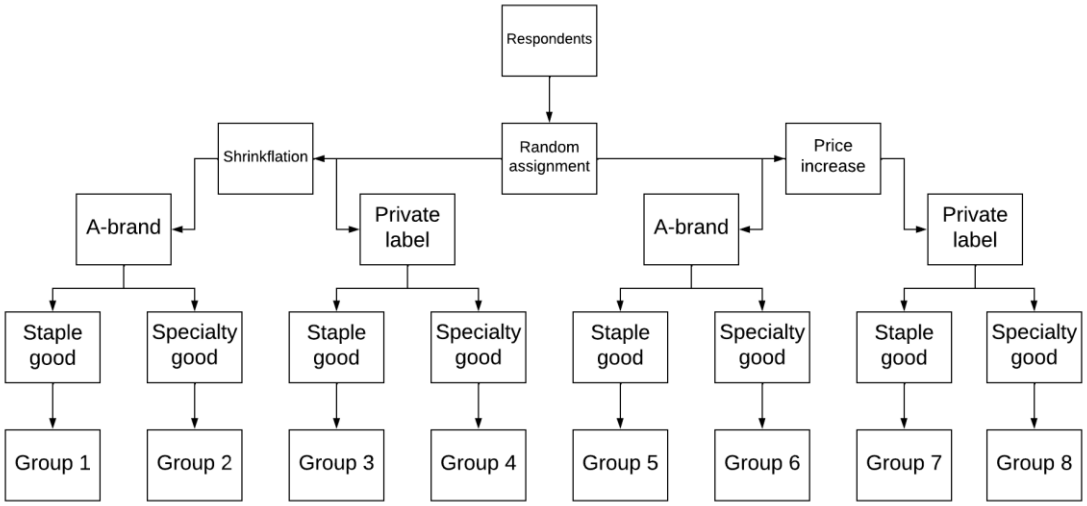
Sullivan & Artino (2013) note that both 5-point and 7-point Likert scales are effective for measuring attitudes, but a 7-point scale provides more options, leading to more nuanced data and potentially more reliable results. By using a 7-point Likert scale, this study aimed to capture the subtle variations in respondents' perceptions of brand trust more accurately. The additional response options allowed for a deeper analysis of the data, improving the precision of the results.

The respondents were divided into eight distinct groups based on the type of product (staple vs. specialty), the brand type (A-brand vs. private label) and the inflation response (price increase vs. shrinkflation). This categorization was necessary to test the hypotheses related to the differential impacts of these factors on brand trust (see Figure 3).

Respondents were first given a brief introduction outlining the topic of the research. They were then asked whether they voluntarily consented to participate in the study. After this, respondents answered questions related to the first section, brand loyalty. In the second section, focusing on brand trust, respondents were randomly assigned to one of eight different groups based on the 2x2x2 factorial research design (see Figure 3). A baseline measurement was conducted using operationalized questions on brand trust. Respondents then received similar questions in section three with either shrinkflation or price increase applied, according to the survey flow. Following this, an attention check was used in section four to verify whether respondents noticed the change in price or shrinkflation. In section five general questions about shopping behaviour were then asked, in section six demographic factors were measured. At the end of the survey, respondents had the opportunity to provide additional comments in an open field if desired. A schematic overview of the survey flow can be found in Appendix C.

Figure 3

2x2x2 factorial research design



The main questionnaire (Appendix D) that was used in this study was significantly adjusted based upon the feedback obtained from the Consumer Perception Pre-test. The validity of the questionnaire was maintained by carefully controlling the translation process by engaging two individuals fluent in both the source language (English) and the target language (Dutch) to review the translated version. The appropriate changes were made in response to their feedback to resolve any misunderstandings or inconsistencies that were found in the translation process.

The finalized questionnaire was designed to comprehensively assess respondents perceptions and behaviors regarding inflation coping mechanisms, specifically price increases and shrinkflation, in relation to brand trust. This assessment was further moderated by factors such as brand loyalty, the distinction between private labels and A-brands, and the use case being a staple or specialty product.

3.2 Data Collection

The method employed for data collection in this research was a fully online distributed questionnaire. The questionnaire was designed and distributed using the Qualtrics platform, the data was collected from August 9 to August 26. Participants accessed the survey via an anonymous link shared through various distribution channels. To capture a range of consumer behaviors, eight distinct versions of the questionnaire were utilized. Every version was designed to look at various combinations of variables. Including inflation coping mechanisms (price increase and shrinkflation), private labels versus A-brands and staple versus specialty goods.

The target population for this study consisted of individuals aged 18 and older who participate in supermarket shopping, whether through physical stores or digital platforms. The minimum age of 18 was set to ensure that participants possess the legal capacity to make independent purchasing decisions and provide informed responses. The absence of a maximum age limit allowed for the inclusion of older adults, which is crucial for gaining a thorough understanding of shopping behaviours across a wide range of age groups. This inclusive approach allows for a detailed analysis of consumer behaviour across various life stages, highlighting differences in shopping patterns among different demographic groups.

The survey used a non-probabilistic approach, combining convenience and snowball sampling methods. The survey was spread through various channels to reach a wide audience and boost response rates. It was shared via WhatsApp private messages, WhatsApp groups, work-related groups, and Facebook. Notably, it was also distributed by someone with a large Facebook network of about 1.800 friends. Personal networks were used by asking family and friends to share the survey with their contacts, including parents and colleagues. This approach aimed to use both personal and professional connections to gather a diverse range of responses.

The chosen distribution channels were selected for their wide and diverse user bases, which provided significant benefits for reaching many people. Social media platforms like Facebook and messaging apps such as WhatsApp allowed for quick sharing and engagement with a broad audience. Personal networks helped extend this reach by using existing relationships to encourage participation. This method was effective for gathering a high number of responses efficiently.

To boost response rates, the survey was mainly shared via direct messages on WhatsApp and within WhatsApp groups, as well as through personal requests during get to gathers with friends and family. The strong response from the Facebook network showed how effective using social connections can be. Even without targeted ads or posts in specific groups, the personal and informal sharing methods helped maximize participation. Efforts to ensure the survey reached a diverse and representative audience involved distributing the questionnaire across various groups with different age profiles. Requests were made to friends and family to share the survey with older demographics, including parents and grandparents, to capture a wide range of shopping behaviors.

No significant challenges or limitations were reported regarding the distribution channels, which successfully reached enough respondents without major technical issues or difficulties with specific demographic groups. The survey was open from August 9 to August 26, providing a three-week data collection period. During this time, follow-up messages and in-person reminders were used to encourage further participation. Although no specific analytics or tracking methods were employed, the effectiveness of the distribution channels was evaluated through general observation of response volumes, with no formal mechanisms for detailed performance tracking.

3.3 Data Analysis

Data analysis is essential to interpret the collected data and to draw conclusions. This section details the procedures and techniques that were used to analyse the data from the online questionnaire.

The survey was completed 284 times. Of these, five respondents indicated at the informed consent stage that they did not wish to participate in the study. Consequently, 171 respondents completed the entire questionnaire, meaning that 108 respondents did not complete it in full. This indicates that 61.2% of the respondents who provided voluntary consent completed the questionnaire fully. Respondents who did not complete the questionnaire fully were excluded from the analysis, as incomplete responses could introduce bias and affect the validity of the results. The final dataset consisted of 171 fully completed questionnaires.

Data cleaning and preparation for analysis were conducted in SPSS. The demographic data show that many respondents are older, with the age groups 45-54 (27.5%) and 55-64 (31.0%) make up 58.5% of the respondents. In contrast, the younger age groups are less represented within the sample. Regarding gender, a higher representation of females (75.4%) is witnessable compared to the 24% of males and those who preferred not to say (0.6%). In regard to education, 43.3% of the respondents have completed secondary vocational education (SVO) as their highest achieved education, followed by 21.6% with a Bachelor's degree. In conclusion, the sample is characterized by a large representation of older, female respondents with a medium level education background. The demographic statistics are summarized in Table 4.

Table 4

Demographic statistics

		N	Percent
Age			
	18-24	12	7,0%
	25-34	33	19,3%
	35-44	10	5,8%
	45-54	47	27,5%
	55-64	53	31,0%
	65-Higher	16	9,4%
Gender			

	Male	41	24,0%
	Female	129	75,4%
	Prefer not to say	1	0,6%
Education			
	HS	17	9,9%
	Secondary Vocational	74	43,3%
	Associate degree	25	14,6%
	Bachelor degree	37	21,6%
	Master degree	17	9,9%
	Doctoral degree	1	0,6%

In this study, composite variables for Brand Loyalty, Brand Trust, and Brand Trust Change were created by averaging related survey items (see Table 5). The Brand Loyalty construct showed strong reliability with a Cronbach's Alpha of 0.875. Brand Trust had a Cronbach's Alpha of 0.940, and Brand Trust Change scored 0.925, both showing excellent reliability. These high Cronbach's Alpha values across all constructs confirm the measurements are reliable and consistent, supporting further analysis.

Table 5

Descriptive statistics and reliability

Constructs	Measurement item	Mean	SD	α
Brand trust	BT1	3.745	1.473	0.940
	BT2	3.897	1.377	
	BT3	3.770	1.425	
	BT4	3.637	1.193	
	BT5	3.828	1.164	
	BT6	3.931	1.246	
	BT7	3.912	1.225	
	BT8	3.632	1.297	
Brand Trust Change	BTC1	3.563	1.452	0.925
	BTC2	3.517	1.302	
	BTC3	3.603	1.303	
	BTC4	3.448	1.247	
	BTC5	3.615	1.324	
	BTC6	3.724	1.269	
	BTC7	3.695	1.247	
	BTC8	3.661	1.261	
Brand Loyalty	BL1	4.363	1.976	0.875
	BL2	3.449	1.876	
	BL3	3.457	2.147	
	BL4	3.367	1.821	

BL5	3.282	1.771
BL6	3.502	1.883

SD = Standard Deviation, α = Cronbach's alpha coefficient

Winsorizing was applied in this research to reduce the influence of outliers that could disproportionately affect the regression analysis. Specifically, Winsorizing was conducted on two variables: Intentionality BT5-BT8 and Brand_Trust_Change. For Intentionality BT5-BT8, values below the 9.8th percentile (2.00) and above the 95.1st percentile (5.74) were adjusted. Similarly, for Brand_Trust_Change, values below the 5.2nd percentile (1.38) and above the 96.6th percentile (5.63) were adjusted. This process helped to mitigate the effect of extreme values, providing more robust and reliable regression results. Brand Trust is composed of two components Fiability (BT1-BT4) and Intentionality (BT5-BT8). The components were first analysed individually before they were combined into the construct Brand Trust.

Before conducting the Principal Component Analysis (PCA) for the constructs of Brand_Loyalty, Brand_Trust, and Brand_Trust_Change, the dataset's suitability for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity. The KMO value for Brand_Loyalty was 0.867, indicating that the sample size was adequate for factor analysis. Bartlett's test of sphericity was significant ($\chi^2(15) = 715.252$, $p < 0.001$), confirming that the correlations between the variables justified the use of PCA. Similarly, the KMO value for Brand_Trust was 0.912, indicating a more than adequate sample size for PCA. Bartlett's test of sphericity was significant ($\chi^2(28) = 1172.427$, $p < 0.001$), further confirming the suitability of the data for PCA. The Brand_Trust_Change construct also had a KMO value of 0.912, with Bartlett's test of sphericity showing significance ($\chi^2(28) = 1170.667$, $p < 0.001$), ensuring that the correlations between the variables were sufficiently large for PCA.

The Principal Component Analysis (PCA) conducted on the constructs of Brand Loyalty, Brand Trust, and Brand Trust Change consistently extracted components with eigenvalues greater than one, iterated 25 times to enable stable results. For Brand Loyalty, all relevant items loaded strongly on a single component, confirming the construct's validity, with the component accounting for 61.916% of the total variance. For Brand Trust, items BT1-BT8 loaded strongly on a single component with loadings between 0.730 and 0.882,

explaining 66.457% of the total variance, with item BT6 showing a high communality value of 0.882. Similarly, the Brand Trust Change scale, with items BTC1-BTC8, exhibited strong loadings between 0.768 and 0.881, explaining 70.720% of the total variance, with item BTC6 having a high communality of 0.776. In all cases, the scree plots confirmed the component structures by showing clear "elbows" after the first component, indicating that one component effectively captures most of the variance in the data.

Chapter Four: Results

This chapter Results presents the results from the research, it comprises of the data that has been collected and a summary of the results. These findings clarify the research questions that have been explored in this study.

4.1 Results

A set of hierarchical regression models were implemented to test the hypothesis. Starting with controls and progressively adding key predictors and interactions in order to be able to test the effects of shrinkflation and the effects of the moderators such as loyalty, brand type and product type. The correlation matrix can be found in Appendix E. The regression coefficients which include the VIF-values can be found in Appendix F. Each model builds in a progressive way upon the previous one by adding new variables resulting in the possibility to interpret the main effects and the interaction effects. The regression models are shown in Table 6. The models that were created range from 0-3, starting with model 0 which includes the demographic control variables only and can be seen as the baseline model. It includes the variables age, gender and education to be able to understand how these control variables influence brand trust.

The Equation for model 0: = Brand Trust Change= $\beta 0+\beta 1$(Age Group 25-34)$+\beta 2$ (Age Group 35-44)$+\beta 3$(Age Group 45-54)$+\beta 4$(Age Group 55-64)$+\beta 5$(Age Group 65+)$+\beta 6$ (Secondary Vocational)$+\beta 7$(Associate Degree)$+\beta 8$(Bachelor's Degree)$+\beta 9$ (Master's Degree)$+\beta 10$(Doctoral Degree)$+\beta 11$(Female)$+\epsilon$.

Within this equation, several important points should be mentioned. The age category of 18 or younger, as well as the category of no diploma in terms of education, were excluded from the regression analysis since neither category appeared in the responses from

the 171 survey participants. Regarding the choice of the reference category, the lowest category was selected as the reference group, primarily because this is the most intuitive and easy to interpret. For the control variable age, the reference category is 18-24. For education the reference category is a high school diploma. Additionally, the gender variable was recoded into female and non-female, with the non-female category used as the reference category.

From this point onward, the control variables are displayed within the equation model as Σ (Control Variables) since they remain constant across the next three models. This avoids redundancy and improves the readability of upcoming models.

When analysing the results of Equation Model 0, the following stands out: the effect of age varies across groups, with the age category 45-54 showing a noticeable negative effect on brand trust ($\beta = -0.909$, $p < 0.05$). Regarding education levels, a positive coefficient is observed, although being not statistically significant; the same applies to the gender category (Female). The R^2 value of 0.100 indicates that 10% of the variation in brand trust is explained by the model, which includes solely control variables.

Shrinkflation is added in model 1 as a predictor to be able to determine whether shrinkflation negatively impacts brand trust more than a price increase. The equation for model 1 is therefore: Brand Trust Change = $\beta 0+\beta 1$(Shrinkflation)+Σ (Control Variables) +ϵ.

The R^2 value has increased to 0.108 indicating a 10.8% variation that is being explained by the model after adding shrinkflation. The equation for model 2 is:
Brand Trust Change = $\beta 0+\beta 1$(Shrinkflation)+$\beta 2$(Loyalty)+Σ (Control Variables) +ϵ. The R^2 value has increased to 0.133 resulting in a 13.3% variation explained after the addition of Loyalty within the regression analysis. The equation for the last model, model 3 is:
Brand Trust Change = $\beta 0+\beta 1$(Shrinkflation)+$\beta 2$(Loyalty)+$\beta 3$(Specialty)+$\beta 4$(Private Label) +$\beta 5$ (Shrinkflation$*$Specialty)+$\beta 6$(Shrinkflation$*$Private Label)+$\beta 7$ (Shrinkflation$*$Loyalty)+Σ(Control Variables)+ϵ. The R^2 value has increased to 0.134 which can be seen as remaining largely unchanged resulting in a 13.4% variation explained after the addition of the interaction terms.

Table 6

Regression model

	M0	M1	M2	M3
Dependent Variable: Brand Trust Change	Regression controls only	Regression control + shrinkflation	Regression control + shrinkflation + loyalty	Regression control + shrinkflation + loyalty + interaction terms
(Constant)	4.022 (0.411)***	3.968 (0.413)***	3.882 (0.426)***	3.893 (0.432)***
Age 25-34	-0.843 (0.345)*	-0.825 (0.345)*	-0.864 (0.344)*	-0.874 (0.35)*
Age 35-44	-0.677 (0.45)	-0.65 (0.45)	-0.671 (0.449)	-0.684 (0.455)
Age 45-54	-0.909 (0.348)*	-0.896 (0.348)*	-0.962 (0.348)**	-0.97 (0.352)**
Age 55-64	-0.739 (0.358)*	-0.737 (0.357)*	-0.797 (0.358)*	-0.809 (0.363)*
Age 65-Higher	-0.498 (0.42)	-0.438 (0.422)	-0.569 (0.428)	-0.577 (0.435)
Secondary Vocational	0.451 (0.295)	0.465 (0.295)	0.452 (0.297)	0.448 (0.3)
Associate Degree	0.598 (0.33)+	0.613 (0.33)+	0.636 (0.328)+	0.64 (0.332)+
Bachelor Degree	0.219 (0.341)	0.264 (0.342)	0.219 (0.342)	0.211 (0.349)
Master Degree	-0.252 (0.375)	-0.229 (0.375)	-0.242 (0.381)	-0.248 (0.387)
Doctoral Degree	0.874 (1.062)	0.796 (1063)	0.615 (1.069)	0.569 (1.088)
Gender: Female	0.013 (0.201)	0.038 (0.201)	0.077 (0.207)	0.078 (0.209)
Shrinkflation		-0.095 (0.08)	-0.092 (0.08)	-0.06 (0.14)
Loyalty			0.079 (0.085)	0.082 (0.087)
Specialty good			-0.025 (0.162)	0.032 (0.232)
Private label			0.273 (0.164)+	0.278 (0.233)
Shrinkflation*Specialty				-0.108 (0.317)
Shrinkflation*Private Label				-0.016 (0.33)
Shrinkflation*Loyalty				-0.013 (0.085)
R^2	0.100	0.108	0.133	0.134
Adj R^2	0.038	0.040	0.049	0.032
N	171	171	171	171

Signif. codes: 0 '***' .001 '**' .01 '*' .05 '+' .1 ' ' 1. The baseline for age is 18-24. The baseline for Education is High School.
The unstandardized beta values are reported. The standard error is in parentheses.

4.2. Hypothesis testing

This section presents the findings related to the four hypothesized relationships concerning the effects of shrinkflation on brand trust and the moderating influences of product type, brand type, and brand loyalty. All the four hypotheses were tested using regression models, as outlined in Table 6: The unstandardized beta values, standard error and the significance star are reported.

4.2.1 How does shrinkflation impact brand trust compared to price increases?

Hypothesis 1 suggested that shrinkflation will have a more negative impact on brand trust than a price increase. Within Model 1 of the regression analysis a negative relationship between shrinkflation and brand trust change can be witnessed ($\beta = -0.095$, $p > 0.05$). The absence of statistical significance means that this is not sufficient to be able to draw a firm conclusion. Therefore, hypothesis 1 is not supported.

4.2.2. How does the effect of shrinkflation on brand trust differ between staple goods and specialty goods?

Hypothesis 2 indicates that the negative effect of shrinkflation on brand trust will be smaller for staple goods than for specialty goods. To be able to test this hypothesis an examination of the interaction between shrinkflation and product type needed to be established. The results of Model 3 showed a statistical non-significant relationship ($\beta = -0.108$, $p > 0.05$). Consequently, hypothesis 2 is not supported.

4.2.3 How does the effect of shrinkflation on brand trust differ between A-brands and private label brands?

Hypothesis 3 proposed that the negative effect of shrinkflation on brand trust will be smaller for A-brands than for private label brands. The interaction between shrinkflation and private label brands as seen in Model 3 revealed a non-significant association ($\beta = -0.016$, $p > 0.05$). As a result, hypothesis 3 is not supported.

4.2.4 How does brand loyalty influence the effect of shrinkflation on brand trust?

Hypothesis 4 explored if the negative effect of shrinkflation on brand trust will be smaller for consumers with high brand loyalty compared to those with low brand loyalty. The interaction between shrinkflation and loyalty within Model 3 was negative ($\beta = -0.013$, $p > 0.05$) and indicated an absence of statistical significance. This leads to hypothesis 4 not being supported.

4.3 Conclusion of the results section

In conclusion, this study examined the influence of shrinkflation on brand trust and analyzed how factors such as product type (staple vs. specialty goods), brand type (A-brands vs. private labels) and brand loyalty might moderate this relationship. It was found that shrinkflation seems to have a negative effect on brand trust, this effect was not statistically significant enough to be able to conclude that shrinkflation has a larger negative effect on brand trust in comparison to price increases (Hypothesis 1). Additionally, product type (Hypothesis 2), brand type (Hypothesis 3) and lastly brand loyalty (Hypothesis 4) have not shown statistically significant moderation effects on the hypothesized relationship between shrinkflation and brand trust.

Chapter Five: Discussion

This chapter Discussion interprets the results and explores their implications. It connects the findings to the existing literature and discusses the significance. Additionally, this chapter considers the limitations of the study and suggests areas for future research.

5.1 Discussion

This study aimed to explore how inflation coping strategies like price increases and shrinkflation affect brand trust, while also considering the role of brand loyalty, product type (staple vs. specialty) and brand type (A-brand vs. private label). It was hypothesized that shrinkflation would have a more negative impact on brand trust in comparison to price increases (H1). Additionally, it was expected that the negative impact of shrinkflation would be smaller for staple goods in regard to specialty goods. (H2). The study also anticipated that

A-brands would maintain consumer trust better than private labels during the implementation of shrinkflation (H3). Lastly, it was predicted that consumers with high brand loyalty would show a smaller decrease in brand trust in response to shrinkflation than customers who possess low brand loyalty (H4).

In the data analysis section 3.3, it was found that many respondents, namely 58.5%, are within the age category between 45-64 years. This can possibly be explained by the high number of responses to the questionnaire after it was published on a Facebook page belonging to someone that is in this age group and shared by friends and family of a similar ages. Feedback from respondents indicated that several male respondents verbally informed the researcher that they do not personally do the laundry and therefore found it difficult to accurately complete the questionnaire, leading to an early exit. This is reflected in the results, as out of the 171 fully completed surveys, 129 (75.4%) were filled in by women.

To explore a possible explanation for this, the region where respondents reside could be considered. Although this was not explicitly asked, the questionnaire was primarily distributed to respondents living in the "de Achterhoek," a rural area where traditional gender roles may still be more prevalent. This could suggest that women are more likely to take on household tasks within the more tradition region "de Achterhoek,", including grocery shopping for laundry detergents or doing the laundry. This could explain the overrepresentation of women who completed the questionnaire in full. However, these claims cannot be made with full certainty, given that the respondents place of residence was not specifically asked within the questionnaire

Additionally, there were signals from the open comment field in the final question of the questionnaire, where respondents indicated that they found the brand trust questions regarding the fictitious detergent brand "UltraFresh" especially difficult. These were the questions aimed at measuring brand trust using the validated Brand Trust Scale developed by Delgado Ballester (Delgado Ballester, 2011). This may also be observable when zooming in on the results from the questionnaire. It is noticeable that the neutral answer possibility option on the 7-point Likert scale appears relatively frequently. There are even respondents who answered all 16 questions related to brand trust with the option neutral.

The utilized measurement for the construct of Brand Trust developed by Delgado Ballester (Delgado Ballester, 2011). The Brand Trust Scale includes several abstract statements like; "UltraFresh would be honest and sincere in its explanations" and "UltraFresh is always at my consumption expectations level". When combined with the fictitious brand "UltraFresh," which respondents had no prior experience with and no emotional attachment to, this may have made it difficult for them to accurately assess brand trust. Typically, brand trust is built through repeated interactions with a brand, which were absent in these fictive product scenarios. This lack of familiarity and interaction could have contributed to the challenges respondents faced in evaluating the construct of brand trust.

This research has found valuable results. However, the nonsignificant findings serve as a starting point for further exploration. The lack of significant findings regarding the hypothesized negative impact of shrinkflation on brand trust suggests that consumers of FMCG-products may not see shrinkflation as worse than a corresponding price increase. It is possible that the emotional connection that is built between consumers and brands was missing due to the use of a fictitious laundry detergent brand.

It is recommended for future research to broaden the range of product categories to explore whether the results differ when A-brands such as Coca-Cola, Lay's, or Douwe Egberts, which have strong emotional ties with consumers are included. These brands are industry leaders in building strong consumer relationships, which may influence how shrinkflation or price changes are perceived. Furthermore, a more balanced sample of respondents, representing all provinces of the Netherlands and a wider range of genders, should be considered to ensure more comprehensive and diverse insights.

In addition, the role of manufacturers and their corresponding brands in clearly communicating their approach to and reasoning for implementing inflation coping mechanisms would offer valuable insights into how consumers perceive these strategies. This will reveal how clear communication affects consumer loyalty toward FMCG-brands. Lastly, a longitudinal approach can provide a deeper understanding of how these inflation coping mechanisms influence brand trust over time, especially when both shrinkflation and a price increase are implemented during the study period. This will allow brands to better understand their consumers and tailor their products and pricing strategy to meet consumer preferences more effectively.

5.2 Theoretical and practical implications

This section discusses how the findings are applicable to academic research and the practical implications regarding businesses.

5.2.1 Theoretical implications

This study expanded on the already existing body of literature by focusing on how shrinkflation practices initiated by manufacturers affect consumer trust in brands, focussing on the FMCG-sector. While a negative relationship between shrinkflation and brand trust was observed, the statistically insignificant results suggest that shrinkflation may not differ significantly from the more commonly used approach to inflation coping management, namely price increases.

Additionally, the study's research into the moderating effects of brand loyalty, product type and brand type offer valuable insights. Although not being able to deliver significant results these moderators can be implemented in future research. To gain a better understanding of the impact that these moderators have on inflation coping mechanisms.

5.2.2 Practical implications

From a practical perspective, the findings have shown the importance of transparency when manufacturers implement shrinkflation tactics to their products. Even though it can be seen as a discreet way to address increasing production costs, from a consumer perspective, it remains a deceptive practice that may lead to a decrease in brand trust. Therefore, when faced with high production costs, communicating the reasoning behind shrinking the content or weight of the product might minimize backlash.

Furthermore, regarding brand type and product type and their influence on shrinkflation, the research did not find evidence for differences between these categories. Meaning that manufacturers cannot be dependent on the specific category of the product or brand type to be able to mitigate the possibility of backlash from consumers. Therefore, brands should implement consistent communication strategies when shrinkflation practices are being implemented.

Lastly the impact of loyalty, the research has shown that consumers who are loyal to a brand do not shield the brand from negative responses when shrinkflation takes place.

Therefore, the lack of a significant moderation between loyalty and the negative impact of shrinkflation on brand trust are suggesting that loyalty alone cannot guarantee a satisfied consumer when being faced by shrinkflation.

5.3 Limitations

This study provides insights into the impact of inflation coping mechanisms on brand trust. However, several limitations must be acknowledged that could influence the interpretation of the results.

Firstly, the sample size of 171 respondents, while being sufficient for basic analysis, may have been too small to detect more subtle effects or to generalize the findings with confidence. A larger sample would likely have improved the statistical power, potentially leading to significant results. Additionally, the use of convenience and snowball sampling methods may have introduced selection bias, limiting the generalizability of the findings due to a potentially non-representative sample.

Secondly, the measurement of key variables such as brand trust and inflation coping mechanisms relied on self-reported data. Self-reported data is susceptible to biases like social desirability and response fatigue, especially in longer questionnaires. Rolstad et al. (2011) found that longer questionnaires can increase response burden, leading to lower response rates and reduced data quality. The questionnaire consisted of 38 questions, making it lengthy for respondents, which may have contributed to response fatigue. Although this study used established measurement scales, response fatigue may have made it harder to fully understand the complexity of the product scenarios, especially the second brand trust scenario that what shown to the respondents. This limitation could impact the reliability of the results, as respondents may have paid less attention to their answers towards the second part of the questionnaire measuring brand trust once again after implementing a price increase or shrinkflation adjustment.

Thirdly, the regression model used in this study explained only a small amount of variance in brand trust changes, with R^2 values ranging from 10.0% to 13.4%. The lack of statistical significance across these models suggests that other unmeasured factors may have had a greater impact on brand trust during times of high inflation. Furthermore, the

unexpectedly weak interaction effects between product type, brand type and brand loyalty indicate that these factors may not be as influential as initially hypothesized.

In conclusion, while this study provides a foundation for understanding the relationship between inflation coping mechanisms and brand trust. The limitations suggest that the findings should be interpreted cautiously. Future research that includes a larger, more representative sample, uses more accurate measurement tools and explores additional variables would offer a more complete understanding of how these factors interact.

5.4 Future research

Given the limitations and insights that were derived from this study, several avenues for future research are worth exploring to better understand consumer behaviour in response to inflation coping mechanisms like shrinkflation and price increases. Firstly, increasing the group size and variety would make the findings more applicable to a wider range of people. A more representative sample could reduce selection bias and provide a broader perspective on how different demographic groups perceive and react to inflation coping mechanisms.

Secondly, in addition to the variables examined in this study, future research could explore the influence of additional factors such as income levels, perceived fairness and differences in culture. These variables describe the different ways consumers respond to inflation, potentially leading to more effective marketing strategies. Thirdly, experimental research methods could be employed to test hypotheses regarding consumer reactions to shrinkflation and price increases, like the effect that communication strategies have or how product visuals affect brand trust.

Fourthly, this study implemented fictive product scenarios to simulate consumer reactions to shrinkflation and price increases across various product categories. While these scenarios allowed controlled conditions for testing hypotheses, future research could explore the impact of real-life product experiences on consumer perceptions. Researching how consumers respond to actual shrinkflation or price increase cases, in comparison to hypothetical situations, could result in more valid results.

Lastly, a deeper understanding of how brand loyalty interacts with other consumer behaviors, such as price sensitivity, could improve the understanding of its role as a moderating factor. Future studies could explore if higher loyal consumers are more prone to negative views of shrinkflation or if their loyalty diminishes with repeated price increases.

Chapter Six: Conclusion

This chapter concludes the research by summarizing the main findings, reflecting on the studies contributions to both academia and practical marketing strategies and offering recommendations for future applications and research.

6.1 Conclusion

This study researched how shrinkflation and price increases affect brand trust in the Fast-Moving Consumer Goods (FMCG) sector, focussing on the moderating roles of brand loyalty, product type (staple vs. specialty) and brand type (A-brand vs. private label). The study answered the following main research question by using a 2x2x2 factorial research design: “How does shrinkflation impact brand trust compared to price increases?’’

The results indicate that while shrinkflation negatively impacts brand trust, its impact is not significantly different from price increases. Additionally, product type, brand type, and loyalty did not significantly change how consumers respond when being confronted with shrinkflation. These findings suggest that other variables may play a larger role in consumer reactions during times of highly inflationary periods. Therefore, clear communication and transparency are key for maintaining brand trust during times of rising production costs and high inflation.

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Appendices

"During the preparation of this work, I used ChatGPT as a brainstorming tool. After utilizing this tool/service, I carefully reviewed and edited the content as necessary, taking full responsibility for the final outcome."

Appendix A

Overview utilized search words and corresponding URL

Search keywords	Scopus search/Web of Science search
SCOPUS TITLE-ABS-KEY ("shrinkflation" OR "product downsizing" OR "package downsizing" OR "economic shrinkage" OR "product size reduction" OR "hidden inflation" OR "product size decrease") AND SRCTITLE ("retail*" OR "marketing" OR "business" OR "consumer" OR "management")	https://www-scopus-com.ezproxy2.utwente.nl/results/results.uri?sort=cp-f&src=s&sid=cb37a5230537c6f0c3db4799cdf2071d&sot=a&sdt=a&sl=268&s=TITLE-ABS-KEY+%28+%22shrinkflation%22+OR+%22product+downsizing%22+OR+%22package+downsizing%22+OR+%22economic+shrinkage%22+OR+%22product+size+reduction%22+OR+%22hidden+inflation%22+OR+%22product+size+decrease%22+%29+AND+SRCTITLE+%28+%22retail*%22+OR+%22marketing%22+OR+%22business%22+OR+%22consumer%22+OR+%22management%22+%29&origin=searchadvanced&editSaveSearch=&txGid=ceda8cba71ed79dc886c91a22438d1f4&sessionSearchId=cb37a5230537c6f0c3db4799cdf2071d&limit=10
Web of Science (ALL=("shrinkflation" OR "product downsizing")) AND ALL=("shrinkflation" OR "product downsizing" OR "package downsizing" OR "economic shrinkage" OR "product size reduction" OR "hidden inflation" OR "product size decrease")	https://www-webofscience-com.ezproxy2.utwente.nl/wos/woscc/summary/7f5802dc-e5ca-4077-a85d-e7c52ae2f16d-e2951ac9/relevance/1

Appendix B

Consumer Perception Pre-Test

Start of Block: Introduction

Dear respondent,

Thank you for participating in this pre-test. My name is Mika van Huizen, a student of Strategic Marketing and Servitisation at the University of Twente. I am investigating how consumers respond to inflation tactics in consumer goods for my master's thesis. Your feedback will help ensure the survey materials are clear and realistic.

This pre-test will take approximately 5 minutes. Your answers will be used only for research purposes and will be stored anonymously. The data will be deleted within 3 to 4 months after the study concludes. This research follows the strictest ethical guidelines of the University of Twente.

If you have any questions, please email me at: m.vanhuizen@student.utwente.nl.

Thank you for your participation.

Kind regards,

Mika van Huizen

End of Block: Introduction

Start of Block: Demographic Information

Q1 What is your age?

- ○ Under 18 (1)
- ○ 18 - 24 (2)
- ○ 25 - 34 (3)
- ○ 35 - 44 (4)
- ○ 45 - 54 (5)
- ○ 55 - 64 (6)

- 65 and over (7)

Q2 What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q3 What is your highest achieved education?

- No Degree (1) (1)
- High school or equivalant (2) (2)
- Secondary vocational education (3) (3)
- Higher professional education (Associate degree) (4) (4)
- Higher professional education (Bachelor's degree) (5) (5)
- Higher professional education (Master's degree) (6) (6)
- University education (Bachelor's degree) (7) (7)
- University education (Master's degree) (8) (8)
- University education (Doctoral degree) (9) (9)

End of Block: Demographic Information

Start of Block: Scenario evaluation

Q4 What do you understand by the term 'A-brand'?

- A well-known, widely recognized brand (1)

- A lesser-known, generic brand (2)
- Not sure (3)

Q5 What do you understand by the term 'private label'?

- A high-end luxury brand (1)
- A brand owned by a retailer or supplier (2)
- Not sure (3)

Q6 What do you understand by the term 'staple good'?

- A luxury item used occasionally (1)
- A basic, essential product used regularly (2)
- Not sure (3)

Q7 What do you understand by the term 'specialty product'?

- A commonly used everyday product (1)
- A product with unique, high-quality attributes (2)
- Not sure (3)

You will be presented with several statements about your perceptions of a brand called CleanWave Ultra. For each statement, please indicate your level of agreement. This will help us understand your overall attitudes toward CleanWave Ultra and the reasons behind them.

Down below you will see an image of a product of CleanWave Ultra. Please carefully examine the product image, as you will be asked a series of questions regarding your perceptions of the brand.

After viewing the product, please answer the questions on the following pages based on your impressions and opinions about this product.

CleanWave Ultra

€6,00

CleanWave Ultra is a household name in laundry care, known for its consistent performance and reliability. This detergent provides powerful cleaning action that removes tough stains while being gentle on fabrics. With its fresh scent and easy-to-use formula, CleanWave Ultra has become a go-to choice for families looking for an effective and dependable laundry solution. Trusted by millions, it ensures your clothes come out clean and fresh every time.

Q8 How realistic do you find the laundry detergent CleanWave Ultra?

- ○ Very unrealistic (1)
- ○ Unlikely (2)
- ○ Neutral (3)
- ○ Realistic (4)
- ○ Very realistic (5)
- ○ Comments/Suggestions (6) _____

As a result of inflation, the price of the laundry detergent CleanWave Ultra has been increased by 20%, from €6.00 to €7.20. This increase helps the manufacturer cover the rising costs of production and raw materials while maintaining the same high quality and quantity of the product. The purpose of these changes is to manage production costs without compromising the financial health of the company.

CleanWave Ultra
€7,20

CleanWave Ultra is a household name in laundry care, known for its consistent performance and reliability. This detergent provides powerful cleaning action that removes tough stains while being gentle on fabrics. With its fresh scent and easy-to-use formula, CleanWave Ultra has become a go-to choice for families looking for an effective and dependable laundry solution. Trusted by millions, it ensures your clothes come out clean and fresh every time.

Q9 How realistic do you find the price increase scenario?

- ○ Very unrealistic (1)
- ○ Unlikely (2)
- ○ Neutral (3)
- ○ Realistic (4)
- ○ Very realistic (5)
- ○ Comments/Suggestions (6) _____

As a result of inflation, the content of the laundry detergent CleanWave Ultra has decreased from 1000ml to 800ml, while maintaining the same price of €6.00. This change helps the manufacturer cover the rising costs of production and raw materials while maintaining the same high quality of the product. The purpose of this change is to manage production costs without compromising the financial health of the company.

CleanWave Ultra

€6,00

CleanWave Ultra is a household name in laundry care, known for its consistent performance and reliability. This detergent provides powerful cleaning action that removes tough stains while being gentle on fabrics. With its fresh scent and easy-to-use formula, CleanWave Ultra has become a go-to choice for families looking for an effective and dependable laundry solution. Trusted by millions, it ensures your clothes come out clean and fresh every time.

Q10 How realistic do you find the content decrease scenario?

- ○ Very unrealistic (1)
- ○ Unlikely (2)
- ○ Neutral (3)
- ○ Realistic (4)
- ○ Very realistic (5)
- ○ Comments/Suggestions (6) _____

Q11 Do you have any suggestions to make the stimuli more realistic or clearer?

- ○ Yes (please specify) (1) _____
- ○ No (2)

You have reached the end of the questionnaire. If you have any questions about the research, please do not hesitate to contact me at the following email address: m.vanhuizen@student.utwente.nl.

I would like to sincerely thank you for your participation in this study. Your contributions are invaluable in helping us gain a deeper understanding of consumer responses to inflation tactics by manufacturers of everyday consumer goods. Your time and effort are greatly appreciated.

Kind regards,

Mika van Huizen

End of Block: Scenario evaluation

Appendix C

Survey Flow

Consumer Perceptions and Reactions Survey Flow

- Block: Introduction (2 Questions)
- Standard: Brand loyalty (8 Questions)
- BlockRandomizer: 1 - Evenly Present Elements
  - Group: 1. A-brand staple good (price)
    - Block: UltraFresh C1 A-brand staple good (9 Questions)
    - Block: UltraFresh P1 A-brand staple good (9 Questions)
  - Group: 2. A-brand staple good (shrinkflation)
    - Block: UltraFresh C1 A-brand staple good (9 Questions)
    - Block: UltraFresh S1 A-brand staple good (9 Questions)
  - Group: 3. A-brand specialty good (price)
    - Block: UltraFresh C2 A-brand specialty good (9 Questions)
    - Block: UltraFresh P2 A-brand specialty good (9 Questions)
  - Group: 4. A-brand specialty good (shrinkflation)
    - Block: UltraFresh C2 A-brand specialty good (9 Questions)
    - Block: UltraFresh S2 A-brand specialty good (9 Questions)
  - Group: 5. Private label staple good (price)
    - Block: UltraFresh C3 Private label staple good (9 Questions)
    - Block: UltraFresh P3 Private label staple good (9 Questions)
  - Group: 6. Private label staple good (shrinkflation)
    - Block: UltraFresh C3 Private label staple good (9 Questions)
    - Block: UltraFresh S3 Private label staple good (9 Questions)
  - Group: 7. Private label specialty good (price)
    - Block: UltraFresh C4 Private label specialty good (9 Questions)
    - Block: UltraFresh P4 Private label specialty good (9 Questions)
  - Group: 8. Private label specialty good (shrinkflation)
    - Block: UltraFresh C4 Private label specialty good (9 Questions)
    - Block: UltraFresh S4 Private label specialty good (9 Questions)
- Block: Attention check (1 Question)
- Block: Shopping behaviour (10 Questions)
- Block: Demographic (3 Questions)
- Standard: Additional comments (1 Question)
- End Survey:

Appendix D

Main questionnaire

Start of Block: Introduction

Dear respondent,

Thank you for participating in this research. My name is Mika van Huizen, a student Strategic Marketing and Servitisation at the University of Twente. For my master's thesis, I am investigating how consumers respond to changes in everyday consumer goods. Your responses and opinions will help to gain insights regarding this phenomenon.

This survey will take approximately 10 minutes of your time. The answers you provide will be used solely for scientific research and will be processed and stored completely anonymously. After the completion of this study, the data will be deleted in around 2 to 3 months. This research follows the strictest ethical guidelines of the University of Twente.

Should you have any questions, please feel free to contact me by sending an email to: m.vanhuizen@student.utwente.nl.

I would like to thank you once again for participating in the research.

Kind regards,

Mika van Huizen

Please indicate your choice below:

- ○ Yes, I voluntary consent to participate in this study. I understand that I can refuse to answer questions and withdraw from the study at any time without providing a reason. (1)
- ○ No, I do not wish to participate in this study. (2)

Skip To: End of Survey If Please indicate your choice below: = No, I do not wish to participate in this study.

End of Block: Introduction

Start of Block: Brand loyalty

Laundry detergents are products used to wash clothes. I want to understand your experiences with your favorite laundry detergent brand. Please rate how much you agree or disagree with each statement based on your experiences.

Q1 What is your preferred laundry detergent brand?

- Robijn (1)
- Albert Heijn private label (2)
- Neutral (3)
- Persil (4)
- Aldi Almat (5)
- Dreft (6)
- Ariel (7)
- Omo (8)
- Ecover (9)
- Witte Reus (10)
- Lenor (11)
- Lidl Formil (12)
- Jumbo private label (13)
- Other please specify (14) _____
- I do not have a preferred brand (15)

Q2 I consider myself to be loyal to my preferred laundry detergent brand.

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q3 I am willing to pay more for my preferred laundry detergent brand than for other brands on the market.

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q4 If my preferred laundry detergent brand is not available at the store, I would go to another store to purchase it.

- Strongly disagree (1)
- Disagree (2)

- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q5 I often recommend my preferred laundry detergent brand to others.

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q6 I feel a strong connection to my preferred laundry detergent brand.

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)

- Strongly agree (7)

Q7 I would continue to buy my preferred laundry detergent brand even if the price increases.

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

End of Block: Brand loyalty

Start of Block: UltraFresh C1 A-brand staple good

You will be presented with several statements about the fictional laundry detergent brand UltraFresh. Please carefully examine the product image and description below. For each statement, please indicate your level of agreement.

UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €6,00
Size: 1000ml

Start of Block: UltraFresh C2 A-brand specialty good

You will be presented with several statements about the fictional laundry detergent brand UltraFresh. Please carefully examine the product image and description below. For each statement, please indicate your level of agreement.

UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €10,00
Size: 1000ml

Start of Block: UltraFresh C3 Private label staple good

You will be presented with several statements about the fictional laundry detergent brand UltraFresh. Please carefully examine the product image and description below. For each statement, please indicate your level of agreement.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €3,00
Size: 1000ml

Start of Block: UltraFresh C4 Private label specialty good

You will be presented with several statements about the fictional laundry detergent brand UltraFresh. Please carefully examine the product image and description below. For each statement, please indicate your level of agreement.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €5,00
Size: 1000ml

Q8 With UltraFresh I obtain what I look for in a laundry detergent

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q9 UltraFresh is always at my consumption expectations level

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Slightly disagree (3)
- ○ Neutral (4)
- ○ Slightly agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q10 UltraFresh gives me confidence and certainty in the consumption of a laundry detergent

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Slightly disagree (3)
- ○ Neutral (4)
- ○ Slightly agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q11 UltraFresh would never disappoint me

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Slightly disagree (3)
- ○ Neutral (4)

- ○ Slightly agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q12 UltraFresh would be honest and sincere in its explanations

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Slightly disagree (3)
- ○ Neutral (4)
- ○ Slightly agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q13 I could rely on UltraFresh

- ○ Strongly disagree (1)
- ○ Disagree (2)
- ○ Slightly disagree (3)
- ○ Neutral (4)
- ○ Slightly agree (5)
- ○ Agree (6)
- ○ Strongly agree (7)

Q14 UltraFresh would make any effort to make me be satisfied

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q15 UltraFresh would repay me in some way for the problem with the laundry detergent

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Start of Block: UltraFresh P1 A-brand staple good

Due to inflation, the price of UltraFresh has increased by 20%, from €6,00 to €7,20, while the product quantity remains the same. This increase helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €7,20
Size: 1000ml

Start of Block: UltraFresh P2 A-brand specialty good

Due to inflation, the price of UltraFresh has increased by 20%, from €10,00 to €12,00, while the product quantity remains the same. This increase helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €12,00
Size: 1000ml

Start of Block: UltraFresh P3 Private label staple good

Due to inflation, the price of UltraFresh has increased by 20%, from €3,00 to €3,60, while the product quantity remains the same. This increase helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €3,60
Size: 1000ml

Start of Block: UltraFresh P4 Private label specialty good

Due to inflation, the price of UltraFresh has increased by 20%, from €5,00 to €6,00, while the product quantity remains the same. This increase helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €6,00
Size: 1000ml

Start of Block: UltraFresh S1 A-brand staple good

Due to inflation, the content of UltraFresh has decreased by 20%, from 1000ml to 800ml, while the price remains the same. This reduction helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €6,00
Size: 800ml

Start of Block: UltraFresh S2 A-brand specialty good

Due to inflation, the content of UltraFresh has decreased by 20%, from 1000ml to 800ml, while the price remains the same. This reduction helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

A-brand Specialty Good
UltraFresh is a well-known laundry detergent brand with a strong market presence, offering a high-quality laundry detergent that is trusted by consumers. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €10,00
Size: 800ml

Start of Block: UltraFresh S3 Private label staple good

Due to inflation, the content of UltraFresh has decreased by 20%, from 1000ml to 800ml, while the price remains the same. This reduction helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh can be used daily and is known for reliable performance meeting everyday needs.

Price: €3,00
Size: 800ml

Start of Block: UltraFresh S4 Private label specialty good

Due to inflation, the content of UltraFresh has decreased by 20%, from 1000ml to 800ml, while the price remains the same. This reduction helps the manufacturer cover rising production and raw material costs. Please answer the questions below.

UltraFresh is a store-owned laundry detergent brand offering quality at a competitive price, providing cost savings. UltraFresh features a higher price that reflects the specialized formulation for delicate fabrics like silk.

Price: €5,00
Size: 800ml

Q17 UltraFresh is always at my consumption expectations level

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q18 UltraFresh gives me confidence and certainty in the consumption of a laundry detergent

- Strongly disagree (1)
- Disagree (2)

- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q19 UltraFresh would never disappoint me

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q20 UltraFresh would be honest and sincere in its explanations

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)

- Strongly agree (7)

Q21 I could rely on UltraFresh

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q22 UltraFresh would make any effort to make me be satisfied

- Strongly disagree (1)
- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Q23 UltraFresh would repay me in some way for the problem with the laundry detergent

- Strongly disagree (1)

- Disagree (2)
- Slightly disagree (3)
- Neutral (4)
- Slightly agree (5)
- Agree (6)
- Strongly agree (7)

Start of Block: Attention check

Q24 What was the change applied to the second product?

- The price increased by 20% (1)
- The package content decreased by 20% (2)
- There was no change (3)
- I do not remember (4)

End of Block: Attention check

Start of Block: Shopping behaviour

Q25 At which retailer do you primarily shop at for your groceries?

- Albert Heijn (1)
- Jumbo (2)
- Superunie (PLUS, Spar, Coop, Dirk, DekaMarkt, Boni, Jan Linders, Vomar, Hoogvliet, Nettorama, Poiesz, Boon's Markt, Sligro Food Group, Deen) (3)
- Lidl (4)
- Aldi (5)

- Other please specify (6) _____
- I do not shop at any of these retailers for groceries (7)

Q26 When purchasing goods, do you prefer private label brands or A-brands?

- Private label brands (1)
- A-brands (2)
- No preference (3)

Q27 What is the main reason for your brand preference?

- Quality (1)
- Price (2)
- Availability (3)
- Brand reputation (4)
- Other please specify (5) _____

Q28 How often do you purchase private label brands?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q29 How often do you purchase A-brands?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q30 Do you tend to switch from A-brands to private label brands when faced with price increase?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q31 Do you tend to switch from A-brands to private label brands when products get smaller but the prices stay the same (shrinkflation)?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q32 How frequently do you notice shrinkflation in the products you purchase?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q33 To what extent has the increase in prices influenced your brand loyalty?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Often (4)
- Always (5)

Q34 How has the rise in inflation affected your grocery shopping behaviour?

_____

_____

_____

_____

_____

End of Block: Shopping behaviour

Start of Block: Demographic

Q35 What is your age?

- Under 18 (1)

- 18 - 24 (2)
- 25 - 34 (3)
- 35 - 44 (4)
- 45 - 54 (5)
- 55 - 64 (6)
- 65 and over (7)

Q36 What is your gender?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Q37 What is your highest achieved education?

- No Degree (1)
- High school or equivalant (2)
- Secondary vocational education (3)
- Higher professional education (Associate degree) (4)
- Higher professional education (Bachelor's degree) (5)
- Higher professional education (Master's degree) (6)
- University education (Bachelor's degree) (7)
- University education (Master's degree) (8)

○ University education (Doctoral degree) (9)

End of Block: Demographic

Start of Block: Additional comments

Q38 Thank you for taking the time to complete this survey. Your responses are valuable to this research and will help in better understanding consumer behaviour in response to economic changes. If you have any additional comments or thoughts, please share them below.

To submit your responses and complete the survey, please click the button below.

_____

_____

_____

_____

_____

End of Block: Additional comments

Appendix E

Correlation matrix

Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Brand Trust Change	1																	
1																			
2	Age 18-24	.161*	1																
3	Age 25-34	-0.097	-0.134	1															
4	Age 35-44	0.024	-0.068	-0.122	1														
5	Age 45-54	-0.111	-.169*	-.301**	-.153*	1													
6	Age 55-64	0.066	-.184*	-.328**	-.167*	-.413**	1												
7	Age 65-higher	0.035	-0.088	-.157*	-0.080	-.198**	-.215**	1											
8	High School	-0.063	-0.015	-0.113	-0.083	-.161*	0.073	.363**	1										
9	Secondary Vocational	0.089	-0.148	-0.098	0.084	0.017	.180*	-0.119	-.290**	1									
10	Associate Degree	0.119	-0.049	-0.077	-0.103	-0.106	.224**	0.038	-0.137	-.361**	1								
11	Bachelor Degree	-0.037	.189*	0.139	0.111	0.122	-.291**	-.169*	-.175*	-.459**	-.217**	1							
12	Master Degree	-.181*	0.062	.184*	-0.083	0.058	-.223**	0.027	-0.110	-.290**	-0.137	-.175*	1						
13	Doctoral Degree	0.029	-0.021	-0.038	-0.019	0.125	-0.051	-0.025	-0.025	-0.067	-0.032	-0.040	-0.025	1					
14	Gender: Female	-0.013	-.269**	-.272**	0.026	.169*	.177*	0.043	0.053	0.087	0.121	-.228**	-0.037	0.044	1				
15	Shrinkflation	-0.102	-0.044	0.018	0.051	0.017	-0.110	0.122	-0.018	-0.066	-0.014	0.102	0.021	-0.076	0.078	1			
16	Loyalty	0.097	-0.104	-0.054	0.009	0.125	-0.091	0.108	0.004	0.120	-0.068	-0.032	-0.091	0.046	0.145	0.001	1		

17	Specialty good	-0.037	0.005	-0.036	0.054	-0.002	-0.051	0.086	-0.053	0.110	-.175*	-0.062	0.143	0.078	-0.037	-0.041	-0.044	1
18	Private label	0.118	-0.002	0.012	-0.051	-0.017	-0.017	0.078	0.018	-0.076	-0.085	0.096	0.057	0.076	-.187*	-0.018	.167*	-0.053	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

c. Listwise N=171

Appendix F

Correlation matrix including VIF-values

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4,177	0,471		8,861	0,000	3,247	5,108					
	Age	-0,029	0,062	-0,042	-0,473	0,637	-0,153	0,094	-0,001	-0,037	-0,036	0,761	1,315
	Q36=Female	-0,039	0,197	-0,016	-0,197	0,844	-0,428	0,350	-0,013	-0,015	-0,015	0,872	1,147
	Recoded_Education	-0,103	0,071	-0,121	-1,451	0,149	-0,243	0,037	-0,102	-0,112	-0,112	0,853	1,173
2	(Constant)	4,129	0,473		8,737	0,000	3,196	5,062					
	Age	-0,028	0,062	-0,039	-0,448	0,655	-0,151	0,095	-0,001	-0,035	-0,034	0,760	1,315
	Q36=Female	-0,020	0,197	-0,008	-0,103	0,918	-0,410	0,369	-0,013	-0,008	-0,008	0,866	1,154
	Recoded_Education	-0,096	0,071	-0,113	-1,350	0,179	-0,237	0,044	-0,102	-0,104	-0,104	0,847	1,181
	Zscore(Inflation)	-0,096	0,080	-0,093	-1,209	0,228	-0,254	0,061	-0,102	-0,093	-0,093	0,987	1,013
3	(Constant)	4,159	0,475		8,756	0,000	3,221	5,097					
	Age	-0,039	0,063	-0,056	-0,625	0,533	-0,163	0,085	-0,001	-0,049	-0,048	0,741	1,349
	Q36=Female	0,030	0,204	0,013	0,147	0,884	-0,374	0,434	-0,013	0,012	0,011	0,803	1,246

	Recoded_Education	-0,100	0,072	-0,117	-1,389	0,167	-0,242	0,042	-0,102	-0,108	-0,106	0,823	1,215
	Zscore(Inflation)	-0,094	0,080	-0,091	-1,178	0,240	-0,251	0,063	-0,102	-0,092	-0,090	0,985	1,016
	Zscore(Loyalty)	0,075	0,085	0,070	0,882	0,379	-0,093	0,244	0,097	0,069	0,067	0,930	1,075
	Zscore: Control=A-brand specialty good	-0,097	0,098	-0,094	-0,985	0,326	-0,291	0,097	-0,138	-0,077	-0,075	0,644	1,553
	Zscore: Control=Private label staple good	0,034	0,101	0,033	0,335	0,738	-0,165	0,233	0,039	0,026	0,026	0,610	1,640
	Zscore: Control=Private label specialty good	0,084	0,102	0,081	0,829	0,409	-0,117	0,285	0,099	0,065	0,063	0,614	1,629
4	(Constant)	4,153	0,483		8,597	0,000	3,199	5,108					
	Age	-0,040	0,064	-0,057	-0,626	0,532	-0,167	0,086	-0,001	-0,050	-0,048	0,732	1,366
	Q36=Female	0,034	0,208	0,014	0,163	0,871	-0,378	0,446	-0,013	0,013	0,013	0,791	1,265
	Recoded_Education	-0,099	0,074	-0,116	-1,335	0,184	-0,244	0,047	-0,102	-0,106	-0,103	0,802	1,247
	Zscore(Inflation)	-0,095	0,081	-0,092	-1,177	0,241	-0,255	0,065	-0,102	-0,093	-0,091	0,981	1,019
	Zscore(Loyalty)	0,075	0,087	0,070	0,865	0,388	-0,097	0,247	0,097	0,069	0,067	0,915	1,093
	Zscore: Control=A-brand specialty good	-0,098	0,100	-0,095	-0,980	0,329	-0,295	0,099	-0,138	-0,078	-0,076	0,638	1,569
	Zscore: Control=Private label staple good	0,033	0,102	0,032	0,324	0,746	-0,168	0,234	0,039	0,026	0,025	0,609	1,642

Zscore: Control=Private label specialty good	0,082	0,103	0,079	0,796	0,427	-0,122	0,286	0,099	0,063	0,062	0,610	1,639
ZLoyalty_Inflation	0,009	0,087	0,008	0,102	0,919	-0,163	0,180	0,012	0,008	0,008	0,925	1,082
ZInflation_Cat2	0,012	0,100	0,012	0,121	0,904	-0,185	0,209	0,012	0,010	0,009	0,641	1,559
ZInflation_Cat3	0,024	0,101	0,023	0,238	0,812	-0,176	0,224	0,023	0,019	0,018	0,621	1,610
ZInflation_Cat4	-0,012	0,101	-0,011	-0,119	0,905	-0,211	0,187	-0,028	-0,009	-0,009	0,649	1,540

a. Dependent Variable: Brand_Trust_Change_win