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Final Thesis

**The Effect of Brand Loyalty on
Consumers' Willingness to Pay for Price
Increases: A Comparison Between Hedonic
and Utilitarian Products**

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Abstract

This study examines how brand loyalty influences consumers' willingness to pay (WTP) for a product after a price increase and whether this relationship differs between hedonic and utilitarian products. In addition, perceived price fairness and price sensitivity are considered as moderating factors to better understand under which conditions loyal consumers are more or less willing to accept higher prices. The research is based on a quantitative 2×2 between-subjects experimental design in which brand loyalty and product type were manipulated. Consumers' willingness to pay in response to a 20% price increase served as the dependent variable, and the data were analysed using partial least squares structural equation modelling (PLS-SEM).

The results show that brand loyalty has a positive effect on willingness to pay, indicating that loyal consumers are generally more willing to accept higher prices. This effect, however, is not equally strong across product categories and appears to be more pronounced for hedonic products than for utilitarian products. Furthermore, perceived price fairness strengthens the positive relationship between brand loyalty and WTP, while price sensitivity weakens it. These findings suggest that consumer reactions to price increases depend not only on loyalty itself, but also on how fair the price change is perceived and how sensitive consumers are to price differences.

Overall, the study contributes to the literature by combining brand loyalty, product type, and consumer-related moderators in the context of willingness to pay. It also offers practical implications for firms seeking to implement price increases without losing loyal customers.

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1. Introduction

Price increases are among the most sensitive decisions in marketing, as they directly influence consumers' willingness to purchase. Pricing strategies are often viewed mainly from a business management perspective, but marketing research shows that the acceptance of higher prices can be heavily influenced by how a brand is perceived, how loyal its customer base is, and whether the price is perceived as fair. In this context, it becomes clear that price is not only a monetary factor, but also a signal of value, quality, and the relationship with the brand.

These influences form the basis of the central research question of this thesis: "How does brand loyalty affect willingness to pay for price increases, and does this relationship differ between hedonic and utilitarian products?" In addition, the study evaluates whether price fairness and price sensitivity play an important role in this context. Perceived price fairness could legitimise the price increases and therefore make it more acceptable. Price sensitivity, on the other hand, would be expected to have a negative influence and make the price increase less acceptable.

The theoretical framework is based on research about brand loyalty, price perception, hedonic and utilitarian consumption, and willingness to pay. Previous studies show that loyal customers are more willing to accept a higher price, particularly when the price increase is perceived as fair. At the same time, the literature suggests that hedonic products are evaluated more through emotional and subjective value, while utilitarian products are assessed more on the basis of functional or price-related criteria. The present study addresses exactly this gap.

This thesis is structured as follows. It starts with a comprehensive review of the literature to provide the theoretical background. The focus is on identifying the key concepts and relationships relating to brand loyalty, hedonic and utilitarian products, and willingness to pay. Afterwards, the current state of research is summarised and will be used as the theoretical foundation for identifying the research gap. Based on this, the research question and hypotheses are developed. Afterwards, the methodological approach of the study is described in detail. This explains how the survey design is structured, which variables are taken into account, and how the data will be collected and analysed. This study uses four different experimental scenarios in which brand loyalty and product type are mixed. The goal is to investigate how these factors influence willingness to pay for a price increase and what role price fairness and price sensitivity play in this process.

The final steps involve the evaluation and analysis of the collected data. Here, the results are by analysed using the PLS-SEM method. The key findings are then interpreted in relation to the hypotheses and the research question and evaluated within the existing literature. Building on this, practical implications for businesses are identified, before the paper concludes with a discussion of the limitations and specific areas for future research.

2. Methodology for the Literature Review

2.1. Purpose and Review Type

The following literature review serves as a central tool in this thesis to synthesise the current state of research based on academic sources and to be able to identify a research gap. To achieve that, a semi-systematic literature review will be conducted. The goal is to examine relevant literature in the field of brand loyalty, willingness to pay, and product categories, distinguishing between hedonic and utilitarian products, by using increasingly restrictive criteria to select relevant studies (Snyder, 2019).

The semi-systematic review offers the advantage of narrowing down the research scope and ensuring a focused selection of literature that meets the different requirements. It is ideally suited for gaining an overview of the three mentioned areas brand loyalty, willingness to pay, and product category (Snyder, 2019).

The literature review is divided into two parts. First, a comprehensive summary is used, which broadly and systematically summarises the current state of research, in order to identify the most important theoretical foundations and empirical findings. Building on this, a qualitative thematic analysis is carried out in a second step. This approach structures and interprets the identified literature according to different aspects. This not only provides an overview of the current state of knowledge but also allows for a classification of the relevant interrelationships and research gaps.

2.2. Comprehensive Summary

The first step is to analyse the field of research and to understand the existing theories. Therefore, the literature search was conducted in Scopus, using Zotero to collect and manage the data, which made the organisation of the literature more efficient. The main components of the search strings included brand loyalty ("brand loyalty" OR "customer loyalty" OR "consumer loyalty" OR "brand commitment"), willingness to pay ("willingness to pay" OR "WTP" OR "price premium" OR "price tolerance"), hedonic/utilitarian ("hedonic" OR "utilitarian" OR "hedonic product*" OR "utilitarian product*" OR "pleasure product*" OR "functional product*") and price increases ("price increase*" OR "price rise" OR "price hike" OR "premium price")

These components were combined into six core search strings:

- (1) Core query: ("brand loyalty" OR "customer loyalty") AND ("willingness to pay" OR WTP OR "price premium") AND ("hedonic" OR "utilitarian" OR "utilitarian product*" OR "hedonic product*")
- (2) Hedonic focus: ("brand loyalty" OR loyalty) AND ("willingness to pay" OR WTP) AND ("hedonic product*" OR "hedonic consumption" OR "hedonic value" OR pleasure OR enjoyment)
- (3) Utilitarian focus: ("brand loyalty" OR loyalty) AND ("willingness to pay" OR WTP) AND ("utilitarian product*" OR "functional product*" OR "utilitarian value" OR practical OR "need satisfaction")

- (4) Direct comparison of hedonic and utilitarian: ("brand loyalty" OR "customer loyalty") AND WTP AND ("hedonic*" AND "utilitarian*")
- (5) Price increase-specific: ("brand loyalty") AND ("price increase*" OR "price premium" OR WTP) AND ("hedonic" OR "utilitarian")
- (6) Product category context including luxury/premium/necessity.: ("brand loyalty" OR loyalty) AND ("willingness to pay" OR WTP) AND (luxury OR premium OR "high price" OR "low price" OR "necessity product*")

The settings in Scopus covered the period 2000–2026, document types ‘Article’ and ‘Review’, set to language English, and subject areas Business, Management, Accounting, Social Science, Economics Econometrics, Finance and Psychology, and being open accessible. Afterwards the results were sorted by relevance and the first 250 sources were exported to Zotero.

Content-related criteria and methodological considerations were also taken into account. The focus was on recent studies published in renowned journals specialising in marketing and consumer behaviour (e.g., Journal of Retailing, International Journal of Research in Marketing, Journal of Business Research) in order to ensure a theoretically and empirically sound foundation.

Firstly, an explicit reference to the brand or the customer–brand relationship was required. In particular, articles were considered in which concepts such as brand loyalty, brand love, brand equity, brand devotion, brand relationships, or self–brand connection were treated not merely as minor elements but as the central point of the study.

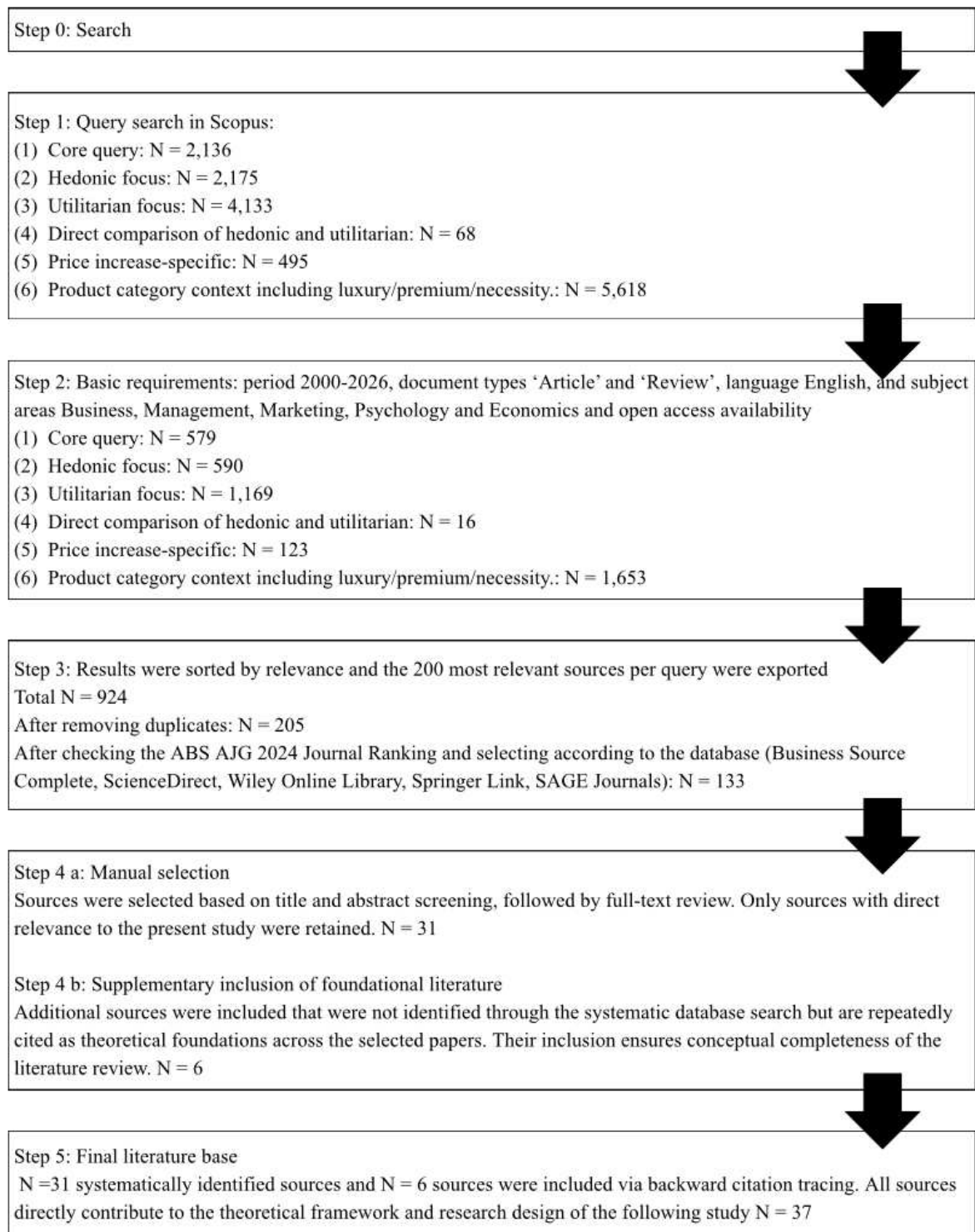
Secondly, a clear reference to willingness to pay or price-related variables were required. Terms, such as the short form for willingness to pay, WTP, price, premium, perceived value, or purchase intention served as indicators, as these are directly relevant to the consideration of willingness to pay in the face of price increases.

Thirdly, the product or utility context was taken into account. Only studies that addressed utilitarian and hedonic products simultaneously were chosen. Alternatively, experience-oriented contexts, such as luxury products, experience environments, plant-based brand extensions, or clearly definable product categories that can theoretically be interpreted as hedonic or utilitarian were also considered.

Later on, additional literature was included into the review because it was repeatedly mentioned within the literature used, which indicated a high importance for the research. All the Literature that was included was published prior to 2000, which is likely the reason it was not identified in the Scopus search.

Overall, this process, lead to 37 Sources that will be analysed in order to build a foundation for the following paper.

Figure 1 Process followed to create the literature review



2.3. Qualitative thematic analysis

As part of the final literature review, all identified sources were categorised and classified according to their key characteristics, methodological approaches, theoretical constructs, and most important findings. This classification served to highlight existing research priorities and repeating patterns. Based on this a potential gap in the existing literature can be identified, which then can be filled by this thesis.

Table 1 Comprehensive overview of the literature

Authors, Title, Journal	Method	Key Constructs	Main Finding
Oliver (1999), <i>Whence consumer loyalty?</i> , Journal of Marketing	Conceptual	satisfaction, cognitive loyalty, affective loyalty, conative loyalty, action loyalty, ultimate loyalty, repeat purchase behavior.	Consumer loyalty develops in stages from cognitive to affective to conative to action loyalty; satisfaction matters, but it is not sufficient on its own to create true loyalty, which is a deeper commitment to repurchase despite situational influences.
Leckie, Nyadzayo & Johnson (2016), <i>Antecedents of consumer brand engagement and brand loyalty</i> , Journal of Marketing Management	Survey + SEM	consumer involvement, consumer participation, self-expressive brand, consumer brand engagement, brand loyalty	Consumer involvement, consumer participation, and self-expressive brands are key drivers of consumer brand engagement, which in turn positively affects brand loyalty
Menidjel, Benhabib & Bilgihan (2017), <i>Examining the role of consumer personality and its influence on brand experience and brand loyalty</i> , Journal of Retailing and Consumer Services	Survey + PLS-SEM	Consumer personality traits, brand experience, brand trust, brand love, brand loyalty	Consumer personality traits positively influence brand experience, and stronger brand experience is linked to higher brand loyalty; the study also shows that personality can shape how consumers relate to brands.
Rahman, Langner & Temme (2021), <i>Brand love: conceptual and empirical investigation of a holistic causal model</i> , Journal of Brand Management	Qualitative (interviews) + SEM	brand love, brand loyalty, willingness to pay a price premium, word-of-mouth intentions, forgiveness of brand mistakes, functional and sensory brand uniqueness, brand satisfaction, brand fit with the inner self, personal experiences	Brand Love increases brand loyalty, willingness to pay a price premium, prospective word-of-mouth intentions, and forgiveness of brand mistakes

Erdem & Swait (2004) , Brand credibility, brand consideration, and choice, <i>Journal of Consumer Research</i>	Survey + SEM	brand credibility, trustworthiness, expertise, brand consideration, brand choice, uncertainty, information acquisition costs, perceived risk	Brand credibility increases the probability that a brand enters the consideration set and also increases brand choice; trustworthiness matters more than expertise, especially under high uncertainty.
Appiah et al. (2019) , <i>Brand switching and consumer identification with brands in the smartphones industry</i> , <i>Journal of Consumer Behaviour</i>	Qualitative (interviews) + Conceptual	brand switching, consumer identification with brands, identity, satisfaction, brand loyalty, self-esteem	The study finds four major themes in smartphone purchasing, identity, satisfaction, brand loyalty, and brand switching and shows that brand identification gives consumers a sense of meaning and self-esteem, which helps explain loyalty and resistance to switching
Damaschi et al. (2025) , <i>Decomposing Brand Loyalty: An Examination of Loyalty Subcomponents, Product Price Range, Consumer Personality, and Willingness to Pay</i> , <i>Behavioral Sciences</i>	Survey + SEM	brand loyalty, attitudinal loyalty, behavioral loyalty, willingness to pay, consumer personality traits, product price range	The study finds a strong positive relationship between brand loyalty and willingness to pay; it also shows that loyalty subcomponents matter differently, with habit-based loyalty stronger for low-priced routine purchases, while higher-priced decisions involve more cognitive-affective evaluation
Keller & Lehmann (2006) , <i>Brands and branding: Research findings and future priorities</i> , <i>Marketing Science</i>	Literature review + Conceptual	brand equity, brand positioning, brand integration, brand growth, brand management, choice modeling, competition	The paper synthesizes branding research and highlights five central brand management tasks, positioning, integration, measurement, growth, and strategic management, while identifying gaps and future research directions in brand equity and choice modeling
Giovanis & Athanasopoulou (2018) , <i>Understanding lovemark brands dimensions and effect on brand loyalty in high-technology products</i> , <i>Spanish</i>	Survey + PLS-SEM	lovemark, brand respect, brand love, brand performance, brand trust, brand reputation, brand commitment, brand intimacy, brand passion, brand loyalty, repurchase intention, positive WOM, willingness to pay a price premium	Lovemark is a third-order construct made up of respect and love; respect reflects brand performance, trust, and reputation, while love reflects commitment, intimacy, and passion, and the construct strongly predicts brand loyalty, repurchase intentions, positive WOM, and

Journal of Marketing - ESIC			willingness to pay a price premium
Dwivedi, Nayeem & Murshed (2018) , <i>Brand experience and the consumer's willingness to pay a price premium in online fashion retail</i> , Journal of Retailing and Consumer Services	Survey + SEM	brand experience, willingness to pay a price premium, brand credibility, perceived uniqueness, new automobile buyers	Brand experience increases consumers' willingness to pay a price premium both directly and indirectly through brand credibility and perceived uniqueness; this effect was supported in a sample of new automobile buyers
Zeithaml (1988) , <i>Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence</i> , Journal of Marketing	Conceptual	price, perceived quality, perceived value, willingness to buy, satisfaction, behavioral intentions, price-quality inference	Consumers do not judge price only as a sacrifice; they also use price as a signal of quality and value, and perceived value is shaped by both quality benefits and monetary sacrifice
Homburg, Koschate & Hoyer (2005) , <i>Do satisfied customers really pay more? A study of the relationship between customer satisfaction and willingness to pay</i> , Journal of Marketing	Experiment + OLS regression	customer satisfaction, willingness to pay (WTP), cumulative satisfaction, transaction-specific satisfaction, BDM method	Customer satisfaction has a strong, positive impact on willingness to pay, characterized by an inverse S-shaped (nonlinear) relationship; cumulative satisfaction has a stronger impact on WTP than transaction-specific satisfaction
Völckner & Hofmann (2007) , <i>The price-perceived quality relationship: A meta-analytic review and assessment of its determinants</i> , Marketing Letters	Meta-analysis + OLS regression	price, perceived quality, product category, consumer experience, product familiarity, price-quality inference	Consumers still use price as a significant indicator of quality, although the strength of this relationship has decreased over time; the effect is stronger for higher-priced goods and weaker for services and for consumers familiar with the product
Wang, Sung & Phau (2024) , <i>Rarity, exclusivity and perceived value in the luxury brand context</i> , Journal of Brand Management	Survey + SEM	perceived rarity, natural rarity, virtual rarity, perceived exclusivity, functional value, social value, emotional value, luxury product categories	Perceived natural rarity positively predicts functional, social, and emotional value across luxury categories, while perceived virtual rarity mainly predicts functional value; perceived exclusivity shows no

			significant effect on value in this study
Shukla (2009) , <i>Impact of contextual factors, brand loyalty and brand switching on purchase decisions</i> , Journal of Consumer Marketing	Survey + SEM	contextual factors, brand loyalty, brand switching, purchase decisions	Contextual factors (e.g., convenience, availability) often exert a stronger influence on purchase decisions than brand loyalty itself, and they significantly influence the likelihood of brand switching
Kokkoris & Kamleitner (2026) , <i>Is authenticity rewarded or inauthenticity penalized? Reconsidering the value of brand authenticity</i> , Journal of Retailing and Consumer Services	Experiment + OLS regression (three experimental studies)	brand authenticity, brand inauthenticity, purchase intention, willingness to pay a price premium, word-of-mouth intentions, neutral baseline	Consumers react more positively to authentic brands than to inauthentic ones, but they do not differ from a neutral baseline; this suggests that authenticity is not necessarily "rewarded" but may be the baseline standard against which brands are evaluated
Jain, Mishra, & Mukhopadhyay (2021) , <i>Critical success factors for luxury fashion brands in emerging markets: Insights from a qualitative study</i> , Journal of Global Fashion Marketing	Qualitative (interviews)	critical success factors, luxury brand success, core CSFs, augmentative CSFs, consumer maturity, emerging markets	The study identifies 10 critical success factors for luxury brands in emerging markets, categorized into "Core CSFs" (e.g., brand value, quality) and "Augmentative CSFs" (e.g., experience, customization), which vary based on consumer maturity levels
Verstraeten et al. (2023) , <i>How online grocery shopping drives private label food purchases</i> , Journal of Business Research	Database study + Experiment	private label food purchases, online grocery shopping, heuristics, external product cues (price, brand, packaging), perceived quality gap, national brands	Consumers buy more private label food products online than in physical stores because they rely less on external cues like price and brand name for quality assessment, leading to a smaller perceived quality gap between private labels and national brands
Wiedmann, Hennigs & Siebels (2009) , <i>Value-based segmentation of luxury consumption behavior</i> , Psychology & Marketing	Survey + Cluster analysis	luxury consumption behavior, social value, individual value, functional value, financial value, value-based segments	Luxury consumption is multidimensional and not just socially oriented; consumers can be segmented based on their specific perceptions of social, individual,

			functional, and financial luxury values
Sweeney & Soutar (2001) , <i>Consumer perceived value: The development of a multiple item scale</i> , Journal of Retailing	Survey + CFA	emotional value, social value, quality/performance value, price/value for money, consumer perceived value	Perceived value is a multidimensional construct comprising four distinct dimensions (emotional, social, quality/performance, price/value), and all four significantly contribute to explaining consumer attitudes and purchase behavior
Huang, Lanzrath & Homburg (2026) , <i>When do high prices sell better for sustainable products in business-to-business markets? The role of price–sustainability fit</i> , Journal of Marketing	Multi-method (Survey + Experiment)	price-sustainability fit, sustainability orientation, price sensitivity, premium pricing, buyer characteristics (green values, price consciousness)	B2B buyers evaluate price and sustainability jointly, and high sustainability can buffer against price sensitivity, reducing negative price perceptions and creating leeway for premium pricing
Hirschman & Holbrook (1982) , <i>Hedonic consumption: Emerging concepts, methods and propositions</i> , Journal of Marketing	Conceptual	hedonic consumption, utilitarian consumption, multisensory imagery, fantasy, emotive response, subjective symbolism, hedonic response	Hedonic consumption relates to multisensory, fantasy, and emotive aspects of product usage, shifting the focus from "what the product is" to "what the product represents" (subjective symbols)
Shao & Li (2021) , <i>How do utilitarian versus hedonic products influence choice preferences: Mediating effect of social comparison.</i> , Psychology & Marketing	Experiment + OLS regression (five experimental studies)	utilitarian products, hedonic products, absolute best choice, relative best choice, willingness to pay, social comparison, rivals	Consumers prefer the "absolute best" choice for hedonic products (willing to pay more for it) and the "relative best" choice for utilitarian products, with social comparison mediating this effect
Dhar & Wertenbroch (2000) , <i>Consumer choice between hedonic and utilitarian goods</i> , Journal of Marketing Research	Experiment + OLS regression	hedonic goods, utilitarian goods, acquisition choices, forfeiture choices, differential elaboration, loss aversion, salience.	Consumer preferences between hedonic and utilitarian goods differ based on the decision task (acquisition vs. forfeiture) and are driven by differential elaboration, hedonic goods are more salient when consumers contemplate giving

			something up (loss/forfeiture)
Voss, Spangenberg & Grohmann (2003) , <i>Measuring the hedonic and utilitarian dimensions of consumer attitude</i> , Journal of Marketing Research	Survey + Scale development	hedonic attitude, utilitarian attitude, HED/UT scale, brand attitude, product category	Hedonic and utilitarian attitudes are distinct, reliable, and valid dimensions of brand attitude, and the proposed scale allows for their parsimonious measurement across different product categories
Chitturi, Raghunathan & Mahajan (2008) , <i>Delight by design: The role of hedonic versus utilitarian benefits</i> , Journal of Marketing	Experiment + OLS regression	hedonic benefits, utilitarian benefits, customer satisfaction, customer delight, prevention goals, promotion goals, confidence, security, excitement, cheerfulness, loyalty, willingness to pay	Products that meet utilitarian needs build satisfaction through confidence and security, while products that exceed hedonic wants build delight through excitement and cheerfulness, with delight being a stronger driver of loyalty and WTP than satisfaction
Okada (2005) , <i>Justification effects on consumer choice of hedonic and utilitarian goods</i> , Journal of Marketing Research	Experiment + OLS regression	hedonic consumption, utilitarian consumption, justification, guilt, choice context, preference reversal	Consumers feel more guilt when choosing hedonic compared to utilitarian products; they are more likely to select hedonic options when they can justify the purchase, and their preferences can reverse depending on the immediate choice context (e.g., whether they have to justify the choice)
Kivetz & Simonson (2002) , <i>Earning the right to indulge: Effort as a determinant of customer preferences toward frequency program rewards</i> , Journal of Marketing Research	Experiment + OLS regression (series of studies)	effort, loyalty, necessity rewards, luxury (hedonic) rewards, guilt, justification, consumer preferences	Higher required effort (loyalty) shifts consumer preferences from necessity to luxury rewards, because the effort invested makes the luxury purchase feel "earned" and reduces the guilt typically associated with hedonic consumption
Che et al. (2025) , <i>Brand-influencer fit and hedonic versus utilitarian product attitudes</i> , Journal of	Experiment + OLS regression.	brand-influencer fit, functional fit, image fit, hedonic products, utilitarian products, brand attitude	Brand-influencer fit (functional vs. image) differentially affects brand attitude; image fit is often more critical for hedonic/luxury products,

Retailing and Consumer Services			whereas functional fit matters more for utilitarian products
Khan, Dhar & Wertenbroch (2005) , <i>A behavioral decision theory perspective on hedonic and utilitarian choice</i> , Advances in Consumer Research	Conceptual + Experiment.	hedonic choice, utilitarian choice, decision framing, moral licensing.	Hedonic and utilitarian choices are influenced by decision framing and "licensing" (where a virtuous act allows a subsequent hedonic indulgence)
Bao et al. (2025) , <i>Livestreaming commerce for luxury brands: how to enhance luxury perceptions through strategizing streamers?</i> , International Journal of Advertising	Survey + SEM.	luxury perception, livestreaming, streamer characteristics, social presence, social value.	streamer characteristics (parasocial interaction, self-streamer congruity) enhance social presence, which boosts luxury perceptions and hedonic value.
Kivetz & Zheng (2016) , <i>Promotion reactance: The role of effort-reward congruity</i> , Journal of Consumer Psychology	Experiment + OLS regression	effort-reward congruity, promotion reactance, psychological autonomy, intrinsic/extrinsic motivation, effort, reward preferences	Consumers show "effort-reward congruity," meaning they prefer rewards that align with the type of effort exerted; this helps mitigate "promotion reactance" and reinforces the consumer's perception of acting intrinsically rather than due to external control
Strahilevitz & Myers (1998) , <i>Donations to charity as purchase incentives: How well they work may depend on what you are trying to sell</i> , Journal of Consumer Research	Experiment + OLS regression (two labs, one field study)	product-charity bundles, purchase incentives, frivolous luxuries (hedonic), practical necessities (utilitarian), affect-based complementarity, guilt	Charity incentives are significantly more effective in promoting frivolous luxuries than practical necessities, because the donation provides a "moral justification" that mitigates the guilt associated with indulgent/hedonic purchases.
Batra & Ahtola (1991) , <i>Measuring the hedonic and utilitarian sources of consumer attitudes</i> , Marketing Letters	Survey + Scale development.	hedonic attitude, utilitarian attitude, H/U scale	Consumer attitudes comprise two distinct, independent dimensions (hedonic and utilitarian) that vary by product category.

Babin, Darden & Griffin (1994) , <i>Work and/or fun: Measuring hedonic and utilitarian shopping value</i> , Journal of Consumer Research	Survey + Scale development	hedonic shopping value, utilitarian shopping value, personal shopping value scale	Shopping value is multidimensional (hedonic/utilitarian); hedonic value stems from fun/sensory experience, utilitarian from efficient goal completion
Choi & Park (2024) , <i>How consumers with hedonic (vs utilitarian) purchase motive use item-price (vs price-item) presentation order as a mechanism to justify their hedonic purchase</i> , European Journal of Marketing	Experiment + OLS regression.	hedonic purchase motive, item-price presentation, guilt, justification, purchase intention.	Item-price presentation (item first) increases purchase intention for hedonic motives, helping consumers justify the indulgence; this does not apply to utilitarian motives.

3. Literature Review

3.1. *Conceptual Foundations*

3.1.1. Brand Loyalty

Brand loyalty describes the consumers' behaviour of consistently preferring a particular brand and purchasing it repeatedly, even when competing brands are similar or even less expensive (Oliver, 1999). This is based on the idea that genuine brand loyalty is different from simply buying the same product repeatedly. It is defined as a biased and non-random response that is expressed over a long period of time and is determined more by a psychological decision-making process than by habit alone (Jacoby and Kyner, 1973). The literature generally distinguishes between behavioural and attitudinal brand loyalty. Behavioural loyalty manifests itself in the repeated purchase of the same brand without necessarily involving an emotional bond. Attitudinal loyalty, on the other hand, describes the subjective affection, trust, and emotional attachment to a brand that goes beyond mere purchasing habits (Leckie et al., 2016). Therefore, brand loyalty is described in many modern models as a multidimensional construct comprising four interrelated components: cognition, affect, conation, and behaviour (Oliver, 1999).

On a cognitive level, consumers decide that a particular brand is "the right one" because they connect specific, purchase-relevant characteristics to it. These include, for example, perceived product quality, high reliability, above-average performance, or the image of a premium or luxury brand. These cognitive evaluations result not only from objective information, such as technical specifications, but also through subjective interpretations, such as advertising messages, online reviews, social media content, or word of mouth. In this context, Erdem and Swait (2004) demonstrate that brand credibility, such as the perceived reliability and competence of a brand, can increase the likelihood that a brand will make it onto the consumer's "shortlist" and ultimately be chosen. When consumers perceive a brand as "superior in quality," "trustworthy," or "special," this cognitive assessment becomes the primary reason for continuing to prefer the brand in the future (Damaschi et al., 2025).

On the affective level, a subjective sense of attachment, joy, or even emotional identification with the brand develops, which gives the overall brand experience a positive tone. Factors such as emotional advertising, brand storytelling, social relevance, as well as personal experiences with the brand play an important role in this. Many consumers associate certain brands with a positive feeling. When purchasing or using the product, they experience security, status, a sense of belonging to a community, or the feeling of 'belonging to this brand'. These emotional associations can become so strong that the brand becomes part of one's personal identity or self-image, for example, when a brand is associated with a particular lifestyle, social group or way of life (Damaschi et al., 2025). In this context, Rahman et al. (2021) demonstrate that brand love, as the highest form of affective attachment, significantly increases not only loyalty but also the willingness to pay a price premium and the willingness to forgive brand mistakes. Menidjel et al. (2017) add that consumers' personality traits shape the brand experience and thus indirectly reinforce the affective component of loyalty.

The conative level describes the intention to continue choosing the brand in the future, even if alternatives are available or the price rises. This purchase intention is based on a

combination of cognitive evaluations e.g., “the brand is high quality” and emotional attachment e.g., “I feel comfortable with this brand”. When consumers perceive a brand as aligning with their values, goals, and needs, they develop an inner belief that they ‘must’ buy this product from this particular brand, regardless of short-term offers from other brands. Leckie et al. (2016) show that consumer engagement, as a behavioural expression of conative loyalty, is driven primarily by involvement, active participation, and brands that promote self-expression, and in return strengthens brand loyalty. This approach is strongly characterised by an inner motivation to purchase the brand, even if, from a rational perspective, better options might exist.

At the behavioural level, brand loyalty ultimately manifests itself in actual repeat purchases, repeated acts of usage, or further purchasing and interaction behaviours that go beyond the initial purchase decision. This includes, for example, repeatedly buying a product from the same brand, remaining loyal to the brand despite price increases or disappointing experiences, or actively engaging with it. Examples of this behaviour are also social media interactions, product reviews or recommendations. Behavioural brand loyalty is therefore the measurable outcome of cognitive, affective and conative processes. When consumers regard the brand as ‘the right one’, develop an affinity for it and form the intention to remain loyal to it, this is reflected in stable or frequent purchases (Damaschi et al., 2025). In this context, Keller and Lehmann (2006) emphasise that it is through this consistency of behaviour that strong brands build brand equity and secure long-term competitive advantages.

Some studies also explicitly highlight an aspect of attachment that describes long-term loyalty and the feeling of ‘I will remain loyal to this brand’. Chaudhuri and Holbrook (2001) show that brand trust and brand sentiment together determine both purchase loyalty and attitudinal loyalty, with attitudinal loyalty in particular enabling a brand to command a higher relative price. It is precisely this aspect of brand attachment that illustrates how significantly brand loyalty can increase WTP. The more prominent cognition, affect, conation, and behaviour are, the less sensitive consumers are to price increases and the more willing they are to accept a premium for their preferred brand (Rahman et al., 2021).

3.1.2. Hedonic vs. Utilitarian Products

In marketing research, a distinction is often made between hedonic and utilitarian products, as consumers evaluate and experience these two types in fundamentally different ways. Hedonic products are consumed primarily for the experience they offer, for the pleasure, emotions, and sense of identity they express, e.g., fashion, luxury goods, entertainment, or luxury food and drink. Utilitarian products, on the other hand, are purchased primarily for their functionality, reliability, and practicality e.g., toilet paper, office supplies or staple foods (Hirschman & Holbrook, 1982). This distinction was further explained by Voss et al. (2003), who argued that hedonic and utilitarian attitudes represent two distinct, reliable and valid dimensions of brand evaluation that can be reliably measured across different product categories.

A key difference between the two types of products lies in the consumer decision-making process. When it comes to utilitarian products, consumers are primarily influenced by cost-benefit considerations, efficiency, and value for money (Dhar & Wertenbroch, 2000). With

hedonic products, on the other hand, emotional experiences, brand identification, social status and enjoyment play a bigger role, and the price considerations take back seat (Chitturi et al., 2008; Wang et al., 2024). Shao and Li (2021) confirm this difference experimentally, for hedonic products, consumers prefer the ‘absolutely best’ option and are willing to pay more for it, whereas for utilitarian products they favour the ‘relatively best’ i.e., the most cost-effective choice over alternatives. Batra and Ahtola (1991) also show that consumer attitudes stem from two independent sources, a hedonic and a utilitarian dimension, which are expressed to varying degrees depending on the product category. It can therefore be inferred that brand loyalty is shaped by hedonic or utilitarian evaluations (Oliver, 1999).

Another significant difference concerns the psychological processes associated with the purchase of hedonic versus utilitarian products. Okada (2005) shows that consumers experience a stronger sense of guilt when purchasing hedonic options than utilitarian ones, and that they are more likely to choose the hedonic choice if they can justify the purchase. Kivetz and Simonson (2002) add that greater investment in loyalty leads consumers to prefer hedonic rewards over utilitarian ones, because the effort invested makes the enjoyment seem ‘deserved’ and reduces the typical sense of guilt. Chitturi et al. (2008) provide a further key finding on this, products that fulfil utilitarian basic needs generate satisfaction through security and trust, whilst products that exceed hedonic desires trigger genuine enthusiasm through joy and excitement, with passion being a significantly stronger driver of loyalty and willingness to pay than just satisfaction.

Recent studies emphasise that the distinction between hedonic and utilitarian products is not absolute. Many products can combine both hedonic and utilitarian aspects, depending on how they are marketed and how consumers perceive them. A smartphone, for example, can offer both functional benefits (communication, organisation) and hedonic value (status, style, emotional attachment), depending on the consumer’s subjective perspective (Jain et al., 2021). In this context, Wiedmann et al. (2009) emphasise that luxury consumption is multidimensional and not exclusively socially motivated, consumers can be segmented based on their specific perceptions of social, individual, functional and financial values, which highlights the fluid boundaries between the two product types. Babin et al. (1994) further demonstrate that the shopping process itself can also possess a hedonic or utilitarian value, which further underscores the importance of subjective perception for categorisation.

As part of the experimental design of this study, two products have therefore been selected, which are consistently classified in the literature as prototypically hedonic and utilitarian, perfume and laundry detergent. In order to ensure a clear and theoretically safe operationalisation of the product type.

3.1.3. Willingness to Pay and Price Increases

Willingness to pay, short WTP describes the maximum amount consumers are willing to pay for a good or service, and is often measured as a relative price premium above a reference price. Zeithaml (1988) lays the conceptual foundation, consumers do not view a price solely as a monetary sacrifice, but also use it as a signal of quality and evaluate it in relation to the

perceived benefits. Perceived value is therefore what determines whether someone buys something or not, and the maximum amount they are prepared to pay.

Perceived benefits (quality, brand, experience) – perceived sacrifice (price, effort) = perceived value

Methods for measuring willingness to pay

In empirical research, WTP is usually measured using direct or indirect methods, each of which has different advantages and disadvantages depending on the research context:

- Direct methods explicitly ask consumers about their maximum willingness to pay. Common formats include:
 - Open-ended questions, in which consumers state a specific maximum amount (e.g., “What is the maximum you would pay for this product?”)
 - Percentage mark-ups, in which a relative price increase is assessed, e.g., “Would you be willing to pay 20% more?”, a format frequently used in brand loyalty research, as it directly links price elasticity to brand loyalty (Dwivedi et al., 2018)
- Experimental auction formats such as the Becker-DeGroot-Marschak (BDM) method, in which consumers specify a bid price that is then randomly pitted against a market price (Becker et al., 1964)
- Conjoint analyses, in which consumers choose between different product profiles with varying prices and attributes, so that the implicit willingness to pay can be derived from their preference judgements (Green & Srinivasan, 1990)

Indirect methods measure WTP without the consumer stating a specific price. The best-known of these is the Van Westendorp Price Sensitivity method (1976), in which an acceptable price range is derived from four questions on price perception, ‘too cheap’, ‘acceptable’, ‘expensive’ and ‘too expensive’ (Dwivedi et al., 2018). This method is particularly used in exploratory studies where no a priori reference prices are available. In their meta-analysis, Völckner and Hofmann (2007) also point out that the strength of the price-quality relationship, an indirect indicator of WTP, varies depending on product category, consumer experience, and price level, which further influences the choice of measurement method.

In order to assess whether the measurement format itself influences estimates of consumers’ willingness to pay, this study employs two complementary operationalisations. Option A measures willingness to pay in terms of attitudes, using four Likert-scale items (Netemeyer et al., 2004), whilst Option B measures willingness to pay numerically via price questions in a slider format, following the de-biased direct question approach proposed by Hofstetter et al. (2021). By comparing both formats, it is possible to assess whether the choice of measurement method leads to systematically different results and thereby introduces methodological bias into the WTP assessment.

3.2. *Empirical Evidence: Brand Loyalty and WTP*

3.2.1. Main Effects of Brand Loyalty on WTP

Studies consistently show that consumers who have a strong personal attachment to a brand are willing to pay significant price premiums, as long as they evaluate the brand as being valuable and worthy of the price increase. In this context, Damaschi et al. (2025) show that brand loyalty has a strong, positive correlation with willingness to pay, and that brands which impress through consistent quality, reliability, and good service can successfully implement a premium pricing strategy, as loyalty translates directly into a higher WTP. Keller and Lehmann (2006) highlight this finding by arguing that through positioning and integration, strong brands can create brand equity that psychologically binds consumers to the brand and thereby increases their price tolerance. Giovanis and Athanasopoulou (2018) add empirically that affective loyalty constructs such as brand intimacy, brand passion, and brand engagement are the strongest predictors of willingness to pay a price premium, even more so than purely cognitive dimensions of loyalty.

In the context of price increases, brand loyalty typically acts as a protective factor. Loyal consumers show a significantly greater willingness to accept price increases than less loyal customers. This can be explained by the fact that emotional benefits such as trust, attachment and self-consistency mitigate or even offset the perceived burden of a price increase. This effect can be interpreted using the concept of prospect theory. According to this theory, people do not evaluate outcomes in absolute terms, but rather relative to a reference point, which means they perceived losses as being significantly more painful than they perceive gains as being positive (Kahneman & Tversky, 1979). Although price increases are generally perceived as a loss and therefore trigger resentment, positive emotional associations with the brand reduce the negative impact of these losses and increase the effective willingness to pay (Damaschi et al., 2025; Dwivedi et al., 2018). Erdem and Swait (2004) provide an additional explanatory mechanism. Brand credibility reduces consumers' perceived uncertainty and information search costs, meaning that price functions less as the sole criterion for evaluation and loyal consumers become less price-sensitive.

The literature also shows that loyal consumers accept price premiums not only emotionally but also rationally, provided they recognise added value. Brand loyalty reduces subjective price sensitivity, as consumers evaluate the brand not only on the basis of price, but on the basis of overall performance (Appiah et al., 2019). Sweeney and Soutar (2001) confirm that perceived value, operationalised through emotional, social, quality-related and price-related dimensions, directly influences purchasing attitudes. When the perceived overall value of a brand is high, price loses its weight as a negative decision-making factor. In their meta-analysis, Völckner and Hofmann (2007) add that consumers continue to use price as a significant indicator of quality, particularly for higher-priced products, which gives loyal brands additional scope for price increases without significantly reducing purchase intentions.

3.2.2. Routes to Loyalty and WTP (Functional vs. Experiential)

The literature distinguishes between two fundamental pathways through which brand loyalty, and therefore willingness to pay, develops, a functional pathway and an experience-oriented pathway.

The functional path is based on the perceived product quality, value for money, reliability and customer satisfaction. Consumers appreciate that the brand ‘works well’, makes everyday life easier or reliably delivers the expected performance, and develop a more rational attachment as a result (Erdem & Swait, 2004). Zeithaml (1988) lays the conceptual foundation for this, when consumers assess the perceived benefits of a brand as clearly outweighing the monetary cost, willingness to pay increases, not out of emotional attachment, but from a rational cost-benefit analysis. Homburg et al. (2005) empirically confirm this mechanism and demonstrate that cumulative customer satisfaction, as an expression of functional brand evaluation, has a strong and positive effect on WTP.

The experience-oriented path, on the other hand, focuses on emotions, experiences and identification. At the moment of purchase or use, design, atmosphere, service quality and brand history play a central role, thereby lending greater emotional weight to loyalty and willingness to pay (Rahman et al., 2021). In their study on Lovemark brands, Giovanis and Athanasopoulou (2018) show that consumers who strongly identify with a brand’s emotional message accept significantly higher price premiums, particularly for hedonic products. Rahman et al. (2021) adds that brand love, as the highest form of experience-oriented loyalty, not only directly increases WTP but also increases the willingness to forgive brand mistakes and engage in positive word-of-mouth. Chitturi et al. (2008) provide a further key explanation for this, products that exceed hedonic needs generate enthusiasm rather than mere satisfaction, which is a significantly stronger driver of loyalty and WTP.

It is important to highlight that these two approaches do not have to be viewed as separate from one another, but can in fact can occur together to reinforce each other. This step-by-step integration of functional and experiential loyalty is theoretically based on Oliver’s (1999) four-stage loyalty model, in which cognitive evaluations gradually give rise to affective bonds, which in turn shape conative intentions and finally manifest themselves in stable purchasing behaviour.

Deep loyalty often only develops when functional and experience-oriented aspects work together. Consumers first develop functional attachment and, over time, form strong emotional bonds through positive interactions and experiences of identification. In these cases, willingness to pay increases not only because the brand is “useful”, but because it has become part of the self-image or social identity (Giovanis & Athanasopoulou, 2018). Chaudhuri and Holbrook (2001) provide evidence to support this combined mechanism and show that brand trust and brand emotions together determine attitudinal loyalty, which then enables brands to raise their prices. Appiah et al. (2019) confirm this mechanism: brand identification gives consumers a sense of significance and self-worth that goes far beyond rational assessments of quality and acts as a psychological anchor against price-induced incentives to switch. Leckie et al. (2016) add that consumer brand engagement, as a behavioural manifestation of this combined loyalty, is driven largely by brands that facilitate self-expression and, in turn, further reinforces loyalty.

3.2.3. Moderators and Contextual Factors

The direct link between brand loyalty and WTP is well documented in the literature (Damaschi et al., 2025; Rahman et al., 2021) but it is becoming increasingly clear that this relationship does not operate in isolation. A growing number of empirical studies show that different moderators and contextual factors can determine to what extent brand loyalty actually translates into higher price acceptance. Two categories of moderators are particularly relevant, consumer-side factors such as price sensitivity and perceptions of price fairness, as well as product-related factors.

Price sensitivity is one of the most frequently studied factors influencing the relationship between brand loyalty and WTP. Consumers with high price sensitivity tend to view price increases more critically, even when they have a strong brand preference (Shao & Li, 2021). Kivetz and Zheng (2016) show that the psychological effort consumers invest in a brand relationship influences how they weigh costs against benefits. High price sensitivity can weaken the otherwise positive effect of loyalty on WTP. Homburg et al. (2005) also show that the positive effect of customer satisfaction on willingness to pay diminishes beyond a certain point. This means that greater loyalty does not automatically lead to unlimited price acceptance, especially among consumers who are already highly price-sensitive. Based on this, price-sensitive consumers are less likely to accept higher prices even with strong brand loyalty, thus, price sensitivity weakens the positive influence of brand loyalty on willingness to pay.

Perceptions of price fairness represent a second consumer-side moderator. Zeithaml (1988) demonstrates that consumers do not view prices solely as a monetary sacrifice, but also assess whether a given price is appropriate for the perceived quality and value the product offers. When consumers perceive a price increase as fair and reasonable, for example, because they associate it with higher production costs or with improved product quality, they are more likely to tolerate an increase in willingness to pay (Dwivedi et al., 2018). Sweeney and Soutar (2001) further confirm that the price-value dimension of perceived quality has a direct influence on attitudes and purchasing behaviour, where price fairness acts as a filter through which loyalty affects WTP. This forms the theoretical basis for, a positive moderating effect of price fairness on the loyalty–WTP relationship.

Overall, the research to date shows that while brand loyalty is a necessary condition for increased willingness to pay, it is not sufficient on its own. Both price sensitivity and perceptions of price fairness can act as moderating factors that can strengthen or weaken the relationship between loyalty and willingness to pay.

3.3. Role of Hedonic vs. Utilitarian Product Type

3.3.1. Hedonic Products: Loyalty and Premium Willingness to Pay

As already mentioned, hedonic products are characterized by the fact that they primarily satisfy emotional, sensory, and experience-oriented needs rather than solving a functional

problem (Hirschman & Holbrook, 1982). Perfume, luxury fashion, and high-end cosmetics are typical examples of product categories in which the symbolic and emotional value of the brand plays a central role in the purchasing decision process. It is precisely in these categories that brand loyalty has its strongest impact on willingness to pay, for several interrelated reasons. Perfume serves as an example of this phenomenon. As a product consumed primarily for its pleasure, its emotional component, and its role as a marker of identity, it triggers both affective loyalty and justification processes that are characteristic of hedonic product categories. It is therefore an ideal example for examining the relationship between loyalty and WTP in a hedonic context (Hirschman & Holbrook, 1982; Okada, 2005).

The core of the relationship between brand loyalty and increased WTP for hedonic products lies in the affective nature of the brand relationship. Oliver (1999) describes how loyalty evolves from a cognitive preference into a deep-rooted emotional bond that is more resilient to influences, like price increases. Rahman et al. (2021) empirically confirm that brand love, as the highest form of this affective attachment, significantly increases the willingness to pay a price premium and to forgive brand mistakes. Giovanis and Athanasopoulou (2018) further demonstrate that constructs such as brand intimacy and brand passion, are both characteristic of hedonic brand relationships and are the strongest predictors of WTP for a price premium. The deeper the emotional attachment to a brand, the less a price increase is perceived as a threat, but rather as an acceptable expression of brand value.

As mentioned for hedonic products such as fashion, luxury goods, beauty products, emotional and experience-oriented aspects play a central role. As already described this effect can significantly amplify the influence of brand loyalty on WTP. Wang et al. (2024) demonstrate that for luxury goods such as handbags, wine, and jewellery, can enhance the emotional and social value of the product, thereby increasing willingness to pay. Consumers do not purchase hedonic products mainly for their functionality, but rather for the enjoyment, identification, status, or opportunity for self-expression they offer. Consequently, the willingness to pay a higher price for a beloved brand is often more pronounced for hedonic products than for functional goods, as long as the brand supports the desired experience and self-image (Shao & Li, 2021; Giovanis & Athanasopoulou, 2018).

In this context, Wiedmann et al. (2009) emphasise that luxury consumption is driven by multiple factors. In addition to social value, individual, functional, and financial dimensions of value play a role, with their relative importance varying across consumer segments. This means that hedonic brand loyalty is not uniform, but consists of a variety of different values, which explains the robustness of the price-stabilising effect of brand loyalty in these categories.

Another key mechanism concerns the decision-making framework for hedonic purchases. Shao and Li (2021) demonstrate experimentally that, when it comes to hedonic products, consumers prefer the “absolutely best” option and are willing to pay more for it, whereas, for utilitarian products, they tend to favour the “relatively best” option, i.e., the most cost-effective choice compared to alternatives. This effect is mediated by social comparison processes. When consumers frame hedonic products in social terms such as luxury, designer clothing, or travel, they are willing to pay a premium for the absolute best option in order to gain social recognition from it. Batra and Ahtola (1991) add that hedonic attitude dimensions operate independently of utilitarian ones and vary in strength depending on the product

category, which explains why the loyalty premium effect is particularly stable for hedonic products.

Another particularly relevant psychological mechanism is the already mentioned justification process when it comes to purchasing hedonic products. Okada (2005) shows that consumers experience a stronger sense of guilt when purchasing hedonic goods than when purchasing utilitarian ones, and that they are more likely to choose the hedonic option if they can justify the purchase. Kivetz and Simonson (2002) demonstrate that the effort of loyalty, that is, the effort invested in a brand relationship creates the feeling of having “earned” the pleasure, which psychologically facilitates the acceptance of a higher price. Strahilevitz and Myers (1998) confirm this pattern, showing that, moral justification mechanisms are systematically more effective for hedonic products than for utilitarian ones, underscoring the special role of brand loyalty as a legitimizing resource in this context. Finally, Chitturi et al. (2008) provide another key explanatory contribution products that exceed hedonic needs generate genuine enthusiasm a state characterized by joy and excitement that is a significantly stronger driver of loyalty and WTP than mere satisfaction alone.

3.3.2. Utilitarian Products: Loyalty and Price Sensitivity

Unlike hedonic products, utilitarian products are purchased primarily for their functionality, reliability, and practicality. Laundry detergent, office supplies, and staple foods are typical examples of this category of products, where purchasing decisions are driven less by emotional attachment and more by a rational cost-benefit analysis (Dhar & Wertenbroch, 2000). This has direct consequences for how brand loyalty affects willingness to pay in these categories: While the price-protective effect of loyalty is present for utilitarian products, it is weaker and more limited by price sensitivity than for hedonic goods. Detergent serves as an example of this dynamic. It is a product that requires little commitment to purchase, is bought routinely, meets clear functional requirements and for which there are numerous alternatives. It therefore encourages habit-based loyalty and rational price evaluation rather than an emotional attachment. As such, it serves, much like perfume in the hedonic example mentioned, to examine the relationship between loyalty and WTP in a utilitarian context (Dhar & Wertenbroch, 2000; Damaschi et al., 2025).

For utilitarian products, a more rational decision-making logic occurs, in which price, efficiency, and perceived value for money are key evaluation criteria. Zeithaml (1988) shows that consumers perceive prices as a monetary sacrifice and weigh this sacrifice against a perceived benefit for utilitarian products, this weighing tends to be more pragmatic, as the symbolic and emotional added value of the brand is lower. In their meta-analysis, Völckner and Hofmann (2007) add that the relationship between price and quality is less pronounced in the case of services and among consumers who are well-informed about the products. This finding can be applied to utilitarian product categories, in which consumers develop a high level of product knowledge through frequent purchases and therefore rely less on price as an indicator of quality.

Shao and Li (2021) provide key experimental evidence in this regard. When it comes to utilitarian products, consumers prefer the “relatively best” option that is, the most cost-effective choice compared to alternatives rather than unconditionally accepting a premium for a preferred brand. This stands in contrast to behaviour regarding hedonic products, where the “absolutely best” option is preferred, regardless of price comparisons. Babin et al. (1994) add that utilitarian shopping value arises primarily from the efficient achievement of goals if a cheaper competing product fulfils the same functional purpose, brand loyalty loses its effectiveness as a price protection factor.

For utilitarian products, price sensitivity plays a particularly strong moderating role. Lichtenstein et al. (1993) show that price-conscious consumers actively seek out bargains, compare prices across multiple stores, and weigh price differences even for small amounts a behavioral pattern that is particularly pronounced in routine purchases of utilitarian goods. Homburg et al. (2005) confirm that the positive effect of satisfaction on WTP follows a nonlinear curve and flattens significantly among price-conscious consumer segments which indicates that even high brand loyalty in utilitarian categories does not offer unlimited price protection.

Verstraeten et al. (2023) provide particularly insightful empirical evidence. In their study on grocery shopping, they show that consumers buy more private-label products online than in brick-and-mortar stores because external quality cues such as price and brand name carry less weight. This illustrates that, in utilitarian categories, the brand loses its significance as a differentiating factor as soon as functional alternatives become available with direct consequences for the price-protective effect of loyalty.

Another key difference from hedonic products concerns the type of loyalty that typically develops in utilitarian categories. Damaschi et al. (2025) demonstrate empirically that habit-based loyalty dominates in the case of these low-cost and routine purchases which are typical of utilitarian products. Consumers repeatedly buy the same brand because switching requires cognitive effort and the product reliably fulfils its purpose, not because a deep emotional bond exists. This form of loyalty is structurally more vulnerable to price increases, as it is less protected by affective barriers. Oliver (1999) describes this state as “spurious loyalty” a false loyalty that is primarily maintained by convenience and quickly turns into brand switching when faced with a sufficiently strong price incentive.

Appiah et al. (2019) add that brand identification, the strongest protective factor against brand switching, is significantly weaker for utilitarian products than for hedonic ones, as these products offer less potential for self-expression and identity construction. While Erdem and Swait (2004) show that brand credibility also increases the likelihood of a brand making the shortlist in utilitarian categories, this effect is significantly weaker in cases of high product familiarity and available alternatives than in categories with stronger symbolic content.

3.3.3. Comparative Evidence: Hedonic vs. Utilitarian

A comparative analysis of the two product types reveals a consistent pattern, the positive effect of brand loyalty on willingness to pay is structurally stronger for hedonic products than for utilitarian ones. Dhar and Wertenbroch (2000) demonstrate experimentally that consumers place greater weight on hedonic goods when they have to give something up, a finding that underscores the higher psychological value of hedonic brand relationships. Shao and Li (2021) confirm that the product type fundamentally alters the decision-making logic. While the “absolutely best” option is preferred for hedonic products, the price-performance comparison dominates for utilitarian ones, with direct consequences for the price tolerance of loyal consumers.

Damaschi et al. (2025) provide the most direct empirical evidence for these differences. Loyalty has a different effect on WTP depending on the product category. Affective-cognitive loyalty dominates in higher-priced, experience-oriented purchases, while habit-based loyalty dominates in routine products. Chitturi et al. (2008) add that hedonic products cause not only satisfaction but also enthusiasm, which is a strong driver of loyalty and willingness to pay. This effect is structurally absent in utilitarian products. Finally, Voss et al. (2003) confirm that hedonic and utilitarian attitude dimensions can be reliably and validly distinguished from one another. This explains the use of this distinction in the present research design, which compares perfume with laundry detergent.

The positive effect of brand loyalty on the willingness to accept price increases is significantly stronger for hedonic products than for utilitarian ones, mediated by emotional attachment, identity relevance, and reduced justification costs on the one hand, and rational price focus and substitutability on the other.

3.4. Integrative Models and Remaining Gaps

3.4.1. Existing Conceptual Frameworks

Previous research on brand loyalty and willingness to pay has produced a number of influential conceptual frameworks, each of which highlights an important aspect of the relationship, but none of them integrates all relevant dimensions into a single model.

Oliver (1999) provides the earliest and, to this day, most influential conceptual framework with his four-stage model of brand loyalty. According to this model, loyalty develops from cognitive preference through affective attachment and conative purchase intention to actual repurchase behaviour. This model forms the theoretical foundation for understanding how loyalty arises and why it is resilient to different influences such as price increases. Keller and Lehmann (2006) expand this framework to include the brand equity perspective and demonstrate that strong brands create value through positioning, integration, and strategic management, which translates into greater price tolerance among consumers.

On the WTP side, Zeithaml (1988) provides the fundamental conceptual model. Consumers do not evaluate a price in isolation, but rather in relation to perceived quality and perceived value a framework that continues to serve as a reference point for empirical WTP studies to this day. Homburg et al. (2005) operationalise this approach experimentally and show that the relationship between customer satisfaction and WTP follows a nonlinear curve. Dwivedi et al. (2018) integrate brand experience as an upstream factor and show that WTP is influenced both directly and through brand credibility and perceived uniqueness, a framework that, for the first time, models the complexity of the loyalty WTP relationship in a multilevel manner.

Hirschman and Holbrook (1982) and Voss et al. (2003) provide the conceptual foundation for the product type moderator. Hedonic and utilitarian product dimensions can be distinguished from one another and fundamentally influence how consumers evaluate brands and perceive prices. Dhar and Wertenbroch (2000) and Shao and Li (2021) build on this and demonstrate experimentally that product type fundamentally alters consumers' decision-making logic, with direct consequences for price tolerance. Finally, Damaschi et al. (2025) provide the most recent integrative model, which directly links loyalty subcomponents to WTP while accounting for product price class and consumer personality as moderators.

Rahman et al. (2021) supplement this by presenting a holistic causal model of brand love and demonstrate that, at its highest level, affective attachment directly increases the willingness to pay a price premium, positive word-of-mouth and the willingness to forgive brand mistakes. Giovanis and Athanasopoulou (2018) further expand on this affective dimension empirically and demonstrate that Lovemark constructs such as brand intimacy and brand passion are among the strongest predictors of willingness to pay a price premium. This finding bridges the gap between emotional brand relationships and concrete price premiums.

As valuable as these frameworks are individually, a closer look reveals three structural gaps that have so far gone unaddressed in the existing literature and which this research design specifically addresses.

3.4.2. Research Gaps

These sources form the theoretical basis of this study. At the same time, there are different research gaps within the literature that can be addressed. The following section categorises these gaps thematically. The goal is to address a primary research gap, supplemented by two complementary gaps which all result from conceptual and methodological limitations in the previously analysed literature.

Main research gap: Lack of integration between brand loyalty, product type and price increases

The existing literature primarily examines brand loyalty, product type, and willingness to pay in isolation or in pairs. Rahman et al. (2021) and Dwivedi et al. (2018) investigate the relationship between loyalty or brand experience and WTP without considering product type as a differentiating factor. Shao and Li (2021) analyse hedonic versus utilitarian decision-making logics without including brand loyalty as a central independent variable. Damaschi et al. (2025) and Homburg et al. (2005) provide direct empirical evidence for the loyalty–WTP relationship, but do not test whether this effect varies in strength depending on product type.

Dhar and Wertenbroch (2000) as well as Voss et al. (2003) provide a theoretical rationale for why hedonic and utilitarian products trigger different decision-making processes a finding that has not been systematically integrated into previous WTP models.

Lack of Scenario-Based Operationalisation of Price Increases

In the existing literature, willingness to pay is predominantly measured as an abstract willingness to pay a premium relative to competing brands detached from a specific price-increase context (Zeithaml, 1988; Homburg et al., 2005; Völckner & Hofmann, 2007). Dwivedi et al. (2018) and Rahman et al. (2021) operationalize WTP as a general willingness to pay a premium without simulating a specific price increase scenario. However, this abstract measurement differs from real-world purchasing decisions, in which consumers must respond to a concrete price change.

No moderators of the loyalty → WTP relationship were examined

While previous studies show that the relationship between loyalty and willingness to pay is context-dependent, they do not identify any explicit conditions that systematically strengthen or weaken this effect. Homburg et al. (2005) and Völckner and Hofmann (2007) suggest that price perceptions moderate the relationship, without formally testing this. Shukla (2009) shows that contextual factors can significantly influence the impact of brand loyalty on purchasing decisions but remains unspecific regarding the identification of concrete moderators.

Together, these three gaps in knowledge form the basis for the research design of this study and underpin the hypotheses developed in the following section.

3.4.3. Proposed Research Agenda

Based on a previous literature review following Snyder's methodology, different key sources were selected that cover the central components of brand love, brand experience, exclusivity, scarcity, and consumer decisions in a hedonic-utilitarian context. This research design will be addressing these gaps by examining brand loyalty, product type (hedonic vs. utilitarian), and WTP within a clear, theoretically grounded framework of price increases (e.g., +20%). Using a 2×2 design, it systematically compares the effect of high vs. low loyalty and hedonic vs. utilitarian products on WTP, supplemented by two moderators.

Main gap: Loyalty in the context of price increases

The main gap in the literature lies in the absence of a model that jointly tests brand loyalty, product type (hedonic vs. utilitarian) and the acceptance of price increases. This study addresses this gap using a 2×2 between-subjects design, in which brand loyalty (high vs. low) and product type (hedonic vs. utilitarian) are systematically varied as independent variables. This makes it possible for the first time to empirically measure the main effect of brand loyalty on WTP, the main effect of product type on WTP, and the interaction effect of both variables. This analysis is based on Rahman et al. (2021), Shao and Li (2021), Dhar and Wertenbroch

(2000), Homburg et al. (2005), and Damaschi et al. (2025), which collectively demonstrate that both factors have independent and potentially interacting effects on WTP.

Scenario-based WTP operationalisation

The sources measure WTP as an abstract willingness to pay a price premium, without incorporating a specific price increase scenario. In practice, however, abstract willingness to pay differs significantly from the actual response to a real, unexpected price increase; the latter triggers stronger loss aversion, fairness judgements and emotional attachments to the brand.

This study bridges this gap through a scenario-based design in which participants are presented with a defined price increase of 20% compared with their last purchase. This approach more closely mirrors the actual decision-making situations faced by consumers, thereby enhancing the ecological validity of the results. Willingness to pay is measured using two complementary approaches. Option A measures willingness to pay in terms of attitude using four items on a Likert scale (Netemeyer et al., 2004), whilst Option B measures it numerically via a slider-based, price question anchored to a product-specific reference price (€75 for perfume; €15 for laundry detergent), in accordance with the method described by Hofstetter et al. (2021). This dual approach makes it possible to assess whether the measurement format itself influences WTP estimates and thereby introduces methodological bias.

This design also allows conclusions to be drawn as to whether brand loyalty actually acts as a buffer against perceived price increases, differentiated by product type. By integrating product type as a between-subjects factor, it is also possible to investigate whether this buffering effect is more pronounced for hedonic products than for utilitarian ones, something that has not been directly tested in any of the five core sources (Zeithaml, 1988; Dwivedi et al., 2018; Homburg et al., 2005; Völckner & Hofmann, 2007)

Moderators of the Loyalty → WTP relationship

The third contribution of this study lies in identifying the boundary conditions of the loyalty to WTP effect. None of the five core studies examines the conditions under which the effect of brand loyalty on WTP is particularly strong or particularly weak. This study closes this gap by explicitly integrating price fairness as a situational moderator and price sensitivity as a consumer-side moderator into the model, thereby identifying for the first time the conditions under which brand loyalty cushions price increases to a greater or lesser extent. Examining price fairness and price sensitivity as explicit moderator variables within an integrated model that also takes product type into account, has not yet been examined empirically (Shukla, 2009; Homburg et al., 2005; Völckner & Hofmann, 2007)

The perception of a price increase as fair or unfair moderates the willingness to accept it. Consumers who perceive a price increase as justified, for example due to rising raw material costs or quality improvements, are more likely to accept it even with moderate loyalty.

Conversely, an increase perceived as unfair can weaken the loyalty-driven buffering effect. Shao & Li (2021) show that product type influences pricing decisions; however, it remains unclear whether perceptions of fairness moderate to a different extent for hedonic and utilitarian products.

Consumers with high price sensitivity react more strongly to price increases, even if a certain degree of brand loyalty exists. Price sensitivity thus represents an individual boundary condition that weakens the loyalty to WTP effect. Whilst Rahman et al. (2021) identify loyalty as a robust driver of WTP, they do not test whether this effect is weakened among price-sensitive consumers. This study closes this gap by integrating price sensitivity into the model as an individual consumer characteristic.

Theoretical and empirical value

In summary, this study makes three key contributions to the existing literature. Firstly, it presents an integrative model that, for the first time, jointly tests brand loyalty, product type and WTP in the context of price increases. Secondly, WTP is methodologically operationalised as scenario-based willingness to accept, which offers a greater connection to real-world conditions than abstract price premium measures. Thirdly, price fairness and price sensitivity are integrated into the model for the first time as moderators that explain under which conditions brand loyalty acts as a buffer against price increases and for which product types this buffering effect is particularly pronounced.

Table 2 Positioning of the following study

Research Gap	Specific Limitation	Sources	How the Present Study Fills the Gap
Lack of integration between brand loyalty, product type and price increases	No model tests loyalty, product type and price increase together	Rahman et al. (2021), Dwivedi et al. (2018), Shao & Li (2021), Homburg et al. (2005), Damaschi et al. (2025)	2×2 between-subjects design (High/Low Loyalty × Hedonic/Utilitarian); direct measurement of main and interaction effects on WTP
Lack of scenario-based operationalisation of price increases	WTP measured abstractly as price premium; no concrete price increase scenario simulated	Zeithaml (1988), Dwivedi et al. (2018), Homburg et al. (2005), Völckner & Hofmann (2007), Rahman et al. (2021) Netemeyer et al. (2004), Hofstetter et al. (2021)	2×2 between-subjects design (High/Low Loyalty × Hedonic/Utilitarian); direct measurement of main and interaction effects on WTP

Research Gap	Specific Limitation	Sources	How the Present Study Fills the Gap
No moderators of the Loyalty → WTP relationship examined	Price fairness and price sensitivity are theoretically suggested but never formally tested as moderators.	Homburg et al. (2005), Völckner & Hofmann (2007), Shukla (2009)	Integration of price fairness (situational) and price sensitivity (consumer-side) as explicit moderators into the model

4. Questionnaire Methodology

4.1. Research Design

This chapter explains the methodological approach and outlines how the research question will be addressed within a quantitative research design. The goal is to examine the relationship between brand loyalty and willingness to pay in the event of price increases, while also investigating whether this relationship depends on the type of product. In addition, two key moderator variables are taken into account to gain a more precise understanding of the conditions under which these relationships operate. The chapter derives an experimental research design and specific hypotheses from these findings.

As already detailed, the study employs a quantitative, experimental research design structured as a 2×2 between-subjects design. This design is particularly well-suited to the research question because it allows for the independent manipulation of two key factors and the testing of their effects on willingness to pay. The first experimental independent variable is brand loyalty, with the levels high and low. The second experimental independent variable is product type, with the levels hedonic and utilitarian. The dependent variable is the willingness to accept a higher price. Additionally, price fairness and price sensitivity are included as moderator variables to examine under which conditions the effect of brand loyalty on WTP is strengthened or weakened.

A between-subjects design means that each participant is exposed to only a single experimental condition and only has to evaluate that condition. This prevents participants from comparing different scenarios with one another, which might otherwise influence their responses through transfer or demand effects (Charness et al., 2012). This is particularly important for topics such as brand loyalty and price acceptance, as comparison effects or learning processes could mislead response patterns. A between-subjects design is therefore the methodologically better choice to draw the clearest possible conclusions about the causal effects of the experimental manipulations (Charness et al., 2012).

Table 3 Types of surveys

	Hedonic (Perfume)	Utilitarian (Laundry Detergent)
High Loyalty	HIGH_HED	HIGH_UTI
Low Loyalty	LOW_UTI	LOW_UTI

4.1.1. First variable

The first variable, brand loyalty, is presented experimentally in two conditions. In the high-loyalty condition, the brand is described in a way that should lead to strong loyalty, high trust, and a clear intention to repurchase. In the low-loyalty condition, the brand is described as one

that the consumer has purchased occasionally without strong emotional attachment, brand preference, or consistent repurchase intention. The goal is to examine whether stronger brand attachment leads consumers to be more likely to accept a price increase. This variable builds on the theoretical assumption that loyalty not only reflects repurchase behaviour but can also increase the willingness to tolerate price premiums for trusted brands (Chaudhuri & Holbrook, 2001).

4.1.2. Second variable

The second variable, product type, is also divided into two categories, hedonic and utilitarian. As already explained, hedonic products are more strongly associated with pleasure, emotions, experience, and self-expression, while utilitarian products are primarily characterized by their functional utility and practicality. This distinction is central to the study because previous research has shown that consumers often react less price-sensitively to hedonic products than to purely functional products. At the same time, it is conceivable that brand loyalty for hedonic products is more strongly linked to emotional acceptance of price increases than for utilitarian products.

4.1.3. Dependent variable

The dependent variable, willingness to pay, is defined as the willingness to accept a certain price or to pay a certain price increase. In this study, WTP is relevant not only as a general maximum price but specifically as a reaction to a price increase for an already familiar brand. This brings the measurement of WTP closer to a real-world decision-making situation in which consumers must consider whether to accept the higher price despite their loyalty and the nature of the product. WTP is measured using two complementary formats: on the one hand, via four items on a Likert scale, which are used to determine general willingness to pay a price premium (Netemeyer et al., 2004) and on the other hand numerically via a slider-based price question anchored to a product-specific reference price (€80 for perfume; €15 for laundry detergent), following the approach of Hofstetter et al. (2021). This operationalization is particularly appropriate for the research question because it examines the price reaction in the context of a brand relationship.

4.1.4. Two moderator variables

In addition, two moderator variables are incorporated into the model. Price fairness describes whether the perceived price increase is viewed as reasonable, understandable, and fair. This factor is theoretically relevant because price acceptance depends not only on loyalty but also on subjective assessments of fairness (Xia, Monroe & Cox, 2004).

Price sensitivity measures how strongly individuals generally react to price changes. People with high price sensitivity are likely to be less willing to accept price increases, even if they have brand loyalty (Lichtenstein et al., 1993). Both variables help to examine the relationship between brand loyalty and WTP in a more nuanced way.

4.1.5. Control variables

Furthermore, several control variables can be included to minimize alternative explanations. These include, for example, age, gender, income, and purchase frequency. These factors can influence response behaviour because they are related to purchasing power, and the relevance of the product. Controlling for these factors makes the analysis more focused and the interpretation of main effects and interactions more reliable.

4.2. Hypotheses

Based on the theoretical foundations drawn from the literature review and the constructs embedded in the research design, brand loyalty, product type, WTP, price fairness and price sensitivity, the six hypotheses of this study are developed and justified below. The hypotheses can be structurally divided into three categories, main effects (H1, H2), an interaction effect (H3) and moderation effects (H4, H5, H6).

H1: Main effect of brand loyalty

H1: Brand loyalty positively affects consumers' willingness to pay for price increases, such that consumers with high brand loyalty show a significantly higher WTP than consumers with low brand loyalty.

The first hypothesis concerns the direct effect of brand loyalty on willingness to pay in the context of price increases. The literature consistently shows that consumers with a strong emotional and behavioural attachment to a brand are less price-sensitive and more likely to tolerate price increases than less loyal consumers. Oliver (1999) describes how loyalty evolves from a cognitive preference into a deep-rooted emotional bond that is more resilient to situational influences such as price increases. In their modelled brand love approach, Rahman et al. (2021) demonstrate that high brand attachment can be understood as a combination of satisfaction, self-congruence, and personal brand experiences and as a direct predictor of willingness to pay a price premium. Dwivedi et al. (2018) add that brand experience increases WTP both directly and indirectly via brand credibility and perceived uniqueness. Damaschi et al. (2025) provide the most direct empirical evidence. In their SEM study, they demonstrate a strong positive correlation between brand loyalty and WTP. Erdem and Swait (2004) add that brand credibility reduces perceived uncertainty and leads loyal consumers to evaluate the brand not only on the basis of price, but on the basis of its overall value which increases their price acceptance. Finally, Homburg et al. (2005) confirm that the positive effect of customer satisfaction on WTP is empirically robust, and Giovanis and Athanasopoulou (2018) show that affective loyalty constructs such as brand intimacy and brand passion are the strongest predictors of WTP for a price premium.

H2: Main effect: Product Type

H2: Consumers show a significantly higher willingness to pay for price increases for hedonic products than for utilitarian products.

The second hypothesis concerns the direct effect of product type on WTP for price increases.

Consumers evaluate hedonic and utilitarian products in fundamentally different ways. While hedonic products are primarily evaluated based on emotional experiences, status, and identification, utilitarian products are dominated by rational cost-benefit considerations (Hirschman & Holbrook, 1982). Shao and Li (2021) show that consumers are willing to pay more for the absolute best option when it comes to hedonic products, whereas for utilitarian products, the relatively cheapest acceptable solution is preferred. Dhar and Wertenbroch (2000) add, on the basis of experimental studies, that hedonic goods are weighted more heavily when consumers decide not to purchase them. A finding that underlines the higher psychological value of hedonic brand relationships. Okada (2005) shows that consumers actively justify hedonic purchases, which increases their price tolerance. Chitturi et al. (2008) provide a further key explanatory contribution, hedonic products generate enthusiasm rather than mere satisfaction a significantly stronger driver of loyalty and WTP. Finally, Voss et al. (2003) confirm the reliable separability of both dimensions, which theoretically justifies the experimental operationalization of this distinction in the present design. It follows that price increases for hedonic products are generally accepted more readily than for utilitarian ones regardless of the level of loyalty.

H3: Interaction effect

H3: The positive effect of brand loyalty on willingness to pay for price increases is significantly stronger for hedonic products than for utilitarian products.

The third and most central hypothesis of the study tests the interaction effect of brand loyalty and product type on WTP. It addresses the main gap in the literature. For hedonic products, loyalty is based on emotional attachment, identification, and symbolic value factors that make price increases appear as an investment in the brand experience (Rahman et al., 2021; Shao & Li, 2021). Kivetz and Simonson (2002) demonstrate that the effort invested in a brand relationship creates the feeling of having “earned” the pleasure which psychologically facilitates the acceptance of a higher price. Strahilevitz and Myers (1998) confirm that justification mechanisms are systematically more effective for hedonic products. With utilitarian products, however, functional considerations dominate, so that even loyal consumers calculate more rationally in the face of price increases, and loyalty increases WTP to a lesser extent (Damaschi et al., 2025). Chitturi et al. (2008) add that the enthusiasm-based loyalty effect is structurally stronger for hedonic products. The interaction term of the 2×2 design allows this effect to be measured directly for the first time.

H4: Moderation by price fairness

H4: Perceived price fairness positively moderates the relationship between brand loyalty and willingness to pay for price increases, such that the positive effect of brand loyalty on WTP is stronger when the price increase is perceived as fair.

Price fairness describes the subjective perception of whether a price increase is perceived as justified, reasonable, and fair. Zeithaml (1988) demonstrates that consumers do not evaluate prices in isolation but rather in relation to the perceived quality and value offered, and that a price increase perceived as fair reduces cognitive resistance and enhances price acceptance. Sweeney and Soutar (2001) confirm that the price-value dimension of perceived quality directly influences purchasing attitudes: When the perceived total value is high, the price loses its weight as a negative decision-making factor. When consumers perceive a price increase as

fair for example, because it is justified by higher raw material costs or quality improvements this perception of fairness reinforces the loyalty-driven WTP effect. Dwivedi et al. (2018) provide the indirect theoretical foundation by showing that brand credibility mediates WTP. A price increase perceived as fair can be understood as a cognitive extension of this credibility. Homburg et al. (2005) add that the price context influences the strength of the satisfaction WTP relationship. Xia, Monroe and Cox (2004) define price fairness as consumers' subjective assessment of whether a price is reasonable and acceptable, and show that perceived fairness has a direct influence on purchase intention and price acceptance.

H5: Moderation by price sensitivity

H5: Price sensitivity negatively moderates the relationship between brand loyalty and willingness to pay for price increases, such that the positive effect of brand loyalty on WTP is weaker among highly price-sensitive consumers.

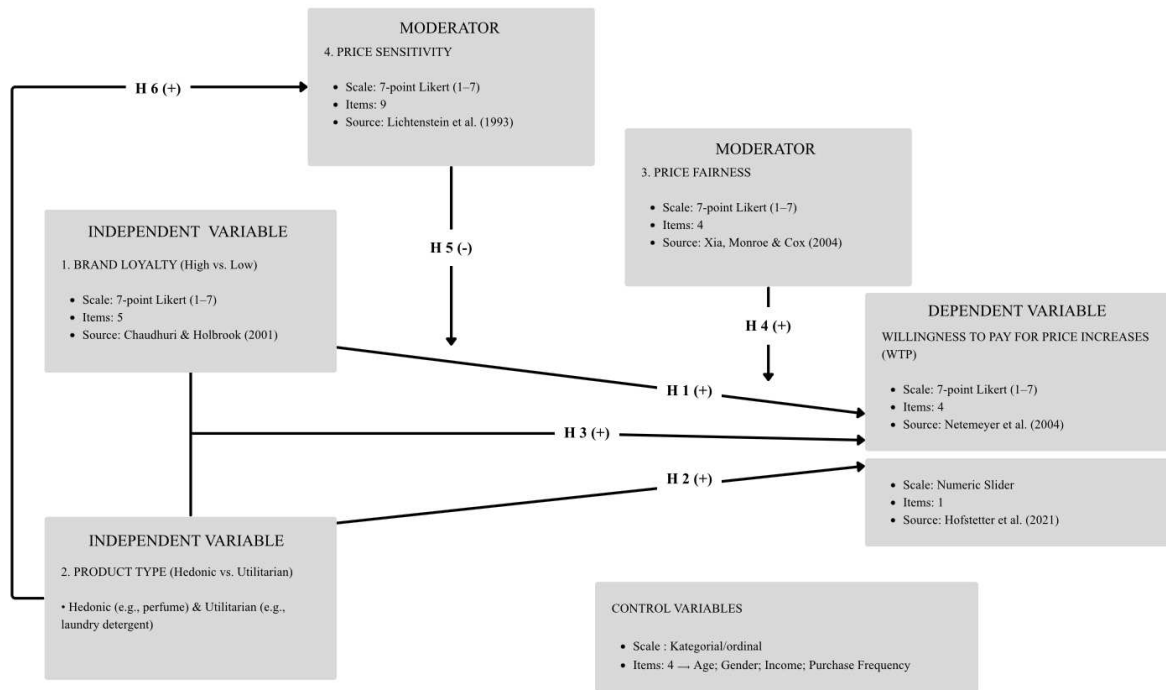
Price sensitivity measures the extent to which individuals generally respond to price changes. Consumers with high price sensitivity base their purchasing decisions more heavily on financial considerations, which means that the buffering effect of brand loyalty is weakened in the face of price increases. Homburg et al. (2005) show that the positive effect of loyalty on WTP follows a nonlinear trajectory and flattens significantly among price-conscious consumer segments. Shukla (2009) adds that contextual factors can significantly limit the influence of brand loyalty on purchasing decisions even in the case of strong brand attachment. Völckner and Hofmann (2007) confirm that the strength of the price-quality relationship is weaker among consumers who are familiar with the product and price-conscious. Finally, Shao and Li (2021) show that rational cost considerations can systematically override emotional brand attachments. High price sensitivity thus represents an individual boundary condition that determines how effectively brand loyalty acts as a buffer against price increases. Lichtenstein et al. (1993) show that price-conscious consumers actively compare prices, look for bargains and weigh up even small price differences, behavioural patterns that systematically limit the price-stabilising effect of brand loyalty.

H6: Main effect of product type on price sensitivity

H6: Consumers evaluating utilitarian products show significantly higher price sensitivity than consumers evaluating hedonic products.

The sixth hypothesis examines the direct effect of product type on consumer price sensitivity. Utilitarian products are evaluated based on rational cost-benefit analyses, which is why price changes have greater cognitive significance here than with hedonic products. Shao and Li (2021) show that comparison processes and efficiency considerations dominate for utilitarian products, whereas emotional and experience-oriented factors overshadow the pricing decision for hedonic products. Dhar and Wertenbroch (2000) add that utilitarian goods trigger a stronger cost-benefit logic, which brings price differences between brands more into focus. Babin et al. (1994) confirm that utilitarian shopping value arises primarily from efficient goal achievement if a cheaper alternative product serves the same purpose, brand loyalty loses its price-protective effect. Batra and Ahtola (1991) further demonstrate that the hedonic attitude dimension structurally overrides the price focus. It follows that consumers react structurally more price-sensitively to utilitarian products than to hedonic ones regardless of their individual level of loyalty.

Figure 2 Hypothesized research model



Overall, the research design is structured in a way that both main effects and a key interaction effect can be examined. The inclusion of two moderator variables makes the analysis both more realistic and theoretically more robust. The study is therefore well-suited to providing an answer to the research question and making a clear contribution to the literature on brand loyalty, product types, and WTP in the face of price increases.

4.3. Stimulus Material and Manipulations

The stimulus material forms the core of the experimental survey design. In order to empirically test the effect of brand loyalty and product type on willingness to pay in the case of price increases, the experimental conditions must be designed to reflect a realistic purchasing situation. It needs to be internally valid, and at the same time allow for a clear experimental distinction between the four conditions of the 2×2 design. Each participant is randomly assigned to one of the four conditions:

- (1) high loyalty level / hedonic product
- (2) high loyalty level / utilitarian product
- (3) low loyalty level / hedonic product
- (4) low loyalty level / utilitarian product

The conditions consist of a short, written purchase scenario that integrates product context, loyalty situation and price increase. The following sub-sections explain the individual components of the stimulus material in detail.

4.3.1. Product Examples

The selection of suitable product categories is an important decision to guarantee the internal and external validity of the design. On the one hand, the product must be sufficiently well-known and relevant to everyday life to enable a realistic purchasing situation, on the other hand, it must clearly and comprehensibly represent the theoretical distinction between hedonic and utilitarian products. Both products should fall within comparable price segments, be purchased regularly and be accessible to a broad section of the population, only in this way can it be ensured that differences in the measured WTP are actually attributable to the product type and not to structurally different purchasing situations.

Perfume was chosen as the hedonic product. In consumer behaviour research, perfume is regarded as the prototypical hedonic consumer good, as it is primarily evaluated on the basis of emotional, sensory and identity-related aspects. It is not purchased for a functional purpose in the strict sense, but rather for the experience, personal expression, social impression and emotional well-being it provides (Hirschman & Holbrook; 1982). The literature shows that, when it comes to experience-oriented goods, consumers react much more strongly to emotional perceptions of value than to rational price considerations, which is particularly true for products closely linked to identity and status (Wang et al., 2024). Shao & Li (2021) also demonstrate that, for hedonic products, the willingness to pay for the absolute best option is significantly stronger than for utilitarian ones a finding that makes perfume, as a product category, directly suitable for visualising the expected interaction effects. Furthermore, perfume is regularly repurchased across various price segments and is therefore well-suited to a scenario-based design in which repurchase following a price increase is examined.

Laundry detergent was selected as the utilitarian good. In consumer research, laundry detergent is regarded as a prototypical low-involvement product that is purchased routinely and whose evaluation is determined primarily by functional performance, reliability and value for money, rather than by emotional or identity-related considerations (Dhar & Wertenbroch, 2000; Babin et al., 1994). Consumers buy laundry detergent to meet a clearly defined functional need, and brand loyalty in this category is based more on habit than on emotional motives (Damaschi et al., 2025). Consequently, price increases for consumer goods such as laundry detergent are assessed from a rational cost-benefit perspective, meaning that the effect of brand loyalty is weaker and is more easily overridden by price sensitivity (Homburg et al., 2005). Furthermore, laundry detergent is frequently purchased across all income groups and is therefore a good fit for the scenario-based design in which the response to a defined price increase is examined under conditions of low emotional attachment.

The combination of perfume and laundry detergent makes it easy to differentiate between the product types. Both products are familiar to broad sections of the population, fall within everyday purchases and allow for a realistic representation of a percentage price increase.

At the start of each experimental condition, a brief screening procedure was carried out to check whether the participants already had experience with the relevant product category in particular, whether they had previously used and purchased perfume (hedonic conditions) or laundry detergent (utilitarian conditions).

4.3.2. Loyalty Manipulation

Brand loyalty is manipulated via a written scenario text, which is presented to participants at the start of each experimental condition. As the level of loyalty is a between-subjects variable, each participant will only see one of the two conditions. Either the high-loyalty or the low-loyalty scenario. This procedure prevents carry-over effects and ensures that the assessment of one condition does not influence the response to the other.

The scenario with a high level of loyalty describes a deeper bond with a particular brand that is established both through an emotionally and a behaviourally aspect. Participants are asked to imagine that they have been using the same brand for several years, that it has become a genuine part of their personal lives. That they associate it with special memories and meaningful moments and that they feel a strong emotional attachment to it. Despite the availability of alternatives, the scenario describes a consistent return to this brand because it feels right in a unique way. This description captures the affective and conative dimensions of brand loyalty as a multidimensional construct (Oliver, 1999; Rahman et al., 2021). The wording of the scenarios is based on the brand loyalty scale used in this study (Chaudhuri & Holbrook, 2001), which conceptualises loyalty in terms of brand trust, affective commitment and consistent repurchase intention, thereby ensuring conceptual consistency between manipulation and measurement.

In contrast, the condition involving low brand loyalty describes a neutral, emotionless purchasing situation. Participants are asked to imagine that they have no strong preference for a particular brand, that they tend to try out different options depending on what is currently available, on offer or catches their attention, and that they do not feel any particular attachment to any specific brand. The scenario explicitly presents the product as interchangeable. In the case of perfume, the focus is on the fragrance itself rather than the brand, whereas for laundry detergent, the brand is described merely as a functional household product for which any reliable option will suffice. By emphasising the absence of emotional attachment, brand preference and a consistent intention to repurchase, the ‘low brand loyalty’ condition is clearly distinguished from the ‘high brand loyalty’ condition.

The manipulation is designed to depict realistic, everyday purchasing situations that participants can easily relate to, without appearing artificial or exaggerated. Both scenarios avoid specific real brand names in order to minimise bias caused by existing brand associations and to ensure that the level of loyalty is influenced only by the scenario text. The strength and credibility of the manipulation are subsequently verified through manipulation checks, which are explained in more detail in later chapters.

4.3.3. Price Increase in the Scenario

The price increase is the central stimulus in this study and is presented in exactly the same way across all four conditions to ensure comparability between the groups. Participants are informed that the price of the brand they have been loyal to has increased by 20% compared to the last time they purchased it, without specifying an absolute price point in the scenario text itself. Since the reference price is product-specific and gets evaluated differently through the WTP measurement instrument.

The decision to increase the price by 20% is based on several substantive and methodological considerations.

Firstly, the increase is large enough to cause a psychologically noticeable and decision-relevant price change, causing consumers to seriously consider whether to buy or switch. Research shows that price increases of less than 10% often fall below the level of perception and do trigger a separate response, while very large increases of 30% or more may be perceived as unrealistic (Monroe, 1990; Zeithaml, 1988).

Secondly, a 20% increase remains within the bounds of what is socially plausible. For both perfume and laundry detergent, price rises of this magnitude are widely accepted in the current economic climate due to inflation and rising raw material and energy costs, and are therefore easily understandable.

Thirdly, this magnitude allows for sufficient variation in responses. It is large enough to reveal differences in willingness to pay driven by loyalty, but not so extreme that almost all participants would reject it regardless of their loyalty (Monroe, 1990).

The price increase is presented identically in both product categories as a percentage change. This approach ensures that any differences in willingness to pay between the product conditions are not attributable to differences in the presentation of the stimulus, but actually reflect the influence of the product type and the degree of loyalty. The design therefore follows the principle of stimulus equivalence, which is regarded as a key methodological requirement in experimental survey designs to ensure internal validity (Charness et al., 2012).

4.3.4. Credibility of the Manipulation

The internal validity of a scenario-based survey design stands or falls with the credibility of the stimuli presented. If participants perceive the scenario as unrealistic or artificial, there is a risk that their responses will not reflect their actual attitudes and behavioural intentions, but will instead be driven by a negative reaction or a lack of understanding. To ensure the credibility of the manipulation, this study uses a manipulation checks. This procedure is methodologically established in experimental consumer behaviour research and explicitly recommended to ensure the validity of experimental group differences (Charness et al., 2012).

The scenarios describe an everyday shopping situation that are relatable and realistic for a broad section of the population. The language is deliberately kept simple and clear, without academic jargon. The situations described the regular purchases of a familiar brand on the one hand, and occasional, brand-neutral purchasing behaviour on the other. Correspond to widespread consumption patterns and should be immediately recognisable to the majority of participants. Furthermore, the deliberate omission of specific brand names prevents existing brand associations from overshadowing the experimental manipulation or leading to systematic biases.

The manipulation checks are administered immediately after the scenario is presented and before the actual measurement instruments, to ensure that the intended loyalty condition has been correctly perceived. For this purpose, three short items are used that directly assess the level of loyalty. Participants whose responses to the manipulation checks do not correspond to the intended condition are identified as 'Failed Manipulation Checks' during data cleaning and excluded from the main analysis. This procedure is methodologically established in

experimental consumer behaviour research and is explicitly recommended to ensure the validity of experimental group differences (Shao & Li, 2021; Dwivedi et al., 2018).

In addition to the manipulation checks, an attention check is embedded in the survey to identify participants who are completing the questionnaire without paying sufficient attention. This question takes the form of a multiple-choice question in which participants are explicitly asked to select a specific answer option (e.g. ‘To show that you are paying attention, please select (6) for this question.’). Participants who do not answer this question correctly are identified during data cleaning and, like those who fail the manipulation checks, are excluded from the main analysis. The inclusion of attention checks is generally recommended in online survey research to reduce measurement errors caused by inattentive responses and to improve data quality (Meade & Craig, 2012).

4.4. Measures

The key constructs are measured following the description of the scenario. After reading their respective scenarios, all participants complete the same measurement instruments, which are used to measure the dependent variable (WTP), the independent variables (brand loyalty, product type), the moderators (price fairness, price sensitivity) and selected control variables as well as the manipulation check and the attention check. The selection of the scales is based on three criteria. Firstly, content validity in relation to the respective construct and its role in the research model. Secondly, the empirical validity of the instruments in consumer research and thirdly, their technical suitability for the planned PLS-SEM analysis. All constructs are measured using established, validated multi-item scales to ensure the reliability and construct validity of the overall model (Hair et al., 2017; Hair et al., 2019).

4.4.1. Brand Loyalty

In the theoretical section of this study, brand loyalty was presented as a multidimensional construct comprising cognitive, affective, conative and behavioural components (Oliver, 1997). For the purposes of measurement in this study, it is important to distinguish between the experimental manipulation of loyalty induced by the scenario and the subsequent measurement of perceived loyalty.

To measure brand loyalty, a multi-item attitudinal scale is used, which is based on the established loyalty measurement developed by Chaudhuri & Holbrook (2001) and has been employed and validated in numerous subsequent studies (Rahman et al., 2021). This scale captures the key dimensions of emotional attachment, preference, brand trust and repurchase intention, which are directly relevant to the present research mode. Compared with one-dimensional measures of loyalty such as the Net Promoter Score, a multi-item scale has the key advantage of capturing the various facets of loyalty in a differentiated manner and is therefore better suited both for hypothesis testing and for assessing model fit in PLS-SEM. The scale comprises four items, which are rated on a 7-point Likert scale ranging from 1 (‘Disagree completely’) to 7 (‘Agree completely’):

- (1) *“I am committed to this brand”*
- (2) *“I would be willing to pay a higher price for this brand than for other brands”*
- (3) *“I would not buy another brand if this brand were available at the store”*

(4) *“I trust this brand”*

(5) *“This brand is my preferred brand in its product category”*

Together, these five items cover affective attachment, cognitive brand trust, conative preference and the direct loyalty-WTP relationship (Rahman et al., 2021; Chaudhuri & Holbrook, 2001).

4.4.2. Willingness to Pay

Willingness to pay is the dependent variable in this study. It is not measured as an abstract maximum willingness to pay, but as a specific willingness to accept a 20% price increase. This scenario-based survey aims to close the identified research gap (Rahman et al., 2021; Dwivedi et al., 2018). Recent studies show that questions based on a Likert scale can influence participants' decisions. This format could eliminate potential biases that may result from the wording and type of questions. If that is the case, the second option can be used to evaluate changes in response patterns. Ideally, however, the focus should be on the nature of the questions rather than the influence of brand loyalty, price fairness, and price sensitivity. (Schmidt & Bijmolt, 2020). For this reason, two different methods are used to measure WTP, a 7-point Likert scale (Option A) and a numerical slider, in which participants are asked to indicate how much they are willing to pay (Option B). Both instruments relate to the same product described in the scenario and the same price increase.

Option A – Netemeyer et al. (2004): 4-item Likert scale

The first measurement is based on the validated 4-item scale by Netemeyer et al. (2004). The WTP measurement consists of four items on a 7-point Likert scale ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”). The multi-item format allows for the gradual measurement of differences in acceptance and, as a reflective construct, is directly suitable for the planned PLS-SEM analysis (Hair et al., 2017).

(1) *“The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.”*

(2) *“I am willing to pay more for this brand than for other brands.”*

(3) *“I would pay a higher price for this brand over other brands just to get what this brand offers.”*

(4) *“If this brand raised its price, I would still buy it in preference to buying another brand.”*

The four items measure WTP from three perspectives, as a general willingness to pay a price premium relative to alternatives, as a willingness to accept a specific price increase, and as a stable brand preference despite a higher price level.

Option B – Hofstetter et al. (2021): numerical measurement

In addition, a direct numerical slider based on Hofstetter et al. (2021) is used as a second measure of WTP. The slider was designed so that the cursor is initially positioned in the middle of the scale. The goal is to create as neutral a starting point as possible and to reduce potential biases that could arise from a present position at the left or right end of the scale. The middle

position therefore serves as a reference point without implicitly suggesting to respondents that they are particularly unwilling or willing to pay.

The reference price, was determined based on an online search of current market prices for comparable products. For this purpose, prices from relevant price comparison portals and market-related online sources were used for the product categories of perfume and laundry detergent to derive a realistic price level for common products (idealo internet GmbH, n.d.-a; idealo internet GmbH). In addition, official price overviews from the Federal Statistical Office provide a suitable framework for classifying consumer and drugstore items within the general price trend and thus support the plausibility of a market-price-oriented determination of the reference value (Federal Statistical Office, n.d.-a; Federal Statistical Office, n.d.-b). Based on that a reference price of 75€ for perfume and 7,5€ for laundry detergent was used. Which lead to a maximum price of 150€ regarding the hedonic product and 15€ for the utilitarian one.

(1) What is the maximum price you would be willing to pay for this perfume before switching to another brand?

€ 0 ————— € 150

(1) What is the maximum price you would be willing to pay for laundry detergent before switching to another brand?

€ 0 ————— € 15

4.4.3. Price Fairness

Price fairness describes the subjective perception of whether a price increase is perceived as justified, reasonable, and understandable. In pricing research, fairness is not treated as a one-dimensional concept, but rather as an independent perceptual construct that covers both cognitive evaluation processes and emotional reactions. In their work on perceived price fairness, Xia, Monroe, and Cox (2004) demonstrate that consumers evaluate a price change primarily through social comparison processes. A price increase is perceived as fair when it is seen as understandable and legitimate, for example, due to a plausible reason such as increased production costs and as unfair when it is viewed as only being beneficial to the seller. The focus here is on the concept of the ‘dual claim’, according to which consumers grant companies the right to make a reasonable profit, but not to impose price increases that serve solely to maximise profits (Xia et al., 2004). A price increase perceived as fair reduces the perceived loss component and can maintain the willingness to buy even among sceptical consumers. Conversely, a price increase perceived as unfair can lead to reactance and a refusal to purchase, even amongst loyal consumers. In the research model of this study, price fairness acts as a positive moderator of the relationship between brand loyalty and WTP. The fairer a price increase is perceived to be, the stronger the mitigating effect of brand loyalty on willingness to pay should be.

The measurement uses a validated perceived price fairness scale based on the instrument developed by Xia, Monroe, and Cox (2004) and widely adopted in consumer-oriented pricing research. The scale comprises four items on a 7-point Likert scale, with negatively worded items coded in reverse (reverse coding), so that higher values always indicate higher perceived fairness.

- (1) *"I consider this brand's price increase to be fair."*
- (2) *"In my view, this brand's price increase is justified."*
- (3) *"I consider this brand's price increase to be reasonable."*
- (4) *"I find this brand's price increase understandable."*

Together, these four items represent the core evaluation dimensions of legitimacy, justice, appropriateness, and comprehensibility (Xia et al., 2004). Since all items relate to the price increase specifically described in the scenario, the scale is directly linked to the experimental condition, which strengthens construct validity in the present design.

4.4.4. Price Sensitivity

Price sensitivity describes the extent to which individuals react to price changes and prioritise price information when making purchasing decisions. It is an individual consumer characteristic that varies independently of the specific product context and moderates the strength of the loyalty effect on WTP. Consumers with high price sensitivity tend to weigh price increases more heavily than emotional brand attachments, which weakens the buffering effect of loyalty. The literature shows that price sensitivity cannot be reliably measured by a single question, but encompasses several behavioural dimensions, actively comparing prices, reacting to price increases, the importance of price relative to quality, and general price awareness when shopping (Shao & Li, 2021; Kivetz & Zheng, 2016).

The measurement uses the established price sensitivity scale developed by Lichtenstein et al. (1993), which has been successfully employed in numerous follow-up studies. The scale comprises nine items on a 7-point Likert scale ranging from 1 ("Strongly disagree") to 7 ("Strongly agree"):

- (1) *"I am very concerned about low prices when I shop."*
- (2) *"I will grocery shop at more than one store to take advantage of low prices."*
- (3) *"The money saved by finding low prices is usually worth the time and effort."*
- (4) *"I would never shop at more than one store to find low prices."*
- (5) *"I compare prices carefully before purchasing a product."*
- (6) *"I always check prices at more than one store before I buy."*
- (7) *"I check prices even on small items."*
- (8) *"I think too much about whether the price of a product is affordable before making a decision."*
- (9) *"A higher price is a good indicator of a product's quality."*

Together, these items cover the key dimensions of price sensitivity, general price awareness (Items 1, 7), active price comparison behaviour (Items 2, 5, 6), the perceived value of price savings relative to effort (Item 3), reverse-coded price avoidance (Item 4), the cognitive burden of price evaluation (Item 8), and price-quality inference (Item 9). Item 5 is particularly relevant as it captures the active price comparison behaviour and is therefore directly linked to the consumer response to price increases. Negatively worded items (Items 4 & 9) are reverse-coded so that higher values consistently indicate higher price sensitivity. In the PLS-SEM model, price sensitivity is modelled as a moderator of the loyalty-to-WTP relationship

(H5) and simultaneously tested as a dependent variable in relation to product type (H6) (Lichtenstein et al., 1993).

4.4.5. Control Variables

There are four control variables included in the model to guarantee that differences in willingness to pay are not caused by demographic or experience-related third variables that might bias the loyalty. At the same time, the number of control variables is limited to keep the model clear and interpretable. Four standard control variables were therefore used.

Age

Age is the most common used control variable and is determined by categorising the participants into various groups: under 25, 25–34, 35–44, 45–54, 55 and over. Age is relevant because older consumers often display greater brand loyalty whilst at the same time exhibiting a more nuanced price sensitivity than younger consumers, which can influence both the measurement of brand loyalty and willingness to pay (Oliver, 1999).

Gender

Gender is collected as a categorical variable (male / female / diverse / no information provided). Although the influence of gender on WTP is not clear-cut in the literature, it is included as a standard control variable in consumer studies to statistically control for possible gender-specific differences in response to price increases (Schmidt & Bijmolt, 2020).

Income

Income or monthly household budget is measured as an ordinal variable (in income groups). This is because WTP for price increases is structurally linked to the financial situation of the respondents. Consumers with higher incomes tend to be less price-sensitive, and this is therefore a well-founded control variable (Lichtenstein et al., 1993).

Purchase frequency

Purchase frequency is also measured as an ordinal variable and records how often participants usually buy the product in question (perfume or laundry detergent) (e.g. several times a month, monthly, every few months, rarely). This variable is particularly important because consumers who purchase a product very frequently may have a stronger brand loyalty and, at the same time, be more sensitive to price changes than consumers who only purchase the same product occasionally. It therefore can also influence the responses (Chaudhuri & Holbrook, 2001).

4.4.6. Overview of measuring instruments

Table 3 Scales of the constructs

Construct	Scale / Instrument	Response Format	No. of Items	Scale Source
Brand Loyalty	Attitudinal loyalty: attachment, commitment, trust, preference	7-point Likert (1–7)	5 items	Chaudhuri & Holbrook (2001)
WTP Option A	Price premium: higher price tolerance, purchase despite increase	7-point Likert (1–7)	4 items	Netemeyer et al. (2004)
WTP Option B	Maximum WTP in € (product-specific slider)	Numeric Slider (€)	1 item	Hofstetter et al. (2021)
Price Fairness	Fairness, justification, reasonableness, comprehensibility	7-point Likert (1–7)	4 items	Xia, Monroe & Cox (2004)
Price Sensitivity	Price consciousness, comparison behaviour, reactance	7-point Likert (1–7)	9 items	Lichtenstein et al. (1993)
Controls	Age, Gender, Income, Purchase Frequency	Categorical/Ordinal	4 variables	-

4.5. Sampling & Data Collection

The target group for this study consists of adult consumers aged 18 and older who regularly purchase everyday products and therefore have their own purchasing experiences with the product categories, perfume and laundry detergent. There are no plans to restrict the sample to specific demographic groups, since the model should examine general consumption patterns and does not address product-group-specific subpopulations. The goal is to achieve a sample that is as heterogeneous as possible in terms of age, gender, and income in order to minimize misrepresentations caused by an overly homogeneous group and to strengthen the external validity of the results (Shadish, Cook, & Campbell, 2002).

The questionnaire is distributed via digital channels, including social networks such as Instagram, LinkedIn, and WhatsApp groups, as well as student networks. But it should be noted that the use of convenience sampling via digital channels could limit the representativeness of the sample (Malhotra, 2020). The questionnaire is implemented as a complete online survey via the survey platform Qualtrics, which automatically assigns participants at random to one of the four experimental conditions of the 2×2 design. The questionnaire flow is divided into the following sections, consent form, brief introductory questions about product experience, presentation of the randomly assigned scenario, manipulation check, measurement of all constructs, attention check and control variables (Charness et al., 2012).

Participation is entirely voluntary and anonymous. All participants are informed of the study's scientific purpose at the outset and provide their informed consent through active confirmation; without this, participation is not possible.

4.6. Questionnaire

Each participant was randomly assigned to exactly one version and can only completed that one condition. All four versions follow an identical structure involving seven consecutive sections.

Block 1 – Consent and screening: All versions begin with an informed consent form and two product-specific screening questions regarding usage and purchasing experience with the relevant product category. Participants with no personal purchasing experience were immediately excluded from the survey (Appendix A).

Block 2 – Scenario: Participants read a short experimental text which, depending on the condition, establishes either high or low brand loyalty towards a perfume (HIGH_HED / LOW_HED) or laundry detergent (HIGH_UTI / LOW_UTI). All four scenarios end with the identical price increase statement: the price of the brand has risen by 20% since the last purchase (Appendix A).

Block 3 – Manipulation Check: Three items on a 7-point Likert scale are used to check whether the level of loyalty was perceived as intended (MC1–MC3). Significantly higher scores are expected in high-loyalty conditions than in low-loyalty conditions (Appendix A).

Block 4 – Brand Loyalty: Five items (BL1–BL5) based on Chaudhuri & Holbrook (2001) measure the perceived level of loyalty towards the brand described in the scenario.

Block 5 – Willingness to Pay: In this study, all participants complete both WTP formats. First, four Likert items (WTP1-A to WTP4-A) based on Netemeyer et al. (2004) are collected on a 7-point scale (Option A). This is followed by a numerical slider question based on Hofstetter et al. (2021), in which the maximum payment amount is specified in euros (Option B). The slider's value range was adjusted to suit the specific product (€0–€150 for perfume; €0–€15 for laundry detergent). Combining both formats in a single version allows for a direct convergence test within the same participant.

Block 6 & 7 – Price Fairness and Price Sensitivity: Price Fairness is measured using four items based on Xia, Monroe & Cox (2004), with PF4 being recoded. Price sensitivity is then measured using nine items based on Lichtenstein et al. (1993), with PS4 and PS9 recoded. An attention-check item (“To show that you are paying attention, please select 6 for this item”) is added between the two scales, participants who give the wrong answer are excluded from the analysis

Block 8 – Control variables: The section concludes with four demographic control variables: age, gender, monthly net income, and product-category-specific purchase frequency.

Table 4 Measurement items used in the survey

PART 4 — BRAND LOYALTY (same for all Versions)			
#	Item	Scale	Source

BL1	<i>I am committed to this brand.</i>	7-point Likert (1–7)	Chaudhuri & Holbrook (2001)
BL2	<i>I would be willing to pay a higher price for this brand than for other brands.</i>	7-point Likert (1–7)	Chaudhuri & Holbrook (2001)
BL3	<i>I would not buy another brand if this brand were available at the store.</i>	7-point Likert (1–7)	Chaudhuri & Holbrook (2001)
BL4	<i>I trust this brand.</i>	7-point Likert (1–7)	Chaudhuri & Holbrook (2001)
BL5	<i>This brand is my preferred brand in its product category.</i>	7-point Likert (1–7)	Chaudhuri & Holbrook (2001)

PART 5 — WTP (Option A vs. B)			
#	Item	Format	Source
WTP1 - A	<i>The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.</i>	7-point Likert (1–7)	Netemeyer et al. (2004)
WTP2 - A	<i>I am willing to pay more for this brand than for other brands.</i>	7-point Likert (1–7)	Netemeyer et al. (2004)
WTP3 - A	<i>I would pay a higher price for this brand over other brands just to get what this brand offers.</i>	7-point Likert (1–7)	Netemeyer et al. (2004)
WTP4 - A	<i>If this brand raised its price, I would still buy it in preference to buying another brand.</i>	7-point Likert (1–7)	Netemeyer et al. (2004)
WTP1 - B	<i>What is the maximum price you would be willing to pay for this brand before switching to another brand?</i>	Numeric (€) Slider	Hofstetter et al. (2021)

PART 6 — PRICE FAIRNESS (same for all Versions)			
#	Item	Scale	Source
PF1	<i>The price increase for this brand is fair.</i>	7-point Likert (1–7)	Xia, Monroe & Cox (2004)
PF2	<i>The price increase for this brand is justified.</i>	7-point Likert (1–7)	Xia, Monroe & Cox (2004)
PF3	<i>The price increase for this brand is reasonable.</i>	7-point Likert (1–7)	Xia, Monroe & Cox (2004)
PF4 (R)	<i>The price increase for this brand is unacceptable.</i>	7-point Likert (1–7) (reverse-coded)	Xia, Monroe & Cox (2004)

ATTENTION CHECK (same for all Versions)			
#	Item	Format	Source
AC1	<i>People often do not read questions carefully. To show that you are paying attention, please select "6" for this item.</i>	7-point Likert (1–7)	

PART 7 — PRICE SENSITIVITY (same for all Versions)			
#	Item	Scale	Source
PS1	<i>I am very concerned about low prices when I shop.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)
PS2	<i>I will grocery shop at more than one store to take advantage of low prices.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)
PS3	<i>The money saved by finding low prices is usually worth the time and effort.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)
PS4 (R)	<i>I would never shop at more than one store to find low prices.</i>	7-point Likert (1–7) (reverse-coded)	Lichtenstein et al. (1993)
PS5	<i>I compare prices carefully before purchasing a product.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)
PS6	<i>I always check prices at more than one store before I buy.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)
PS7	<i>I check prices even on small items.</i>	7-point Likert (1–7)	Lichtenstein et al. (1993)

PS8	<i>I think too much about whether the price of a product is affordable before making a decision.</i>	<i>7-point Likert (1–7)</i>	<i>Lichtenstein et al. (1993)</i>
PS9 (R)	<i>A higher price is a good indicator of a product's quality.</i>	<i>7-point Likert (1–7) (reverse-coded)</i>	<i>Lichtenstein et al. (1993)</i>

4.7. Statistical Analysis Method

The statistical analysis will be using Partial Least Squares Structural Equation Modelling (PLS-SEM), which is performed with the SmartPLS 4 software. PLS-SEM is a variance-based method that can simultaneously estimates the relationships between the latent constructs and their manifest indicators while also explaining the variance of the variables. In contrast to covariance-based SEM, PLS-SEM does not assume a multivariate normal distribution of the data and places significantly lower demands on sample size, making it suitable for experimental survey designs with smaller sample sizes (Hair et al., 2019).

The decision to use PLS-SEM is based on four arguments. First, the model is more exploratory and predictive and therefore aims to explain the variance in WTP rather than confirm a predefined covariance structure. (Hair et al., 2019). Second, the model combines reflective measurement models (brand loyalty, willingness to pay, price fairness, price sensitivity) with moderating relationships a level of structural complexity that PLS-SEM efficiently handles within a single coherent model (Hair et al., 2017). Third, the final sample size of $n = 136$ still falls within the acceptable range for PLS-SEM, which requires at least ten cases per path, this minimum is fulfilled in the present model (Hair et al., 2019). Fourth, PLS-SEM allows for the simultaneous testing of the measurement model and the structural model, which directly supports the assessment of construct validity, reliability, and path coefficients in a single analytical step (Hair et al., 2019).

The analysis follows a two-step procedure, as it is recommended by Hair et al. (2017). In the first stage, the measurement model is evaluated by examining indicator reliability, internal consistency (Cronbach's alpha and composite reliability), convergent validity (AVE), and discriminant validity (HTMT criterion). In the second stage, the structural model is evaluated by examining collinearity (VIF) the path coefficients, their significance levels using bootstrapping, effect sizes (f^2), and the explained variance (R^2) of the endogenous constructs. Moderator effects (H4, H5) are tested using the interaction term approach in SmartPLS 4 (Hair et al., 2017).

5. Results

5.1. Sample Description & Data Preparation

Overall, 216 people participated in the survey. Starting from this, all preview cases were first excluded from the analysis, followed by incomplete cases, cases that failed the attention check and cases with a completion time of less than 120 seconds. Later on, the cases that failed the manipulation check were also excluded. Following this step-by-step data cleaning, the final sample comprises 136 valid cases. The study is therefore based on a cleaned dataset to meet the requirements for further statistical analysis.

The final cases are distributed across the four experimental conditions: High Hedonic (n=42), High Utilitarian (n=30), Low Hedonic (n=30) and Low Utilitarian (n=34). Even though the group sizes are not entirely equal, the distribution is still comprehensible for an experimental PLS-SEM design and methodologically acceptable (Hair et al., 2017).

Regarding the control variables, the sample is predominantly young to middle-aged. The largest age group is the 25–34 age group, accounting for 36.76%, followed by those under 25, with 21.32%. A further 16.18% are between 35 and 44 years, 15.44% between 45 and 54, and 10.29% belong to the 55 and over age group.

In terms of gender, the distribution is slightly skewed towards men. With 54.41% of respondents identify as male, 41.18% as female, and only 4.41% stated ‘prefer not to say’. No respondents identified as diverse. Overall, the sample does not show any extreme gender bias.

In terms of monthly net income, the distribution is concentrated primarily in the lower to middle range. With 26.47% of respondents report a net income of between €1,000 and €1,999, whilst a further 25.00% earn between €2,000 and €2,999. In addition, 18.38% have less than €1,000 per month, 13.24% earn between €3,000 and €3,999 and only 2.94% report an income of €4,000 or more. 13.97% did not provide any information on this.

The purchasing behaviour of the respondents is also relevant to the interpretation of the results. The majority of participants only purchase the product category in question infrequent. With 43.38% stating that they buy the products every few months, 25.74% only once or twice a year, and 22.06% less than once a year. Only 7.35% buy the product once a month and 1.47% several times a month. The sample is therefore predominantly made up of occasional buyers.

Table 5 Control Variables

CV1 — Age	Percentage	Count
Under 25	21,32%	29
25–34	36,76%	50
35–44	16,18%	22
45–54	15,44%	21
55 and over	10,29%	14
Grand Total	100,00%	136

CV2 — Gender	Percentage	Count
Female	41,18%	56
Male	54,41%	74
Prefer not to say	4,41%	6
Grand Total	100,00%	136

CV3 — Monthly Net Income	Percentage	Count
Under €1,000	18,38%	25
€1,000–€1,999	26,47%	36
€2,000–€2,999	25,00%	34
€3,000–€3,999	13,24%	18
€4,000 and above	2,94%	4
Prefer not to say	13,97%	19
Grand Total	100,00%	136

CV4 — Purchase Frequency	Percentage	Count
Several times a month	1,47%	2
Once a month	7,35%	10
Every few months	43,38%	59
Once or twice a year	25,74%	35
Rarely / less than once a year	22,06%	30
Grand Total	100,00%	136

The control variables collected were included in the study to account for possible alternative explanations for differences in willingness to pay. In particular, age, gender, monthly net income and purchase frequency can influence the perception of prices, brand loyalty and willingness to pay, therefore they contribute to the robustness of the analysis.

5.2 Manipulation Check

To test the effectiveness of the loyalty manipulation, a manipulation check was carried out using items MC1 to MC3. As mentioned previously, participants who did not pass the Manipulation check were excluded for the analysis to begin with. Participants who were excluded due to unusually high or low scores were also removed, as these responses suggest that the text was either not understood or not read carefully at all (Charness et al., 2012).

Participants in the high loyalty conditions showed significantly higher scores than those in the low loyalty conditions. For the high conditions, the mean was $M = 6.33$ with a standard deviation of $SD = 0.61$, while the low conditions showed a mean of $M = 1.82$ and a standard deviation of $SD = 1.16$. The difference was significant ($p = 0.004$), confirming that the manipulation of brand loyalty was successful.

Participants in the high loyalty conditions showed significantly higher scores than those in the low loyalty conditions. For the hedonic product condition, the high loyalty group scored $M = 6.53$ ($SD = 0.69$, $n = 42$) compared to $M = 1.99$ ($SD = 1.18$, $n = 30$) in the low loyalty group, $t(70) = 18.97$, $p = 0.0037$. For the utilitarian product condition, the high loyalty group scored

M = 6.13 (SD = 0.52, n = 30) compared to M = 1.65 (SD = 1.14, n = 34), $t(62) = 20.61$, $p = 0.0037$. Across both product conditions, the manipulation of brand loyalty was therefore confirmed as successful.

Table 6 Overview Manipulation Check

Path	Standard deviation	Sample Size	Sample mean	T statistics	P values
HIGH_HED	0,6892	42	6,5317	18,9661	0,0037
HIGH_UTIL	0,5236	30	6,1333	20,6122	
LOW_HED	1,1755	30	1,9889	18,9661	
LOW_UTIL	1,1401	34	1,6471	20,6122	

5.3. Measurement Model

As already explained in the section on the analytical approach, PLS-SEM is used for the statistical analysis, which is conducted using SmartPLS 4. The analysis follows a two-step procedure, as recommended by Hair et al. (2019).

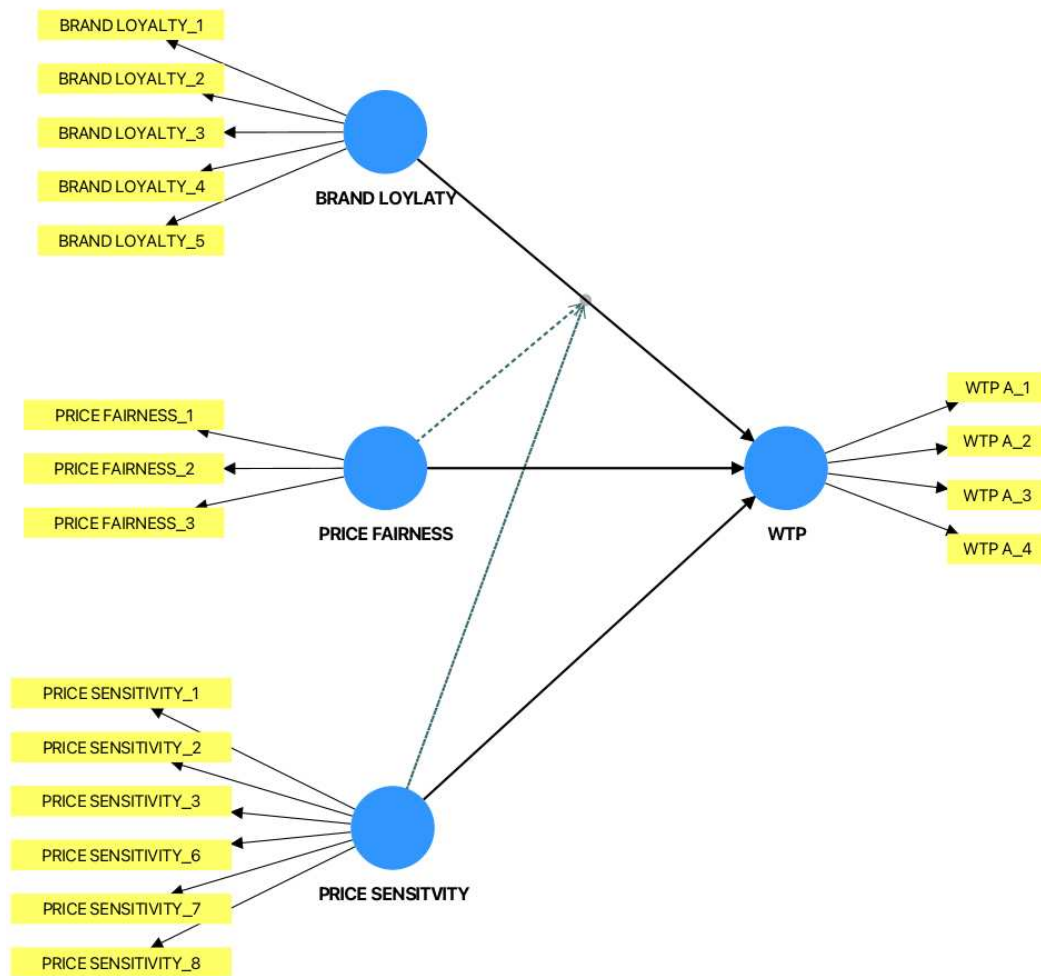
The goal of the following section is to verify whether the used scales reliably and validly measure the constructs brand loyalty, price fairness, price sensitivity and willingness to pay. This ensures that the hypothesis tests are based on a sound and methodologically sound foundation and that the observed relationships are not distorted (Hair et al. 2019).

The standard indicator which are used to asses that, are the outer loadings which should be above 0.70, Cronbach's alpha and composite reliability should also be above 0.70, the average variance extracted should be above 0.50, and the HTMT values should be below 0.85. These criteria are evaluating if the constructs are sufficiently measuring the model (Hair et al, 2017).

Items with lower loadings are removed if this improves the quality of the model and does not compromise the construct's content validity. This ensures that the measurement remains both statistically robust and methodologically correct.

All constructs are modelled as reflective, as the latent variables (brand loyalty, price fairness, price sensitivity, WTP) are theoretically assumed to cause the observed item responses. The indicators share a common theme, are expected to correlate, and are interchangeable without altering the conceptual meaning of the construct (Hair et al., 2017)

Figure 3 Hypothesised Path Model



5.3.1. Brand Loyalty

The construct of brand loyalty has a very high overall measurement quality. The items load consistently and clearly onto the relevant construct in all models. This suggests that brand loyalty has been effectively implemented.

The external loadings are also, for the most part, well above the recommended range of 0.70. The construct therefore meets the requirement for indicator reliability and shows that the items capture the latent construct of brand loyalty with sufficiently. It should be noted that in the LOW_HED_B and LOW_UTIL_B conditions, items BL1, BL2, and BL4 respectively were not retained in the final model, which reflects the smaller and more heterogeneous sample composition in the low-loyalty conditions.

Table 7 Outer loadings Brand Loyalty

Item	HIGH_HED A	HIGH_HED B	HIGH_UTIL A	HIGH_UTIL B	LOW_HED A	LOW_HED B	LOW_UTIL A	LOW_UTIL B
BL1	0.784	0.739	0.856	0.881	0.919	0.955	0.895	—
BL2	0.831	0.837	0.744	0.752	0.814	0.880	0.909	—

Item	HIGH_ HED A	HIGH_ HED B	HIGH_ UTIL A	HIGH_ UTIL B	LOW_ HED A	LOW_ HED B	LOW_ UTIL A	LOW_ UTIL B
BL3	0.817	0.866	0.743	0.787	0.860	0.852	0.928	0.917
BL4	0.880	0.877	0.886	0.856	0.877	—	0.793	0.960
BL5	0.895	0.866	0.860	0.814	0.802	—	0.915	0.875

The internal consistency is also very good. Both Cronbach's alpha and composite reliability fall within the acceptable range, which indicates a high degree of homogeneity among the items within the construct.

Furthermore, convergent validity is established, as the AVE values are well above 0.50. This demonstrates that the indicators share sufficient variance to adequately capture the latent construct of brand loyalty.

Table 8 Internal consistency Brand Loyalty

Condition	Cronbach's α	CR (rho_c)	AVE
HIGH_HED_A	0.898	0.924	0.709
HIGH_HED_B	0.898	0.922	0.703
HIGH_UTIL_A	0.878	0.911	0.672
HIGH_UTIL_B	0.878	0.911	0.671
LOW_HED_A	0.908	0.932	0.732
LOW_HED_B	0.877	0.925	0.804
LOW_UTIL_A	0.934	0.950	0.791
LOW_UTIL_B	0.924	0.941	0.843

Overall, brand loyalty can therefore be described as the most stable and robust construct in the measurement model. It meets all the key quality criteria and provides a solid foundation for the following structural model analyses.

5.3.2. Price Fairness

The construct Price Fairness also demonstrates a very good measurement quality. The items load consistently onto the construct and provide a consistent picture of perceptions regarding the fairness of a price increase.

The external loadings are consistently within the acceptable range, meaning that the indicators' reliability criteria have been met, which clearly demonstrates that the individual items reliably measure price fairness.

Table 9 Outer loadings Price Fairness

Item	HIGH_HED_A	HIGH_HED_B	HIGH_UTIL_A	HIGH_UTIL_B	LOW_HED_A	LOW_HED_B	LOW_UTIL_A	LOW_UTIL_B
PF1	0.930	0.926	0.978	0.976	0.968	0.951	0.981	0.984
PF2	0.973	0.944	0.995	0.994	0.959	0.954	0.968	0.972
PF3	0.963	0.928	0.987	0.988	0.969	0.982	0.970	0.970
PF4 (R)	—	0.747	—	—	—	—	0.868	0.860

The internal consistency is also high, as both Cronbach's alpha and composite reliability clearly meet the recommended levels. The scale is therefore not only statistically robust but also internally consistent. It should be noted that the composite reliability (rho_a) for the HIGH_HED_B condition (1.046), HIGH_UTIL_A (1.055), LOW_HED_B (1.211) and LOW_UTIL_B conditions slightly exceeds 1.0, which can occasionally occur in PLS-SEM due to negative error term covariances and does not invalidate the construct (Hair et al., 2019). The AVE is also well above 0.50, confirming convergent validity. The items therefore share sufficient common variance and measure the same underlying construct.

Table 10 Internal consistency Price Fairness

Condition	Cronbach's α	CR (rho_c)	AVE
HIGH_HED_A	0.954	0.969	0.913
HIGH_HED_B	0.909	0.938	0.792
HIGH_UTIL_A	0.986	0.991	0.973
HIGH_UTIL_B	0.986	0.991	0.972
LOW_HED_A	0.963	0.976	0.932
LOW_HED_B	0.963	0.974	0.926
LOW_UTIL_A	0.962	0.972	0.899
LOW_UTIL_B	0.962	0.973	0.899

Overall, it can be said that the Price Fairness scale very robust. Given the high reliability coefficients, care should simply be taken to ensure that there is no unnecessary redundancy in the content of the items.

5.3.3. Price Sensitivity

The Price Sensitivity construct also demonstrates a good to a very good measurement quality. The items reliably capture the respondents' price orientation and show stable factor loadings in most models.

The external loadings are mostly within an acceptable range, meaning that the reliability of the indicators is generally guaranteed. However, some items show lower values in specific conditions, which needs to be taken into account when interpreting the results.

Table 11 Outer loadings Price Sensitivity

Item	HIGH_ HED A	HIGH_ HED B	HIGH_ UTIL A	HIGH_ UTIL B	LOW_ HED A	LOW_ HED B	LOW_ UTIL A	LOW_ UTIL B
PS1	0.778	0.819	0.880	0.958	—	0.837	0.777	—
PS2	0.784	0.901	0.905	0.914	0.788	0.908	0.817	0.823
PS3	0.815	0.885	0.853	0.956	0.815	0.926	0.778	0.898
PS4 (R)	—	—	0.811	0.722	—	0.837	—	0.623
PS5	—	0.767	0.903	0.832	0.837	0.838	0.944	0.932
PS6	0.844	0.930	0.941	0.718	0.961	0.808	—	0.706
PS7	0.895	0.909	0.829	0.752	0.918	0.825	0.886	0.902
PS8	0.967	0.893	0.959	0.799	0.844	0.777	—	0.775

Internal consistency is good across all conditions, with Cronbach's alpha ranging from 0.902 to 0.965 and composite reliability ranging from 0.924 to 0.967. Both are consistently above the recommended range of 0.70 (Hair et al., 2017). AVE values range from 0.700 to 0.786, all well above the minimum of 0.50, confirming convergent validity across conditions. Discriminant validity is confirmed, with all HTMT values involving price sensitivity well below 0.85 (Hair et al., 2017).

Table 12 Internal consistency Price Sensitivity

Condition	Cronbach's α	CR (rho_c)	AVE
HIGH_HED_A	0.954	0.939	0.722
HIGH_HED_B	0.955	0.957	0.763
HIGH_UTIL_A	0.965	0.967	0.786
HIGH_UTIL_B	0.965	0.949	0.700
LOW_HED_A	0.946	0.946	0.744
LOW_HED_B	0.948	0.952	0.715

Condition	Cronbach's α	CR (rho_c)	AVE
LOW_UTIL_A	0.902	0.924	0.711
LOW_UTIL_B	0.933	0.937	0.714

Specifically, PS9 was removed across all conditions due to insufficient factor loadings, as it measures price-quality inference rather than price sensitivity in the classical sense. Additional items were selectively removed per condition as shown in the table above. One exception is PS4 in the LOW_UTIL_B condition, where the loading of 0.623 falls marginally below the recommended threshold of 0.70 and represents a minor limitation specific to this condition (Hair et al., 2017).

In terms of content, price sensitivity can therefore be viewed as a useful and reliable construct, although it proves somewhat more sensitive with respect to the reverse-coded items.

5.3.4. Willingness to Pay

The Willingness to Pay construct also demonstrates very high overall outer loadings, indicating that it is a particularly strong construct. The items capture the willingness to accept a higher price for the brand very clearly and consistently. WTP is measured using two formats. Option A uses a validated four-item Likert scale (Netemeyer et al., 2004), while Option B uses a single-item numeric slider (Hofstetter et al., 2021).

Table 13 Outer loadings WTP

Item	HIGH_HED	HIGH_UTIL	LOW_HED	LOW_UTIL
WTP_A1	0.920	0.889	0.914	0.943
WTP_A2	0.962	0.889	0.928	0.959
WTP_A3	0.951	0.868	0.937	0.954
WTP_A4	0.918	0.931	0.760	0.963
WTP_B	1.000	1.000	1.000	1.000

Option A demonstrates excellent measurement quality across all conditions, with all outer loadings above 0.76 (Hair et al., 2017). Option B consists of a single numeric slider item (WTP_B), which by definition yields an outer loading and AVE of 1.000. As single-item constructs are not evaluated using the same multi-item reliability criteria, their validity rests on content validity and the theoretical justification explained in Section 4.4 (Hair et al., 2017; Hofstetter et al., 2021).

All HTMT values involving WTP remain below 0.85 across conditions, confirming discriminant validity, with the exception of the LOW_HED Option A condition (HTMT with

Brand Loyalty = 0.838), which nonetheless remains within the acceptable range (Hair et al., 2017).

Table 14 Internal consistency WTP

Condition	Cronbach's α	CR (rho_c)	AVE
HIGH_HED	0.955	0.967	0.880
HIGH_UTIL	0.917	0.941	0.800
LOW_HED	0.908	0.937	0.788
LOW_UTIL	0.968	0.976	0.912

In summary, the WTP construct can therefore be considered a very reliable and stable measure. The scale is well suited to serve as a dependent variable in the subsequent structural model analyses.

5.3.6. Discriminant Validity

Discriminant validity was assessed by using the heterotrait-monotrait ratio (HTMT), with a threshold of 0.85 applied given the distinctiveness of the constructs in this model (Hair et al., 2017). Across all four experimental conditions and both measurement options for willingness to pay, the majority of HTMT values are well below this threshold, which confirms that the constructs are empirically distinguishable.

The highest HTMT values occur in the LOW_HED condition (Option A), where HTMT (Brand Loyalty, WTP) = 0.838 and HTMT (Price Fairness, WTP) = 0.813. Although both values fall within the acceptable range, they suggest a certain overlap between brand loyalty, perceived price fairness, and WTP in the hedonic condition with low brand loyalty. This result is theoretically plausible, as consumers with low brand loyalty may base their willingness to pay primarily on fairness assessments rather than emotional attachment, leading to higher construct correlations. All other HTMT values across all conditions are well below 0.85, with the majority falling below 0.70 (Hair et al., 2017).

Overall, the discriminant validity of the measurement model is confirmed. The constructs differ sufficiently from one another to serve as separate predictors and moderators in the structural equation model analysis.

5.4. Structural Model

In this section, the different scenarios are analysed separately for each of the four experimental conditions. The focus is on the direct effects of brand loyalty, price fairness, and price sensitivity on willingness to pay, as well as the model's explanatory power in those scenarios.

The survey covers both direct effects and moderation effects. Following Hair et al. (2017), the interpretation of interaction effects requires that the direct effects of all constructs involved be taken into account alongside the moderation terms, as the significance and direction of the moderator can only be meaningfully assessed in conjunction with the main effects.

For each scenario, the results are analysed in the same order. This should allow the four conditions to be compared more easily with one another, and it becomes clear which effects are significant and to what extent the model explains the dependent variable willingness to pay (Hair et al., 2017). This approach is particularly important, as the effect of the independent variable 'product type' is examined by comparing the different conditions, to determine whether the relationships between hedonic and utilitarian products differ.

5.4.1. HIGH_HED

The hedonic scenario with high loyalty has some of the clearest and most easily interpretable results of the entire analysis. The model explains 60.3% of the variance in WTP for Option A ($R^2 = 0.603$), which is classified as "substantial" according to Hair et al. (2017), and 33.2% of the variance in WTP for Option B ($R^2 = 0.332$), which indicates a "weak to moderate" fit. The significantly better explanatory power for Option A suggests that the Likert-scale format captures the attitudes in this scenario more precisely than the single-item slider.

In this scenario, brand loyalty proves to be the dominant driver of willingness to pay. With $\beta = 0.629$, $t = 5.340$, $p < 0.001$ and $f^2 = 0.726$. The effect in Option A is highly significant and, represents a large effect size (Hair et al., 2017). This means that in a hedonic context, where consumers already feel a strong attachment to a brand, this emotional attachment has a directly and strongly effect in a willingness to accept higher prices. The matching effect in Option B ($\beta = 0.374$, $t = 2.170$, $p = 0.030$, $f^2 = 0.157$) is weaker but still statistically significant.

Price fairness plays a significant role in explaining WTP. In Option A, $\beta = 0.330$, $t = 3.946$, $p < 0.001$ and $f^2 = 0.250$, indicating a moderate effect size. In Option B, the effect is similar, with $\beta = 0.371$, $t = 2.777$, $p = 0.006$ and $f^2 = 0.191$. It needs to be mentioned that this effect is consistent across both formats, suggesting that even among highly loyal consumers, the perceived justification for a price increase plays an independent role. Loyalty alone does not mean that consumers are indifferent to the way in which a price increase is presented or communicated.

Price sensitivity, on the other hand, does not play a significant role in this scenario. The coefficients are $\beta = -0.153$, $p = 0.556$, $f^2 = 0.041$ in Option A and $\beta = -0.064$, $p = 0.778$, $f^2 = 0.004$ in Option B, both of which are insignificant, with negligible effect sizes that lie well below the limit of 0.15 (Hair et al., 2017). Whilst the negative direction is consistent with theoretical expectations, the effect is, statistically speaking, entirely non-existent. In an

environment characterised by high loyalty and hedonic consumption, general price sensitivity appears to be overridden by the strength of brand loyalty.

A similar pattern can be seen regarding the moderation effects, none of the interaction terms reaches significance in either measurement format. Price fairness $\times$ brand loyalty reaches $\beta = 0.022$, $p = 0.829$, $f^2 = 0.00$, in Option A and $\beta = 0.137$, $p = 0.528$, $f^2 = 0.017$ in Option B. Price sensitivity $\times$ brand loyalty reaches $\beta = 0.095$ ($p = 0.722$, $f^2 = 0.011$) in Option A and $\beta = -0.167$ ($p = 0.452$, $f^2 = 0.019$) in Option B. All f^2 values are negligible which indicates that, under these conditions, price fairness and price sensitivity does not significantly moderate the relationship between brand loyalty and WTP. One plausible explanation is that the consistently high level of loyalty in this group does not allow for sufficient variance in the moderator for a detectable interaction effect to emerge. When almost all respondents exhibit high levels of brand loyalty, the construct loses its ability to distinguish between subgroups.

Table 15 HIGH_HED

Scenario	Path	β	t	p	f^2	R ² WTP
HIGH_HED_A	Brand Loyalty $\rightarrow$ WTP	0.629	5.340	< 0.001	0.726	0.603
HIGH_HED_A	Price Fairness $\rightarrow$ WTP	0.330	3.946	< 0.001	0.250	0.603
HIGH_HED_A	Price Sensitivity $\rightarrow$ WTP	-0.153	0.589	0.556	0.041	0.603
HIGH_HED_A	PF $\times$ Brand Loyalty $\rightarrow$ WTP	0.022	0.216	0.829	0.001	0.603
HIGH_HED_A	PS $\times$ Brand Loyalty $\rightarrow$ WTP	0.095	0.356	0.722	0.011	0.603
HIGH_HED_B	Brand Loyalty $\rightarrow$ WTP	0.374	2.170	0.030	0.157	0.332
HIGH_HED_B	Price Fairness $\rightarrow$ WTP	0.371	2.777	0.006	0.191	0.332
HIGH_HED_B	Price Sensitivity $\rightarrow$ WTP	-0.064	0.282	0.778	0.004	0.332
HIGH_HED_B	PF $\times$ Brand Loyalty $\rightarrow$ WTP	0.137	0.631	0.528	0.017	0.332
HIGH_HED_B	PS $\times$ Brand Loyalty $\rightarrow$ WTP	-0.167	0.752	0.452	0.019	0.332

Overall, brand loyalty and price fairness are the most important factors influencing willingness to pay in the hedonic scenario characterised by high brand loyalty. Their effects are direct, robust and consistent across both measurement formats, whilst neither price sensitivity nor the moderating effect of price fairness or price sensitivity make a significant contribution to explaining willingness to pay.

5.4.2. HIGH_UTI

In the utilitarian scenario with high loyalty the effect is different from previous hedonic scenario. The model explains 40.9% of the variance in willingness to pay for Option A ($R^2 = 0.409$), which Hair et al. (2017) classify as “moderate”, and 56.7% of the variance in willingness to pay for Option B ($R^2 = 0.567$), which is considered substantial. The significantly higher explanatory power for Option B is unusual especially compared with the

pattern observed for HIGH_HED and may reflect greater variability in responses to the slider format under the utilitarian conditions.

Brand loyalty once again proves to be the dominant, significant factor influencing willingness to pay. In Option A, $\beta = 0.644$, $t = 2.698$, $p = 0.007$ and $f^2 = 0.481$, which indicates a strong effect. In Option B, the effect is even stronger, $\beta = 0.672$, $t = 3.321$, $p = 0.001$ and $f^2 = 0.720$. The consistency of this finding across both formats is interesting, apparently even in a utilitarian context, where purchasing decisions are typically driven by functional rather than emotional considerations, brand loyalty remains a strong and dominant predictor of willingness to pay.

The fundamental difference compared with HIGH_HED is the role of price fairness. In Option A, the effect with $\beta = 0.136$, $p = 0.537$ and $f^2 = 0.025$ is completely insignificant and has a negligible effect size. The same pattern can be seen for Option B: $\beta = 0.292$, $p = 0.129$ and $f^2 = 0.160$, here, the value is also not within the significant range. This stands in contrast to the hedonic scenario, in which price fairness proved to be a consistently more robust and meaningful predictor in both formats. In a utilitarian context, the question of whether a price increase is perceived as fair or unfair appears to have little influence on consumers' willingness to pay, brand loyalty almost entirely determines the decision.

Similar to price fairness does price sensitivity also not show a significant effect in either of the two formats. In Option A, $\beta = -0.005$, $p = 0.984$ and $f^2 = 0.000$, a coefficient that is practically zero. In Option B, $\beta = -0.254$, $p = 0.278$ and $f^2 = 0.144$, although this value is larger in absolute terms, it is still not significant. In particular, the f^2 value in Option A, which is virtually zero, underlines the fact that price sensitivity does not contribute to explaining willingness to pay under these conditions.

Again, none of the moderating factors reaches significance in either format. In Option A, 'Price fairness $\times$ brand loyalty' reaches $\beta = 0.004$, $p = 0.991$ and $f^2 = 0.000$, whilst 'Price sensitivity $\times$ brand loyalty' reaches $\beta = 0.230$, $p = 0.403$ and $f^2 = 0.059$. In Option B, the corresponding values are $\beta = 0.063$, $p = 0.808$, $f^2 = 0.006$ and $\beta = -0.073$, $p = 0.733$, $f^2 = 0.010$, respectively. All moderating effect sizes are negligible, confirming that, under these conditions, both moderate do not have any influence on the relationship between brand loyalty and willingness to pay (Hair et al., 2017).

From a methodological point of view, it should be noted that the composite reliability ρ_a for 'price fairness' is above 1.0 for both options (1.055 in Option A, 1.132 in Option B), as is the case for 'price sensitivity' in Option A (1.076). Which is a well-known anomaly in PLS-SEM which happens from a negative covariances of the error terms. Whilst this does not invalidate the structural results, it should be taken into account as a limitation when interpreting the construct-level estimates for these two variables in the HIGH_UTIL condition (Hair et al., 2017, Kock & Hadaya, 2018).

Table 16 HIGH_UTIL

Scenario	Path	β	t	p	f^2	R ² WTP
HIGH_UTIL_A	Brand Loyalty $\rightarrow$ WTP	0.644	2.698	0.007	0.481	0.409

Scenario	Path	β	t	p	f ²	R ² WTP
HIGH_UTIL_A	Price Fairness → WTP	0.136	0.618	0.537	0.025	0.409
HIGH_UTIL_A	Price Sensitivity → WTP	−0.005	0.021	0.984	0.000	0.409
HIGH_UTIL_A	PF × Brand Loyalty → WTP	0.004	0.011	0.991	0.000	0.409
HIGH_UTIL_A	PS × Brand Loyalty → WTP	0.230	0.837	0.403	0.059	0.409
HIGH_UTIL_B	Brand Loyalty → WTP	0.672	3.321	0.001	0.720	0.567
HIGH_UTIL_B	Price Fairness → WTP	0.292	1.517	0.129	0.160	0.567
HIGH_UTIL_B	Price Sensitivity → WTP	−0.254	1.086	0.278	0.144	0.567
HIGH_UTIL_B	PF × Brand Loyalty → WTP	0.063	0.243	0.808	0.006	0.567
HIGH_UTIL_B	PS × Brand Loyalty → WTP	−0.073	0.342	0.733	0.010	0.567

Overall, the HIGH_UTIL condition confirms that brand loyalty is the only significant and dominant driver of willingness to pay when the product is utilitarian in nature and brand loyalty is high. The complete absence of a price fairness effect, is the biggest different from the hedonic scenario, suggests that the product category has a decisive influence on which factors consumers consider when deciding whether to accept a price increase. In utilitarian contexts, the strength of brand loyalty appears to be sufficient in itself.

5.4.3. LOW_HED

The third scenario is the hedonic low loyalty scenario, which reaches the highest R² value across all four conditions, with Option A explaining 69.2% of the variance in WTP (R² = 0.692), which is considered substantial by the standards of Hair et al. (2017). However, this result is somewhat paradoxical. Despite a generally good model fit, none of the individual paths reaches the significance level with the same clarity as in the high-loyalty conditions. This leads to a more limited interpretation and likely reflects the lower statistical power associated with the smaller subsample size in this group.

Brand loyalty is the only construct to reach statistical significance in Option A, with $\beta = 0.471$, $t = 1.991$, $p = 0.047$, and $f^2 = 0.226$, representing a “medium” effect size. The effect is small and just reaching the conventional 5% limit, but it is statistically significant. This suggests that even amongst consumers with relatively low loyalty, the degree of brand attachment still plays a role in the willingness to pay for a hedonic product. The finding is noteworthy precisely because it occurs under conditions where one might expect brand loyalty to be largely irrelevant.

Although price fairness comes close to statistical significance, it closely fails to reach it, with $\beta = 0.442$, $p = 0.076$ and $f^2 = 0.252$. The effect size is moderate and comparable in effect size to that of brand loyalty, which certainly makes interpreting the non-significant p-value

particularly difficult. In all likelihood, this is more a problem of statistical power than an actual absence of an effect. with a larger subsample, this path could reach significance. The practical relevance of price fairness in this scenario should therefore not only be based of the p-values.

Again, price sensitivity shows no significant influence ($\beta = 0.030$, $p = 0.896$, $f^2 = 0.002$) an effect that can be negligible. As with the other conditions, price sensitivity does not explain WTP on its own once brand-related and fairness-related factors are taken into account.

Neither of the two moderation terms reaches significance. ‘Price fairness $\times$ brand loyalty’ results in $\beta = -0.011$, $p = 0.952$ and $f^2 = 0.001$, whilst ‘price sensitivity $\times$ brand loyalty’ results in $\beta = -0.017$, $p = 0.929$ and $f^2 = 0.000$. Neither shows any statistical or practical significance, which is consistent with the pattern observed so far across all conditions.

The HTMT values for ‘price fairness and willingness to pay’ (0.838) and ‘price sensitivity and willingness to pay’ (0.813) in Option A are the highest observed across all conditions and are approaching the level of 0.85. Although both values are technically within the acceptable range, in this scenario they indicate a certain degree of overlap between the constructs, which should be recognised as a limitation, particularly given the smaller subsample (Hair et al., 2017).

Option B has a completely different and less interpretable dataset. With an R^2 value of 0.125, the model explains only 12.5% of the variance in WTP, a poor fit, and no path reaches significance. Brand loyalty reaches $\beta = -0.117$, $p = 0.790$; price fairness $\beta = 0.077$, $p = 0.851$; price sensitivity $\beta = -0.285$, $p = 0.425$. Neither of the interaction terms is significant either ($p > 0.80$). The rho_a value for price fairness exceeds 1.0 (1.211) and the adjusted R^2 is negative (-0.057), indicating that the model in this form offers no explanatory power. The single-item slider appears to be ill-suited to measuring willingness to pay in a hedonic context with low loyalty, and the results from Option B for this condition cannot be interpreted.

Table 17 LOW_HED

Scenario	Path	β	t	p	f^2	R^2 WTP
LOW_HED_A	Brand Loyalty $\rightarrow$ WTP	0.471	1.991	0.047	0.226	0.692
LOW_HED_A	Price Fairness $\rightarrow$ WTP	0.442	1.778	0.076	0.252	0.692
LOW_HED_A	Price Sensitivity $\rightarrow$ WTP	0.030	0.131	0.896	0.002	0.692
LOW_HED_A	PF $\times$ Brand Loyalty $\rightarrow$ WTP	-0.011	0.060	0.952	0.001	0.692
LOW_HED_A	PS $\times$ Brand Loyalty $\rightarrow$ WTP	-0.017	0.089	0.929	0.000	0.692
LOW_HED_B	Brand Loyalty $\rightarrow$ WTP	-0.117	0.266	0.790	0.004	0.125
LOW_HED_B	Price Fairness $\rightarrow$ WTP	0.077	0.188	0.851	0.002	0.125
LOW_HED_B	Price Sensitivity $\rightarrow$ WTP	-0.285	0.797	0.425	0.067	0.125
LOW_HED_B	PF $\times$ Brand Loyalty $\rightarrow$ WTP	-0.016	0.039	0.969	0.001	0.125

Scenario	Path	β	t	p	f ²	R ² WTP
LOW_HED_B	PS $\times$ Brand Loyalty $\rightarrow$ WTP	-0.104	0.237	0.813	0.005	0.125

Overall, the ‘LOW_HED’ condition suggests that brand loyalty remains a relevant predictor of willingness to pay even amongst less loyal consumers in a hedonic context. The near-significant effect of price fairness also supports the assumption that perceptions of fairness play a role in hedonic contexts, even though the limited size of the subsample prevents a definitive conclusion. There is no moderation on brand loyalty in either format, which is consistent with all other conditions examined to date.

5.4.4. LOW_UTI

The utilitarian scenario with low loyalty presents the greatest analytical challenge of the entire study. Option A reaches the highest R² value of all conditions, at 0.755, suggesting that the model explains a total of 75.5% of the variance in WTP a result that would normally indicate excellent model performance. Nevertheless, not a single individual path achieves statistical significance. Again, this leads to stable interpretation.

The most plausible explanation lies in the combination of three factors, the small size of the subsample, the high correlations between the constructs, and a certain degree of multicollinearity between the predictors. When constructs share a significant proportion of the variance amongst themselves, as the HTMT values suggest under these conditions, individual path coefficients become unstable and their standard errors increase, making it difficult for a single predictor to emerge as significant, even if the model as a whole explains a large proportion of the variance. This is a well-documented limitation of PLS-SEM with smaller subsamples and should be regarded as a structural limitation of the experimental design rather than as an indication that the constructs are theoretically irrelevant (Hair et al., 2017).

Looking at the individual direct effects in Option A, the values of brand loyalty ($\beta = -0.120$, $t = 0.536$, $p = 0.592$, $f^2 = 0.020$) are negligible. Price fairness shows $\beta = 0.202$, $t = 0.902$, $p = 0.367$ and $f^2 = 0.110$, a small to moderate effect size, which is, however, not significant. Price sensitivity comes closest to significance with $\beta = -0.244$, $t = 1.720$, $p = 0.086$ and $f^2 = 0.207$, an effect at trend level which, like price fairness in the LOW_HED group, could probably reach significance with a larger sample. The negative direction is consistent with theoretical expectations: lower price sensitivity in this group is associated with a slightly higher WTP, even though the effect does not exceed the conventional significance limit.

Regarding the moderation effect, for ‘price fairness $\times$ brand loyalty’ in Option A, the results are $\beta = 0.333$, $t = 1.236$, $p = 0.216$ and $f^2 = 0.410$, which are the largest interaction effect observed across all conditions, although it remains non-significant. The combination of ‘price sensitivity $\times$ brand loyalty’ reaches the values of $\beta = 0.104$, $p = 0.593$ and $f^2 = 0.014$. Interesting are the f^2 value for the ‘price fairness’ interaction, although it does not reach significance here, the level suggests that this interaction could be of relevance in a utilitarian context characterised by low brand loyalty and should be further investigation with a larger sample size.

A key methodological criticism in this case concerns the HTMT value between price sensitivity and willingness to pay, which stands at 0.914 and is thus significantly above the accepted threshold of 0.85 (Hair et al., 2017). This constitutes a breach of discriminant validity and, in this scenario, suggests a considerable overlap between the constructs of price sensitivity and willingness to pay. One possible explanation for this is that, in a utilitarian context characterised by low brand loyalty, consumers with low price sensitivity and those with high willingness to pay originate from the same mindset. The constructs become conceptually interconnected when neither brand loyalty nor perceived fairness provides an independent anchor for assessing willingness to pay. This finding should be regarded as a significant limitation of the LOW_UTIL condition and taken into account accordingly in the discussion.

Option B also fails to yield clear results. With an R^2 of 0.392 and an adjusted R^2 of 0.283, the model does demonstrate moderate explanatory power. However, here too, no path reaches the 5% significance level. The most striking value is the interaction term ‘price sensitivity $\times$ brand loyalty’ with $\beta = 0.600$, $t = 1.690$, $p = 0.091$ and $f^2 = 0.218$ – an effect at trend level with medium to large effect size, which mirrors the pattern observed in Option A for the ‘price fairness’ interaction. The rho_a value for brand loyalty in Option B is 1.261 and is therefore above 1.0, further limiting the interpretability of the estimates at construct level in this format (Hair et al., 2017).

Table 18 LOW_UTIL

Scenario	Path	β	t	p	f^2	R^2 WTP
LOW_UTIL_A	Brand Loyalty $\rightarrow$ WTP	-0.120	0.536	0.592	0.020	0.755
LOW_UTIL_A	Price Fairness $\rightarrow$ WTP	0.202	0.902	0.367	0.110	0.755
LOW_UTIL_A	Price Sensitivity $\rightarrow$ WTP	-0.244	1.720	0.086	0.207	0.755
LOW_UTIL_A	PF $\times$ Brand Loyalty $\rightarrow$ WTP	0.333	1.236	0.216	0.410	0.755
LOW_UTIL_A	PS $\times$ Brand Loyalty $\rightarrow$ WTP	0.104	0.535	0.593	0.014	0.755
LOW_UTIL_B	Brand Loyalty $\rightarrow$ WTP	0.062	0.212	0.832	0.002	0.392
LOW_UTIL_B	Price Fairness $\rightarrow$ WTP	-0.355	1.307	0.191	0.112	0.392
LOW_UTIL_B	Price Sensitivity $\rightarrow$ WTP	-0.324	0.976	0.329	0.144	0.392
LOW_UTIL_B	PF $\times$ Brand Loyalty $\rightarrow$ WTP	0.063	0.301	0.763	0.012	0.392
LOW_UTIL_B	PS $\times$ Brand Loyalty $\rightarrow$ WTP	0.600	1.690	0.091	0.218	0.392

Overall, the LOW_UTIL condition shows that the model loses its explanatory power at the level of individual pathways when consumers exhibit low brand loyalty and operate within a utilitarian product context. Together, the constructs explain a large proportion of the variance in WTP, yet their individual contributions cannot be reliably distinguished from one another.

A finding that is as theoretically interesting but cannot be interpreted correctly. The violation of the HTMT with regard to price sensitivity also highlights the limitations of discriminant validity under these conditions and requires explicit discussion in the following chapter.

5.4.5. WTP Option B

Willingness to pay was also measured using a numerical slider format. Overall, the conditions involving high loyalty show largely consistent patterns across both measurement formats, whilst the conditions involving low loyalty exhibit greater differences between the two formats (Hofstetter et al., 2021).

In the hedonic scenario with high brand loyalty, both formats confirm the positive effect of brand loyalty on willingness to pay, as well as the significant role of price fairness, while price sensitivity does not have a significant influence in either case. In the utilitarian scenario with high loyalty, brand loyalty remains the dominant predictor in both formats, while price fairness does not reach statistical significance and price sensitivity remains negligible throughout.

Under the conditions of low loyalty, the consistency between the formats decreases significantly. In the hedonic scenario with low loyalty, the positive effects of brand loyalty and price fairness are still discernible in the Likert format, but are no longer reliable in the slider format, where the model explains only 12.5% of the variance ($R^2 = 0.125$) and no path reaches significance. In the utilitarian scenario with low loyalty, the picture is more nuanced: Whilst Option A explains a total of 75.5% of the variance ($R^2 = 0.755$), no single path reaches significance in either format, suggesting that multicollinearity and the limited size of the subsample are limiting factors rather than an actual absence of theoretical relationships. Furthermore, the HTMT value for price sensitivity and WTP of 0.914 under this condition points to a problem of discriminant validity, which is likely to contribute to the instability of the slider results.

The R^2 values for Option A are consistently higher than those for Option B in three of the four conditions (HIGH_HED: 0.603 compared with 0.332; LOW_HED: 0.692 compared with 0.125; LOW_UTIL: 0.755 compared with 0.392). The only exception is the HIGH_UTIL condition, where Option B achieves a higher R^2 value (0.567 compared with 0.409). This reversal is likely due more to greater variability in responses in the slider format under utilitarian conditions than to a fundamentally better fit, and should be interpreted with caution (Hair et al., 2017).

Overall, the comparison confirms that measurements of willingness to pay are more stable and consistent under conditions of high loyalty than under conditions of low loyalty. The slider variant broadly reflects the direction of the effects observed in Option A, but captures the underlying relationships less precisely in scenarios involving low loyalty where vagueness and construct overlaps are stronger.

5.4.6. Summary

In all four scenarios, brand loyalty proves to be the most consistent predictor of willingness to pay. Under conditions of high brand loyalty, both measurement formats reveal a stable and significant positive effect of brand loyalty on willingness to pay. Under conditions of low loyalty, this effect weakens considerably and loses all statistical significance in the utilitarian context. This pattern suggests that brand loyalty is most reliably reflected in willingness to pay when it is already deeply ingrained. This finding is consistent with earlier studies in which brand loyalty was identified as a key predictor of willingness to pay (Chaudhuri & Holbrook, 2001).

Price fairness plays a particularly important role in hedonic contexts. In both hedonic conditions, the perception of a fair price increase independently increases willingness to pay, whilst this effect is significantly weaker in the utilitarian conditions and does not reach statistical significance. This suggests that considerations of fairness carry greater weight for products with a stronger emotional, symbolic or experience-related component, which is consistent with the distinction between hedonic and utilitarian aspects in consumer research, according to which emotional and symbolic evaluations play a greater role in the case of hedonic products (Dhar & Wertenbroch, 2000).

Price sensitivity does not reach statistical significance in any of the four conditions, with the f^2 values remaining negligible across all of them. This suggests that general price orientation in this model does not function as a situation-dependent driver of willingness to pay, but rather as a background disposition that is overridden by brand-related and fairness-related factors. At least in this study (Zeithaml, 1988).

Regarding the moderation effects, neither interaction term reaches statistical significance under any of the four conditions examined. All f^2 values remain negligible, suggesting that neither price fairness nor price sensitivity significantly strengthens or weakens the influence of brand loyalty on WTP under any of the tested conditions. A plausible explanation is that the experimental manipulation of loyalty levels did not generate sufficient within-group variance in the moderating variables to produce a detectable interaction effect, a structural limitation of the experimental design that should be acknowledged when interpreting these null results (Hair et al., 2017).

A consistent pattern can also be seen in the two formats used to measure willingness to pay. Option A, based on the Likert scale generally reaches a higher R^2 values and significantly more substantial path coefficients than Option B, the numerical slider, with the exception of the HIGH_UTIL condition. This suggests that the Likert-scale-based format is more sensitive to constructs such as brand loyalty and price fairness, while the slider reflects a more concrete and potentially more conservative assessment of price. Between the formats the strongest conditions are with high loyalty and the weakest conditions with low loyalty. The HTMT violation in LOW_UTIL further limits the interpretability of this condition and should be regarded as a structural limitation of the utilitarian sub-sample with low loyalty.

Overall, the results show that the interactions between brand loyalty, perceived fairness of price and willingness to pay are most clearly defined in the hedonic scenario with high brand loyalty, and least interpretable in the utilitarian scenario with low brand loyalty. Price fairness

is a distinguishing factor particularly in hedonic contexts, whilst brand loyalty remains relevant across all product categories as long as the level of loyalty is sufficiently high. These results from the empirical basis for the hypothesis testing presented in the following section.

5.6. Hypothesis Testing

In the following section, the hypotheses are tested on the basis of the results from the survey. The focus is on determining whether the theoretically expected relationships between brand loyalty and willingness to pay can be proven by the data.

5.6.1 H1: Main effect of brand loyalty

The first Hypothesis examines whether brand loyalty has a positive influence on willingness to pay for a price increase. In theory, it is expected that highly loyal consumers are more willing to accept a higher price because they have a stronger attachment to the brand. Additionally, they are less likely to switch to another brand, and are therefore more likely to tolerate price increases. Overall, this assumption is generally well supported by the results (Chaudhuri & Holbrook, 2001).

In the high loyalty scenario, brand loyalty consistently has a positive and statistically significant effect on WTP. In the hedonic scenario with high loyalty, brand loyalty has the strongest path coefficient of all conditions ($\beta = 0.629$, $p < 0.001$, $f^2 = 0.726$), which indicates a large effect size. In the utilitarian scenario, brand loyalty also remains the most important predictor ($\beta = 0.644$, $p = 0.007$, $f^2 = 0.481$), showing the same pattern as in the hedonic scenario and confirming its role as the primary driver of willingness to pay in both contexts characterised by high loyalty. The effect is particularly strong in the hedonic scenario, suggesting that brand loyalty is especially effective in an emotionally charged product context (Damaschi et al. 2025).

Under the low loyalty conditions, the pattern is noticeably weaker. In the hedonic low loyalty scenario, the effect of brand loyalty remains significant but is reduced ($\beta = 0.471$, $p = .047$, $f^2 = 0.226$). In the utilitarian low loyalty scenario, the relationship is not significant at all ($\beta = -0.120$, $p = .592$, $f^2 = 0.020$), meaning that no effect of brand loyalty on WTP can be recognised. The negative direction of the coefficient in this condition suggests that, among low loyalty consumers evaluating a utilitarian product, brand loyalty may not work as a motivator for accepting price increases. However, given the small size of the subgroup ($n \approx 30$), caution is needed when interpreting the results. This makes it clear that the influence of brand loyalty is context-dependent and is particularly stable under high-loyalty conditions (Damaschi et al., 2025).

Overall, Hypothesis one is largely confirmed. Brand loyalty reaches statistical significance in three out of four conditions, with an effect size that ranges from large in the hedonic scenario with high brand loyalty ($f^2 = 0.726$) to a smaller value in the utilitarian scenario with low brand loyalty ($f^2 = 0.020$). These findings underline that the strength of the effect varies depending on the context. However, the weaker or non-significant results under conditions of low loyalty suggest that brand loyalty is not a generally predictor of willingness to pay and is not equally strong in every situation.

5.6.2. H2: Main effect: Product Type

Hypothesis two examines whether the product type influences willingness to pay in the event of price increases. In theory, it is expected that hedonic products will lead to a higher willingness to pay than utilitarian products, since they possess greater emotional, pleasure-related and symbolic value (Chitturi et al., 2008). Consumers evaluate hedonic products not only on the basis of functional criteria, but also in terms of experiential value, identity and subjective attractiveness, which may increase their willingness to accept price increases.

The results show that a product type effect can be confirmed, at least in part. Under the conditions of high loyalty, brand loyalty is strong and significant for both product types, suggesting that high loyalty influences willingness to pay regardless of product type, which will be the focus of the next hypothesis analysis. However, a clear difference can be seen with regard to price fairness. In the hedonic scenario with high loyalty, price fairness is significant and contributes significantly to explaining willingness to pay ($\beta = 0.330$, $p < 0.001$), whereas in the utilitarian scenario with high loyalty, it does not reach significance ($\beta = 0.136$, $p = 0.537$). This indicates that hedonic products benefit more from the perception of fairness and that price increases are assessed more emotionally in a hedonic context.

But under the conditions of low loyalty, this pattern becomes less clear. In the hedonic scenario with low loyalty, brand loyalty is again statistically significant ($\beta = 0.471$, $p = .047$). However, price fairness is only significant at trend level ($\beta = 0.442$, $p = 0.076$), which suggests a directionally positive but statistically inconclusive effect. This could be potentially be solved by increasing the subgroup size. In the utilitarian scenario with low loyalty, however, neither brand loyalty nor price fairness nor price sensitivity reaches statistical significance, meaning that no clear direct effects can be detected. In the utilitarian context consumers therefore appear to follow a more routine-driven and functional decision-making logic that is less sensitive to arguments such as fairness (Batra & Ahtola, 1991).

Overall, the second hypothesis is partially confirmed. The influence of product type on willingness to pay is therefore not primarily reflected in a stronger brand loyalty effect for hedonic products, but rather in the differing role played by price fairness. Whilst price fairness contributes significantly to willingness to pay in a hedonic context, it loses all relevance under utilitarian conditions. This suggests that the crucial difference between the product types lies not in how loyalty operates, but in whether perceptions of fairness are activated as an additional driver of price acceptance.

5.6.3. H3: Interaction effect

Hypothesis three examines the interaction between brand loyalty and product type. It is expected that the positive influence of brand loyalty on willingness to pay will be stronger for hedonic products than for utilitarian products. The focus is therefore not only on whether loyalty generally affects willingness to pay, but also if this effect differs between the product type (Chitturi et al., 2008).

The results show a pattern that is broadly consistent with this expectation. Under conditions with a high brand loyalty, the influence of brand loyalty on willingness to pay is strongest in the hedonic scenario ($\beta = 0.629$, $p < 0.001$, $f^2 = 0.726$), but remains clearly positive and

significant even in the utilitarian scenario with high loyalty ($\beta = 0.644$, $p = 0.007$, $f^2 = 0.481$). Although the path coefficient is slightly higher in the utilitarian high-loyalty condition, the effect size is larger in the hedonic condition ($f^2 = 0.726$ vs. $f^2 = 0.481$), suggesting that brand loyalty explains a proportionally greater share of variance in WTP for hedonic products. The difference in effect sizes suggests that brand loyalty translates more effectively into willingness to pay, especially for hedonic products.

Under the conditions of low loyalty, a similar, but less stable, pattern can be seen. In the hedonic scenario with low loyalty, the influence of brand loyalty on willingness to pay remains significant. But it is considerably weaker than under conditions of high loyalty ($\beta = 0.471$, $p = 0.047$, $f^2 = 0.226$). In the utilitarian scenario with low loyalty, the relationship is no longer significant at all ($\beta = -0.120$, $p = 0.592$, $f^2 = 0.020$), with the coefficient turning slightly negative, indicating that brand loyalty provides no meaningful contribution to WTP in this condition. This difference supports the assumption that brand loyalty has a stronger influence on willingness to pay in hedonic contexts than in utilitarian ones.

Therefore, is the third hypothesis mainly confirmed. A comparison of all four conditions suggests that brand loyalty is reflected more strongly in willingness to pay for hedonic products than for utilitarian ones (Chitturi et al., 2008). It should be noted, however, that the analysis does not include an explicit interaction term that would allow for a more methodologically precise testing of this hypothesis. The inclusion of explicit moderation terms (PF $\times$ Brand Loyalty, PS $\times$ Brand Loyalty) in the model reaches no significant results across all four conditions, further suggesting that the interaction between loyalty and product type operates at the level of subgroup differences rather than through a statistically testable moderating path. The observed pattern is nevertheless consistent with the theoretical assumption that emotional and symbolic products are more conducive to loyalty-driven willingness to pay.

5.6.4. H4: Moderation by price fairness

Hypothesis four examines whether price fairness positively moderates the relationship between brand loyalty and willingness to pay, more specifically, whether a higher perception of price fairness positively influences the effect of brand loyalty on willingness to pay. Theoretically fairness increases the general willingness to accept a higher price, which than can further strengthen the willingness to pay motivated by brand loyalty (Xia, Monroe & Cox, 2004). The model includes explicit interaction terms (Price Fairness $\times$ Brand Loyalty) for each condition, however, it did not reach statistical significance in any of the four scenarios (p-values ranging from 0.216 to 0.991). The hypothesis is additionally assessed on the basis of the direct effect of price fairness across all conditions, which provides indirect evidence of its moderating potential.

The results show that price fairness plays a significant role, but only in the high loyalty hedonic condition. In the hedonic scenario with high loyalty, the relationship between price fairness and willingness to pay is clearly positive and significant ($\beta = 0.330$, $p < 0.001$, $f^2 = 0.250$), which suggests that fairness is an important factor in the acceptance of a price increase. In the hedonic scenario with low loyalty, price fairness shows a directionally positive effect but does not reach statistical significance ($\beta = 0.442$, $p = 0.076$, $f^2 = 0.252$), suggesting a trend-

level relationship that may be limited by the reduced statistical power of the smaller subgroup. Therefore, the previously observed significance in the low loyalty hedonic condition cannot be maintained with the current model specification.

Under the utilitarian conditions, the pattern is different. In the utilitarian scenario with high loyalty, the influence of price fairness on willingness to pay is not significant ($\beta = 0.136$, $p = 0.537$, $f^2 = 0.025$), and in the utilitarian scenario with low loyalty, no robust effect is observed at all ($\beta = 0.202$, $p = 0.367$, $f^2 = 0.110$). This suggests that, while fairness may be perceived in utilitarian contexts, it does not have the same strength or stability as in hedonic situations. Here, a functional and routine-based decision-making logic appears to dominate and thereby reducing the relevance of fairness as an influencing factor (Batra & Ahtola, 1991).

Hypothesis four is partially confirmed, though weaker than initially anticipated. Price fairness has a significant influence on willingness to pay only in the high loyalty hedonic condition. In the low loyalty hedonic condition, the effect is directionally consistent but statistically inconclusive. Under utilitarian conditions, this mechanism is clearly absent. The results therefore align with forth hypotheses in terms of direction, but can only provide a clear statistical confirmation in one out of four scenarios.

5.6.5. H5: Moderation by price sensitivity

Hypothesis five examines whether price sensitivity negatively moderates the relationship between brand loyalty and willingness to pay. It is expected that higher price sensitivity will weaken the positive effect of brand loyalty on willingness to pay, meaning that price-sensitive consumers would be less willing to accept price increases despite their brand loyalty (Chaudhuri & Holbrook, 2001). The model again includes an explicit moderating effect (Price Sensitivity $\times$ Brand Loyalty) but since none of the effects reach statistical significance in any of the four scenarios (p-values ranging from 0.403 to 0.929), the hypothesis is additionally assessed on the basis of the direct effect of price sensitivity across all conditions.

However, these results do not support the assumption. In none of the four conditions does price sensitivity reach statistical significance, and the observed relationships can be neglected across all scenarios (HIGH_HED: $\beta = -0.153$, $p = .556$, $f^2 = 0.041$; HIGH_UTI: $\beta = -0.005$, $p = .984$, $f^2 = 0.000$; LOW_HED: $\beta = 0.030$, $p = .896$, $f^2 = 0.002$; LOW_UTI: $\beta = -0.244$, $p = .086$, $f^2 = 0.207$). Some coefficients point in a slightly negative direction, others slightly positive, none of these effects reach statistical significance. The largest coefficient is observed in the low loyalty utilitarian condition ($\beta = -0.244$), where the effect approaches but does not reach significance ($p = .086$). This potentially reflecting a negative trend-level relationship in a context where neither brand attachment nor fairness perceptions are strong drivers of WTP. This seems to hold true consistently across both high loyalty and low loyalty conditions, and regardless of whether the product is hedonic or utilitarian.

This shows that, in this dataset, price sensitivity does not provide a valid explanation for willingness to pay once brand loyalty is taken into account. The expected moderating effect on the relationship between brand loyalty and willingness to pay is therefore not noticeable. This could suggest that, in this context, brand loyalty is a significantly stronger driver of willingness to pay than general price sensitivity (Zeithaml, 1988). Alternatively, the price

sensitivity scale may only reflect a general tendency towards price awareness rather than a specific reaction to a concrete price increase (Xia, Monroe & Cox, 2004). The consistently non-significant moderation effect ($PS \times \text{Brand Loyalty}$) across all four conditions provides additional evidence that price sensitivity does not moderate the loyalty WTP relationship in any systematic way. Therefore, the fifth hypothesis cannot be confirmed as well.

5.6.6. H6: Main effect of product type on price sensitivity

Hypothesis six examines whether product type influences price sensitivity. It is expected that utilitarian products will lead to higher price sensitivity than hedonic products, as utilitarian products are evaluated more strongly on the basis of functional, purpose-oriented and price-related criteria (Batra & Ahtola, 1991), while hedonic products are more closely linked to experiential value, emotions and symbolism (Chitturi et al., 2008). It should be noted that the present analysis does not include a direct group comparison of price sensitivity values across different product types. The hypothesis is therefore evaluated on the basis of the path coefficients for price sensitivity observed within each condition.

However, the results show no significant influence of price sensitivity in any of the four conditions (HIGH_HED: $\beta = -0.153$, $p = 0.556$; HIGH_UTI: $\beta = -0.005$, $p = 0.984$; LOW_HED: $\beta = 0.030$, $p = 0.896$; LOW_UTI: $\beta = -0.244$, $p = 0.086$). Although the coefficients differ slightly between the scenarios, there is no robust or significant difference between the hedonic and utilitarian conditions, and no clear product type effect on price sensitivity can be detected. It also needs to be mentioned that the expected directional pattern, higher price sensitivity coefficients in utilitarian than hedonic conditions, is not consistently observed. In the high-loyalty condition, for instance, the hedonic scenario reaches a more negative coefficient ($\beta = -0.153$) than the utilitarian scenario ($\beta = -0.005$), which is contrary to the theoretical expectation.

The data therefore provide no evidence that utilitarian products are systematically associated with greater price sensitivity than hedonic products. The expected difference between the two product types is not confirmed, although it is well-founded in theory (Zeithaml, 1988). One potential explanation is that the price sensitivity scale captures a general disposition towards price awareness rather than a product-type-specific response, which may explain why no meaningful differentiation between hedonic and utilitarian conditions emerges (Xia, Monroe & Cox, 2004). The sixth hypothesis is therefore also not confirmed.

5.6.7. Hypothesis Summary

Table 19 Hypothesis Summary

Hypothesis	Expected Direction	Key Finding	Conclusion
H1: Brand Loyalty → WTP	Positive; high loyalty > low loyalty	Significant in both high-loyalty conditions; weaker but significant in hedonic low-loyalty; not significant and slightly negative in utilitarian low- loyalty	Largely confirmed

Hypothesis	Expected Direction	Key Finding	Conclusion
H2: Product Type → WTP	Hedonic > Utilitarian	Hedonic conditions show stronger and more consistent effects of price fairness; utilitarian conditions show weaker fairness effects	Partially confirmed
H3: Loyalty × Product Type interaction	Loyalty effect stronger for hedonic	Brand loyalty effect sizes consistently larger in hedonic than utilitarian contexts, but the loyalty effect disappears in LOW_UTI	Largely supported
H4: Price fairness moderates Loyalty → WTP	Fairness strengthens loyalty effect	Price fairness significant only in high-loyalty hedonic condition; trend-level in low-loyalty hedonic; not significant in utilitarian conditions	Partially confirmed
H5: Price sensitivity moderates Loyalty → WTP	Higher sensitivity weakens loyalty effect	Price sensitivity not significant in any of the four conditions; interaction terms also non-significant	Not confirmed
H6: Product Type → Price Sensitivity	Utilitarian > Hedonic	No significant difference in price sensitivity between product types, directional pattern contrary to expectation in high-loyalty conditions	Not confirmed

6. Conclusions

6.1. Discussion

It can be summarised that in this study brand loyalty acts as a key link between the brand and willingness to pay if the price increases. This finding is consistent with existing literature, where brand loyalty is not only as a reason to repurchase a product, but as a deeper cognitive, affective and conative attachment to a brand. Which seems to be the reason why consumers are more likely to accept a price increase, because the brand already holds a high value for them. The findings from the survey confirms the assumption, that loyal consumers are more willing to tolerate a price premium.

It is particularly relevant to mention that the influence of brand loyalty is not equally strong in all contexts. Across the four conditions, brand loyalty reaches statistical significance in three out of four scenarios, with effect sizes ranging from large in the high-loyalty hedonic condition ($\beta = 0.629$, $f^2 = 0.726$) to negligible in the low-loyalty utilitarian condition ($\beta = -0.120$, $f^2 = 0.020$). The results suggest that loyalty has its strongest effect when products are hedonic and are therefore more closely associated with experience, symbolism and pleasure related. This observation is consistent with the theoretical framework on hedonic consumption. Studies such as those by Shao and Li (2021) and Chitturi et al. (2008), which were discussed in the literature review of this study, also suggest that hedonic products trigger different evaluation and justification mechanisms than functional everyday products. This study proves this argument by explaining that these differences apply not only in general, but also, in particular, to the acceptance of price increases.

Therefore, the research question cannot be answered simply by stating that loyalty increases WTP. The study shows that this relationship is context-dependent. In a hedonic context, loyalty translates more directly into willingness to pay, because brand value there is not only functional but also emotionally charged. With utilitarian products, the same mechanism is less dominant because the decision logic is controlled by more purpose-oriented, routine-based and comparative considerations. This is also consistent with the theoretical background from Chapter three, according to which utilitarian purchases tend to be justified by functionality, reliability and value-for-money considerations.

The second key finding centres around the role of price fairness. The results suggest that price fairness should not only be viewed as a minor influence, but can act as legitimising factor. However, this effect is not equally strong across all conditions. Price fairness reaches clear statistical significance only in the high loyalty hedonic condition ($\beta = 0.330$, $p < .001$, $f^2 = 0.250$), while showing only a trend-level effect in the low loyalty hedonic condition ($\beta = 0.442$, $p = .076$) and no significant influence under utilitarian conditions (HIGH_UTI: $\beta = 0.136$, $p = .537$; LOW_UTI: $\beta = 0.202$, $p = .367$). Particularly in the case of hedonic goods, fairness appears to be an important aspect in ensuring that consumers perceive a price increase not as an unfair burden, but as reasonable and acceptable. This interpretation is consistent with Xia, Monroe & Cox (2004) who describes price fairness not only as a monetary reaction, but as a value-based assessment. This is in line with the arguments discussed in Chapter three, according to which willingness to pay depends on the perceived total value and not on price alone. The findings of Dwivedi et al. (2018) are also relevant here, as their results suggest that brand perceptions, credibility and perceived uniqueness influence the price acceptance

process. This study matches this viewpoint by proving that fairness can play a stabilising role in willingness to pay, particularly in a hedonic context.

Since hedonic products are often more closely associated with pleasure, self-reward, status or personal expression. Such purchases therefore often need to be justified to oneself to a greater extent than purely functional purchases. The literature on hedonic consumption, such as Okada (2005) or Kivetz and Simonson (2002), suggests that this justification mechanisms play a central role in hedonic decisions. Against this background, it seems plausible that a price increase perceived as fair strengthens the willingness to accept the higher price. Fairness then has an impact not only economically but also psychologically. It reduces hesitation and makes the higher price more acceptable in the evaluation process.

In contrast, the survey shows that price sensitivity does not play a dominant role. This result is consistent across all four conditions, with no significant direct effects detected (β range: -0.244 to 0.030; all $p > .08$) and non-significant interaction terms ($PS \times Brand\ Loyalty$) in every scenario. This result is particularly interesting since some of the literature does indeed expect that more price-sensitive consumers will view price increases more critically (Homburg et al., 2005; Shukla, 2009; Shao and Li 2021). However, the empirical findings suggest that general price awareness does not play an important role in this survey. One possible explanation is that, in the specific scenario context, brand loyalty has a stronger psychological impact than the general tendency to pay attention to prices. Another explanation could be that the price sensitivity scale used captures a general consumer attitude rather than a situation-specific reaction to this particular price increase.

It should also be noted that utilitarian products do not appear to have any differential impact on price sensitivity. In theory, it is expected that utilitarian products trigger higher price sensitivity. However, the directional pattern is not consistently in line with this expectation: in the high loyalty condition, the hedonic scenario reaches a more negative coefficient ($\beta = -0.153$) than the utilitarian scenario ($\beta = -0.005$), which is contrary to the theoretical prediction. There may be several reasons why this effect cannot be seen in the study. On the one hand, it is plausible that general price sensitivity depends more on the individual than on the type of product. On the other hand, the way the scenario was designed may have caused the experimental manipulation of loyalty and the specific price increase to overshadow the differences in general price orientation. This suggests that price processing may depend more on specific situations than on the product category alone.

Particularly important in this context is the low loyalty utilitarian scenario as a special case. Here, not only does brand loyalty lose its significance ($\beta = -0.120$, $p = .592$), but the slightly negative coefficient suggests that, in the absence of both emotional attachment and product enjoyment, brand loyalty may even become counterproductive as a driver of price acceptance. This pattern shows that the logic of loyalty driven price acceptance largely breaks down where there is neither strong brand loyalty nor emotional attachment. This is consistent with the literature on utilitarian products. When products are perceived as primarily functional, interchangeable and everyday items, and at the same time there is no strong attachment to the brand, there is no reason why the price increases are acceptable. Damaschi et al. (2025) point out that, particularly in routine, more functional purchasing contexts, habit- or convenience-based loyalty is more common, and this is less stable than affectively grounded brand loyalty.

The findings of this study therefore suggest that utilitarian purchases without a strong brand attachment are particularly vulnerable to an acceptance in case of price increase.

Overall, the study therefore suggests that hedonic and utilitarian products are not processed according to the same pricing mechanism. Loyalty stabilises willingness to pay, but not regardless of context. Fairness acts as a legitimising factor, particularly where products are emotionally charged and the price must be subjectively justified, though this effect is statistically robust only in the high loyalty hedonic condition. Price sensitivity, by contrast, is not a significant mechanism in this model. The main finding of the study is therefore that willingness to pay for price increases cannot be explained purely by loyalty or purely by price logic, but by the combination of brand loyalty, product type and valuation mechanisms. The contribution of this paper lies in the fact that it links all these factors together within a single model and demonstrates that price acceptance for brands is not universal, but also depends on the context.

6.2. Implications for Practice

Overall, the results provide clear guidance for practice. Price increases are most likely to be successful where there is already a strong and loyal customer base. Brand loyalty can act as a strategic lever that makes price adjustments acceptable by the consumers. This is particularly evident in the high-loyalty conditions of this study, where brand loyalty consistently explains a substantial share of variance in WTP (HIGH_HED: $f^2 = 0.726$; HIGH_UTI: $f^2 = 0.481$). Companies should therefore not view pricing decisions in isolation, but always in combination with the relationship with the brand (Chaudhuri & Holbrook, 2001).

For brands with hedonic products, such as the perfume studied here, lifestyle or other experience-oriented products it is particularly important to highlight the emotional benefits and added value. In these categories, consumers respond not only to functional arguments but also to symbolism, enjoyment, exclusivity and brand image (Chitturi et al., 2008). The results of this study support this: brand loyalty and price fairness together explain 60.3% of the variance in WTP in the high-loyalty hedonic condition ($R^2 = 0.603$), with price fairness acting as a significant legitimising factor ($\beta = 0.330$, $p < .001$). Price increases in these categories should therefore not be communicated in a matter-of-fact or purely technical manner, but rather as an expression of a superior brand experience and enhanced subjective value.

The situation is different for utilitarian brands. Here, the focus is more on function, reliability, performance and value for money (Zeithaml, 1988). The results underline that under the high loyalty utilitarian condition, price fairness loses its significant influence on WTP ($\beta = 0.136$, $p = .537$), suggesting that rational justification rather than fairness perception drives price acceptance in functional product categories. Price increases in such categories are riskier if they are not justified in a transparent and objective manner. Companies should therefore make it particularly clear what functional benefits or quality improvements the price adjustment supports. Communication in this context must be rational, comprehensible and fact-based (Martin, Ponder & Lueg, 2009).

Particularly among consumers with low brand loyalty it is important to communicate the fairness correctly. In the hedonic low loyalty condition, price fairness shows a directionally

positive effect ($\beta = 0.442$), suggesting that even among less loyal consumers, a fairness-oriented communication strategy may help bridge the absence of strong brand attachment. In utilitarian categories, this tolerance is significantly smaller, the low-loyalty utilitarian condition reaches no significant predictors whatsoever, and the slightly negative brand loyalty coefficient ($\beta = -0.120$) suggests that price increases in this segment carry the highest risk of rejection. Therefore, particularly when dealing with less loyal target groups, it is not only the price that should be adjusted, but the communicative justification should also be carefully prepared.

In terms of pricing strategy, this means that companies should always consider price adjustments in combination with brand management. A price increase is not just a financial decision, but also a signal of how a brand defines and communicates its value. The findings suggest a clear hierarchy of risk. Price increases are most manageable for high-loyalty hedonic brands, moderately manageable for high-loyalty utilitarian brands, and carry the greatest risk for low-loyalty utilitarian brands, where no loyalty- or fairness-based buffer exists. Brands with strong emotional ties can handle the price increases much better with if they credibly communicate fairness and added value (Homburg et al., 2005). Brands with a more functional character, on the other hand, must focus particularly on transparency, performance and value propositions to ensure acceptance of higher prices.

6.3. *Limitations and future research directions*

6.3.1. Limitations

Despite some clear results, the validity of the study has several methodological limitations. A key limitation lies in the chosen scenario design. While the design allows for a controlled examination of individual influencing factors, they are limited to recreating real-life purchasing situations. The identified willingness to pay is therefore based on hypothetical decisions that may not fully correspond to actual behaviour under real price pressure (Schmidt & Bijmolt, 2020). Particularly when prices rise, the response in a survey may differ from that in a real-life purchasing situation, where budget constraints, competing offers or situational factors come directly into play.

Another limitation results from the selection of the two product categories, perfume and laundry detergent. These categories were selected in order to distinguish as clearly as possible between hedonic and utilitarian products. At the same time, this narrow focus limits the generalisability of the results. It remains to be seen whether the patterns observed can be applied in the same way to other types of products, such as luxury goods, consumer electronics, services or sustainable products, which often possess both hedonic and utilitarian characteristics.

The most important methodological limitation concerns the sample sizes of the subgroups resulting from the 2×2 design across participants. The subgroup sample sizes of $n = 30$ –42 per condition meet the minimum 10-times rule of thumb for PLS-SEM (Hair et al., 2017), as the structural model contains a maximum of three predictors targeting WTP. The low-loyalty utilitarian condition ($n \approx 30$) in particular falls below this limit, which reduces the reliability of significance tests and may explain several non-significant path coefficients in this

subgroup. Future research should target $n \geq 100$ per condition to ensure adequate statistical power, particularly for detecting moderation effects (Hair et al., 2017). Furthermore, the HTMT value between price sensitivity and willingness to pay in the utilitarian condition with low loyalty (0.914) suggests a problem of discriminant validity, which should be interpreted with caution and may also be caused of the small sample size of the subgroup.

Furthermore, the four conditions were analysed separately as independent PLS-SEM models. This approach is analytically stable and allows for a clear examination of the individual scenarios. However, without a formal multi-group analysis (PLS-MGA), conclusions regarding differences between the conditions are based on a comparison of separate model patterns rather than on statistically tested cross-group differences. Consequently, observed differences in path coefficients between the scenarios, for example, the decline in the effect of brand loyalty from HIGH_HED ($\beta = 0.629$) to LOW_UTI ($\beta = -0.120$) cannot be formally confirmed as statistically significant group differences. Future research should conduct a PLS-MGA to formally test whether these differences between loyalty levels and product types are statistically significant.

The statistical robustness of the individual conditions differs considerably. Some models, particularly in the groups with low loyalty, proved to be methodologically weaker and less consistent than others. This is reflected in the rho_a values, which exceed 1.0 in several conditions (e.g. price fairness rho_a = 1.055 in HIGH_HED; rho_a = 1.211 in LOW_UTI), a phenomenon in PLS-SEM that typically occurs with small subsamples or high multicollinearity between indicators (Kock & Hadaya, 2018). Although the other reliability and validity criteria are met, these values require a more cautious interpretation. It should also be kept in mind that the sample is relatively specific. A comparatively young group of respondents with, in terms of income, rather limited means restricts the external validity of the results, as price reactions and brand loyalty might manifest themselves differently in other demographic or cultural contexts.

A further methodological limitation concerns the operationalisation of price sensitivity. In this study, price sensitivity was measured as a general dispositional tendency and was not directly linked to the specific price increase in the scenario. This is a plausible explanation for why price sensitivity did not reach statistical significance in any of the four conditions (β range: -0.244 to 0.030; all $p > 0.08$) and why no clear differentiation by product type was observable. It is possible that a more situation-specific measurement instrument, for example, one that explicitly refers to the +20% price increase depicted in the scenario, would have captured a more context-sensitive response and might have revealed different effects (Xia, Monroe & Cox, 2004).

A final limitation concerns the operationalisation of H4 and H5, both of which were formulated as moderation hypotheses. The present study included explicit moderation effect (price fairness $\times$ brand loyalty, price sensitivity $\times$ brand loyalty) in the PLS-SEM models. However, none of these terms reached statistical significance across the four conditions (PF $\times$ BL: p-range 0.216–0.991; PS $\times$ BL: p-range 0.403–0.929). While the observed direct effect patterns indirectly support the theoretical assumptions, a more rigorous test would require larger sample sizes per condition. Given the subgroup sizes of $n = 30$ – 42 , the statistical power required to reliably detect small to medium interaction effects was insufficient (Hair et al., 2017; Kock & Hadaya, 2018).

6.3.2. Future research directions

These limitations open up several approaches for future research. The most obvious next step would be to replicate the study using larger subgroup samples, ideally $n \geq 100$ per condition, to ensure sufficient statistical power for identifying moderator effects and for conducting formal multi-group comparisons. A formal PLS-MGA would then allow for a more rigorous examination of whether the differences between hedonic and utilitarian conditions, or between conditions with high and low loyalty, are statistically significant and not merely descriptive observations. For example, while the decline in the effect of brand loyalty from HIGH_HED ($\beta = 0.629$) to LOW_UTI ($\beta = -0.120$) is theoretically significant, it cannot currently be confirmed as a statistically significant group difference.

Furthermore, it would be useful to supplement the findings with real transaction data or experimental field studies. This would make it possible to assess whether the mechanisms observed in the scenario hold true under actual market conditions. Particularly with regard to price fairness and price acceptance, it would be instructive to investigate how consumers react to real-world price increases when these directly influence their purchasing behaviour, rather than merely within the context of a hypothetical scenario (Schmidt & Bijmolt, 2020).

An extension to other product categories also appears promising. Future studies could, for example, include hybrid product categories such as technology products, sustainable consumer goods or premium services, where hedonic and utilitarian components are more closely intertwined. This would provide a better understanding of whether the differences between emotional and functional product logic observed here persist in more complex market environments. As the present study found that price fairness is only a significant driver of WTP under conditions of high loyalty and hedonic orientation, it would be particularly valuable to investigate whether this pattern is also repeated in other emotionally charged product categories.

Furthermore, price sensitivity should be operationalised in a more scenario-specific manner in future studies. In the present study, price sensitivity was measured as a general dispositional tendency, which could explain its consistently non-significant role across all four conditions (β range: -0.244 to 0.030). Instead of a general scale, measurement approaches could be used that relate directly to the specific price increase, the product and the brand situation. It would also be useful to include additional moderators such as brand trust, brand loyalty, price awareness, perceived quality, self-brand association or brand personality. Such variables could help to explain the psychological mechanisms behind price acceptance and brand loyalty in even greater detail.

Future research should also explicitly model the interaction terms between brand loyalty and price fairness or price sensitivity, and test them with sufficient statistical power. In the present study, none of the interaction terms were significant across all four conditions (PF $\times$ BL: p-range 0.216–0.991; PS $\times$ BL: p-range 0.403–0.929), which may be partly attributable to insufficient subgroup sizes and does not necessarily indicate an actual absence of moderating effects. Longitudinal studies and replications with larger and more representative samples

would also enable researchers to investigate whether the observed relationships between loyalty, perceived fairness and willingness to pay remain stable over time or shift under changing market conditions. Overall, this study makes a clear experimental contribution to our understanding of price acceptance for brands. Future research can build on this by investigating even more systematically how stable these mechanisms actually are outside controlled scenarios and in real-world market contexts.

Appendix A

Survey Qualtrics

Qualtrics Survey Software

26.05.26, 19:09

English

HIGH_HED

This survey is conducted as part of a Master's thesis examining consumer behavior and purchasing decisions. Your participation is entirely voluntary and anonymous. All data will be processed in accordance with GDPR regulations and used exclusively for scientific purposes. The survey takes approximately 8–10 minutes to complete. By proceeding, you confirm that you are at least 18 years old and consent to the anonymous use of your data for research purposes.

☐ I agree and wish to participate

☐ I do not agree

Have you ever used perfume or fragrance products?

☐ Yes

☐ No

Have you ever purchased perfume or fragrance products yourself?

☐ Yes, I have purchased it myself

https://univemanagement.eu.qualtrics.com/Q/EditSection/Blocks/...urveyID=SV_ekUQ0a7Vzfa1FNI&ContextLibraryID=UR_3IANGrdMWF0h6Nn

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☐ No, I have never purchased or used perfume

Please imagine the following situation:

You have been using the same perfume brand for several years. This fragrance has become a genuine personal staple, you associate it with special memories and meaningful moments, and you feel a strong emotional connection to it. Even though there are many alternatives available, you always return to this brand because it feels uniquely right for you.

One day, you visit your regular store or online shop to buy this perfume you have been loyal to for years, and you notice that its price has increased by 20% compared to the last time you bought it.

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The scenario describes a brand I feel strongly attached to.	☐	☐	☐	☐	☐	☐	☐
Based on the scenario, I would consider myself loyal to this brand.	☐	☐	☐	☐	☐	☐	☐

The brand in the scenario is one I have been using for a long time.

☐☐☐☐☐☐☐

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
I am committed to this brand.	☐	☐	☐	☐	☐	☐	☐
I would be willing to pay a higher price for this brand than for other brands.	☐	☐	☐	☐	☐	☐	☐
I would not buy another brand if this brand were available at the store.	☐	☐	☐	☐	☐	☐	☐
I trust this brand.	☐	☐	☐	☐	☐	☐	☐
This brand is my preferred brand in its product category.	☐	☐	☐	☐	☐	☐	☐

Please rate the following statements regarding the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

☐☐☐☐☐☐☐

The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.

☐☐☐☐☐☐☐

I am willing to pay more for this brand than for other brands.

☐☐☐☐☐☐☐

I would pay a higher price for this brand over other brands just to get what this brand offers.

☐☐☐☐☐☐☐

If this brand raised its price, I would still buy it in preference to buying another brand.

☐☐☐☐☐☐☐

Please rate the following statements regarding the price increase described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

The price increase for this brand is fair.

☐☐☐☐☐☐☐

The price increase for this brand is justified.

☐☐☐☐☐☐☐

The price increase for this brand is reasonable.

☐☐☐☐☐☐☐

The price increase for this brand is unacceptable.

☐☐☐☐☐☐☐

What is the maximum price you would be willing to pay for this perfume before switching to another brand?

0 15 30 45 60 75 90 105 120 135 150

Selected value:

€

People often do not read questions carefully.

	1	2	3	4	5	6	7
To show that you are paying attention, please select (6) for this item.	☐	☐	☐	☐	☐	☐	☐

The following statements concern your general shopping behavior, not only for perfume. Please indicate your level of agreement.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
I am very concerned about low prices when I shop.	☐	☐	☐	☐	☐	☐	☐
I will grocery shop at more than one store to take advantage of low prices.	☐	☐	☐	☐	☐	☐	☐

The money saved by finding low prices is usually worth the time and effort.

☐☐☐☐☐☐☐

I would never shop at more than one store to find low prices.

☐☐☐☐☐☐☐

I compare prices carefully before purchasing a product.

☐☐☐☐☐☐☐

I always check prices at more than one store before I buy.

☐☐☐☐☐☐☐

I check prices even on small items.

☐☐☐☐☐☐☐

I think too much about whether the price of a product is affordable before making a decision.

☐☐☐☐☐☐☐

A higher price is a good indicator of a product's quality.

☐☐☐☐☐☐☐

What is your age?

- ☐ Under 25
- ☐ 25–34
- ☐ 35–44
- ☐ 45–54
- ☐ 55 and over

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

What is your approximate monthly net income?

- ☐ Under 1,000€
- ☐ 1,000€–1,999€
- ☐ 2,000€–2,999€
- ☐ 3,000€–3,999€
- ☐ 4,000€ and above
- ☐ Prefer not to say

How often do you typically purchase perfume or fragrance products?

- ☐ Several times a month
- ☐ Once a month
- ☐ Every few months
- ☐ Once or twice a year
- ☐ Rarely / less than once a year

Thank you very much for your participation!

Your responses have been successfully recorded. This survey is part of a Master's thesis investigating consumer behavior and pricing decisions. Your contribution is greatly appreciated.

You may now close this window.

HIGH_UTI

This survey is conducted as part of a Master's thesis examining consumer behavior and purchasing decisions. Your participation is entirely voluntary and anonymous. All data will be processed in accordance with GDPR regulations and used exclusively for scientific purposes. The survey takes approximately 8–10 minutes to complete. By proceeding, you confirm that you are at least 18 years old and consent to the anonymous use of your data for research purposes.

- ☐ I agree and wish to participate
- ☐ I do not agree

Have you ever used laundry detergent products?

- ☐ Yes
- ☐ No

Have you ever purchased laundry detergent products yourself?

- ☐ Yes, I have purchased it myself
- ☐ No, I have never purchased or used laundry detergent

Please imagine the following situation:

You have been buying the same laundry detergent brand for several years. This brand has become your reliable household staple, it consistently delivers the cleaning performance you expect, fits your routine perfectly, and you trust it completely. Even though there are many alternatives available, you always return to this brand because it simply works for you.

One day, you visit your regular store or online shop to buy this detergent you have been loyal to for years, and you notice that its price has increased by 20% compared to the last time you bought it.

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The scenario describes a brand I feel strongly attached to.	☐	☐	☐	☐	☐	☐	☐

Based on the scenario, I
would consider myself
loyal to this brand.

☐☐☐☐☐☐☐

The brand in the
scenario is one I have
been using for a long
time.

☐☐☐☐☐☐☐

Please indicate how much you agree with the following
statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

I am committed to this
brand.

☐☐☐☐☐☐☐

I would be willing to pay
a higher price for this
brand than for other
brands.

☐☐☐☐☐☐☐

I would not buy another
brand if this brand were
available at the store.

☐☐☐☐☐☐☐

I trust this brand.

☐☐☐☐☐☐☐

This brand is my
preferred brand in its
product category.

☐☐☐☐☐☐☐

Please rate the following statements regarding the brand
described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.	☐	☐	☐	☐	☐	☐	☐
I am willing to pay more for this brand than for other brands.	☐	☐	☐	☐	☐	☐	☐
I would pay a higher price for this brand over other brands just to get what this brand offers.	☐	☐	☐	☐	☐	☐	☐
If this brand raised its price, I would still buy it in preference to buying another brand.	☐	☐	☐	☐	☐	☐	☐

Please rate the following statements regarding the price increase described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price increase for this brand is fair.	☐	☐	☐	☐	☐	☐	☐
The price increase for this brand is justified.	☐	☐	☐	☐	☐	☐	☐
The price increase for this brand is reasonable.	☐	☐	☐	☐	☐	☐	☐
The price increase for this brand is unacceptable.	☐	☐	☐	☐	☐	☐	☐

What is the maximum price you would be willing to pay for this laundry detergent before switching to another brand?

0 2 3 5 6 8 9 11 12 14 15

Selected value: €

People often do not read questions carefully.

1 2 3 4 5 6 7

To show that you are paying attention, please select (6) for this item.

☐ ☐ ☐ ☐ ☐ ☐ ☐

The following statements concern your general shopping behavior, not only for laundry detergent. Please indicate your level of agreement.

(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

I am very concerned about low prices when I shop.

☐ ☐ ☐ ☐ ☐ ☐ ☐

I will grocery shop at more than one store to take advantage of low prices.

☐☐☐☐☐☐☐☐

The money saved by finding low prices is usually worth the time and effort.

☐☐☐☐☐☐☐☐

I would never shop at more than one store to find low prices.

☐☐☐☐☐☐☐☐

I compare prices carefully before purchasing a product.

☐☐☐☐☐☐☐☐

I always check prices at more than one store before I buy.

☐☐☐☐☐☐☐☐

I check prices even on small items.

☐☐☐☐☐☐☐☐

I think too much about whether the price of a product is affordable before making a decision.

☐☐☐☐☐☐☐☐

A higher price is a good indicator of a product's quality.

☐☐☐☐☐☐☐☐

What is your age?

- ☐ Under 25
- ☐ 25–34
- ☐ 35–44
- ☐ 45–54

☐ 55 and over

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

What is your approximate monthly net income?

- ☐ Under 1,000€
- ☐ 1,000€–1,999€
- ☐ 2,000€–2,999€
- ☐ 3,000€–3,999€
- ☐ 4,000€ and above
- ☐ Prefer not to say

How often do you typically purchase laundry detergent?

- ☐ Several times a month
- ☐ Once a month
- ☐ Every few months
- ☐ Once or twice a year
- ☐ Rarely / less than once a year

Thank you very much for your participation!

Your responses have been successfully recorded. This survey is part of a Master's thesis investigating consumer behavior and pricing decisions. Your contribution is greatly appreciated.

You may now close this window.

LOW_HED

This survey is conducted as part of a Master's thesis examining consumer behavior and purchasing decisions. Your participation is entirely voluntary and anonymous. All data will be processed in accordance with GDPR regulations and used exclusively for scientific purposes. The survey takes approximately 8–10 minutes to complete. By proceeding, you confirm that you are at least 18 years old and consent to the anonymous use of your data for research purposes.

- ☐ I agree and wish to participate
- ☐ I do not agree

Have you ever used perfume or fragrance products?

- ☐ Yes
- ☐ No

Have you ever purchased perfume or fragrance products yourself?

- ☐ Yes, I have purchased it myself
- ☐ No, I have never purchased or used perfume

Please imagine the following situation:

When buying perfume, you do not have a strong preference for any particular brand. You tend to try different fragrances depending on what is available, what is on sale, or simply what catches your attention at the time. You do not feel a special connection to any one fragrance brand, for you, it is more about the scent itself than the brand behind it.

One day, you visit your regular store or online shop to buy a perfume you have purchased once or twice before, without any strong attachment to it, and you notice that its price has increased by 20% compared to the last time you bought it.

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

The scenario describes
a brand I feel strongly
attached to.

☐☐☐☐☐☐☐

Based on the scenario, I
would consider myself
loyal to this brand.

☐☐☐☐☐☐☐

The brand in the
scenario is one I have
been using for a long
time.

☐☐☐☐☐☐☐

Please indicate how much you agree with the following
statements about the brand described in the scenario. (1 =
Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

I am committed to this
brand.

☐☐☐☐☐☐☐

I would be willing to pay
a higher price for this
brand than for other
brands.

☐☐☐☐☐☐☐

I would not buy another
brand if this brand were
available at the store.

☐☐☐☐☐☐☐

I trust this brand.

☐☐☐☐☐☐☐

This brand is my
preferred brand in its
product category.

☐☐☐☐☐☐☐

Please rate the following statements regarding the brand

described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.	☐	☐	☐	☐	☐	☐	☐
I am willing to pay more for this brand than for other brands.	☐	☐	☐	☐	☐	☐	☐
I would pay a higher price for this brand over other brands just to get what this brand offers.	☐	☐	☐	☐	☐	☐	☐
If this brand raised its price, I would still buy it in preference to buying another brand.	☐	☐	☐	☐	☐	☐	☐

Please rate the following statements regarding the price increase described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price increase for this brand is fair.	☐	☐	☐	☐	☐	☐	☐
The price increase for this brand is justified.	☐	☐	☐	☐	☐	☐	☐

The price increase for
this brand is
reasonable.

☐☐☐☐☐☐☐

The price increase for
this brand is
unacceptable.

☐☐☐☐☐☐☐

What is the maximum price you would be willing to pay for this
perfume before switching to another brand?

0 15 30 45 60 75 90 105 120 135 150

Selected value:

€

People often do not read questions carefully.

1 2 3 4 5 6 7

To show that you are
paying attention, please
select (6) for this item.

☐☐☐☐☐☐☐

The following statements concern your general shopping
behavior, not only for perfume. Please indicate your level of
agreement.

(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

I am very concerned about low prices when I shop.

☐☐☐☐☐☐☐☐

I will grocery shop at more than one store to take advantage of low prices.

☐☐☐☐☐☐☐☐

The money saved by finding low prices is usually worth the time and effort.

☐☐☐☐☐☐☐☐

I would never shop at more than one store to find low prices.

☐☐☐☐☐☐☐☐

I compare prices carefully before purchasing a product.

☐☐☐☐☐☐☐☐

I always check prices at more than one store before I buy.

☐☐☐☐☐☐☐☐

I check prices even on small items.

☐☐☐☐☐☐☐☐

I think too much about whether the price of a product is affordable before making a decision.

☐☐☐☐☐☐☐☐

A higher price is a good indicator of a product's quality.

☐☐☐☐☐☐☐☐

What is your age?

☐ Under 25

☐ 25–34

- ☐ 35–44
- ☐ 45–54
- ☐ 55 and over

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

What is your approximate monthly net income?

- ☐ Under 1,000€
- ☐ 1,000€–1,999€
- ☐ 2,000€–2,999€
- ☐ 3,000€–3,999€
- ☐ 4,000€ and above
- ☐ Prefer not to say

How often do you typically purchase perfume or fragrance products?

- ☐ Several times a month
- ☐ Once a month
- ☐ Every few months

- ☐ Once or twice a year
- ☐ Rarely / less than once a year

Thank you very much for your participation!

Your responses have been successfully recorded. This survey is part of a Master's thesis investigating consumer behavior and pricing decisions. Your contribution is greatly appreciated.

You may now close this window.

LOW_UTI

This survey is conducted as part of a Master's thesis examining consumer behavior and purchasing decisions. Your participation is entirely voluntary and anonymous. All data will be processed in accordance with GDPR regulations and used exclusively for scientific purposes. The survey takes approximately 8–10 minutes to complete. By proceeding, you confirm that you are at least 18 years old and consent to the anonymous use of your data for research purposes.

- ☐ I agree and wish to participate
- ☐ I do not agree

Have you ever used laundry detergent products?

- ☐ Yes
☐ No

Have you ever purchased laundry detergent products yourself?

- ☐ Yes, I have purchased it myself
☐ No, I have never purchased or used laundry detergent

Please imagine the following situation:

When buying laundry detergent, you do not have a strong preference for any particular brand. You tend to choose whichever product is available, on sale, or seems practical at the time. You do not feel a special connection to any one detergent brand, for you it is simply a functional household product and any reliable option will do.

One day, you visit your regular store or online shop to buy a laundry detergent you have purchased once or twice before, without any strong attachment to it and you notice that its price has increased by 20% compared to the last time you bought it.

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The scenario describes a brand I feel strongly attached to.	☐	☐	☐	☐	☐	☐	☐
Based on the scenario, I would consider myself loyal to this brand.	☐	☐	☐	☐	☐	☐	☐
The brand in the scenario is one I have been using for a long time.	☐	☐	☐	☐	☐	☐	☐

Please indicate how much you agree with the following statements about the brand described in the scenario.
(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
I am committed to this brand.	☐	☐	☐	☐	☐	☐	☐
I would be willing to pay a higher price for this brand than for other brands.	☐	☐	☐	☐	☐	☐	☐
I would not buy another brand if this brand were available at the store.	☐	☐	☐	☐	☐	☐	☐
I trust this brand.	☐	☐	☐	☐	☐	☐	☐
This brand is my preferred brand in its product category.	☐	☐	☐	☐	☐	☐	☐

Please rate the following statements regarding the brand described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price of this brand is sometimes higher than that of other brands, but I still prefer to buy it.	☐	☐	☐	☐	☐	☐	☐
I am willing to pay more for this brand than for other brands.	☐	☐	☐	☐	☐	☐	☐
I would pay a higher price for this brand over other brands just to get what this brand offers.	☐	☐	☐	☐	☐	☐	☐
If this brand raised its price, I would still buy it in preference to buying another brand.	☐	☐	☐	☐	☐	☐	☐

Please rate the following statements regarding the price increase described in the scenario.

(1 = Strongly disagree, 7 = Strongly agree)

	1	2	3	4	5	6	7
The price increase for this brand is fair.	☐	☐	☐	☐	☐	☐	☐
The price increase for this brand is justified.	☐	☐	☐	☐	☐	☐	☐

The price increase for this brand is reasonable.

☐☐☐☐☐☐☐

The price increase for this brand is unacceptable.

☐☐☐☐☐☐☐

What is the maximum price you would be willing to pay for this laundry detergent before switching to another brand?

0 2 3 5 6 8 9 11 12 14 15

Selected value: €

People often do not read questions carefully.

1 2 3 4 5 6 7

To show that you are paying attention, please select (6) for this item.

☐☐☐☐☐☐☐

The following statements concern your general shopping behavior, not only for laundry detergent. Please indicate your level of agreement.

(1 = Strongly disagree, 7 = Strongly agree)

1 2 3 4 5 6 7

I am very concerned about low prices when I shop.

☐☐☐☐☐☐☐☐

I will grocery shop at more than one store to take advantage of low prices.

☐☐☐☐☐☐☐☐

The money saved by finding low prices is usually worth the time and effort.

☐☐☐☐☐☐☐☐

I would never shop at more than one store to find low prices.

☐☐☐☐☐☐☐☐

I compare prices carefully before purchasing a product.

☐☐☐☐☐☐☐☐

I always check prices at more than one store before I buy.

☐☐☐☐☐☐☐☐

I check prices even on small items.

☐☐☐☐☐☐☐☐

I think too much about whether the price of a product is affordable before making a decision.

☐☐☐☐☐☐☐☐

A higher price is a good indicator of a product's quality.

☐☐☐☐☐☐☐☐

What is your age?

- ☐ Under 25
- ☐ 25–34

- ☐ 35–44
- ☐ 45–54
- ☐ 55 and over

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary / third gender
- ☐ Prefer not to say

What is your approximate monthly net income?

- ☐ Under 1,000€
- ☐ 1,000€–1,999€
- ☐ 2,000€–2,999€
- ☐ 3,000€–3,999€
- ☐ 4,000€ and above
- ☐ Prefer not to say

How often do you typically purchase laundry detergent?

- ☐ Several times a month
- ☐ Once a month
- ☐ Every few months
- ☐ Once or twice a year

☐ Rarely / less than once a year

Thank you very much for your participation!

Your responses have been successfully recorded. This survey is part of a Master's thesis investigating consumer behavior and pricing decisions. Your contribution is greatly appreciated.

You may now close this window.

Powered by Qualtrics

Appendix B

Raw Dataset from Qualtrics

MC 1	MC 2	MC 3	BL 1	BL 2	BL 3	BL 4	BL 5	WTP A 1	WTP A 2	WTP A 3	WTP A 4	PF 1	PF 2	PF 3	PF 4
7	7	7	7	6	6	7	7	5	5	5	5	2	2	2	2
7	6	7	6	6	6	7	7	6	7	6	7	4	4	4	4
7	7	7	7	6	6	7	7	7	7	7	6	6	6	5	5
7	7	7	7	6	7	7	6	5	6	5	6	3	3	3	3
7	7	7	6	6	6	7	7	5	5	5	5	2	2	2	2
5	6	6	7	4	5	5	5	5	4	3	2	4	3	2	6
7	7	7	7	6	7	7	7	6	7	6	7	3	3	3	4
7	7	7	6	6	5	7	7	6	6	6	6	3	2	2	2
6	6	6	6	6	6	7	7	6	6	6	6	2	2	2	4
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3	2	3	2	1	1	2	2	2	2	1	1	1	1	2
6	6	6	6	5	6	7	6	6	6	6	7	6	6	6
2	2	2	2	2	3	2	3	2	1	1	1	2	2	1

WTP B 1	PS 1	PS 2	PS 3	PS 4	PS 5	PS 6	PS 7	PS 8	PS 9	CV1	CV2	CV3	CV4
90	6	6	6	4	6	6	6	6	1	5	2	6	5
140	3	3	3	2	3	2	3	3	7	5	1	4	3
134	3	3	4	5	3	4	3	3	5	5	2	6	5
105	4	4	4	2	4	4	4	4	3	4	2	3	4
106	3	3	3	3	3	3	3	3	6	4	1	4	4
120	4	3	4	3	3	4	4	6	4	4	1	1	5
122	4	4	4	5	4	4	4	3	6	4	2	3	3
125	4	4	3	3	4	3	4	3	2	4	1	3	4
132	3	3	3	3	3	3	3	3	5	4	1	4	5
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120	4	4	4	5	4	4	4	4	4	3	2	3	5
122	2	2	2	2	2	2	2	2	4	3	1	3	4
123	5	5	5	5	5	5	5	5	4	3	1	6	4
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136	2	1	1	2	2	1	1	1	4	3	1	5	4
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119	5	4	4	4	3	3	4	5	4	2	2	1	3
94	5	5	5	5	5	5	5	5	6	2	2	1	3
116	5	5	6	6	5	6	5	5	4	2	2	3	3
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114	6	6	5	5	7	5	6	5	5	2	2	3	5
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123	4	6	4	3	5	6	5	6	3	2	1	3	2
135	6	6	6	5	6	6	6	3	3	2	4	1	5
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145	7	7	7	6	7	6	7	6	6	2	2	2	5
120	1	4	3	2	7	3	1	2	7	2	2	2	4
136	5	5	5	6	5	5	5	5	4	2	1	2	4
148	2	2	2	2	2	2	2	2	4	2	1	2	4
145	5	5	5	6	5	5	5	5	5	2	2	6	3
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123	5	4	3	5	5	3	6	5	5	1	1	2	5
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140	5	3	4	5	5	1	3	2	3	1	2	1	4
140	6	5	6	5	6	7	5	6	2	1	2	2	5
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150	2	2	2	2	2	2	2	2	4	1	1	2	3
12	5	5	5	5	5	5	5	4	6	5	2	6	3
11	2	2	2	2	2	2	2	2	7	5	2	4	3
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100	3	3	3	2	3	4	4	4	7	3	2	6	5
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101	4	4	4	5	4	4	4	4	4	3	1	6	5
96	5	5	4	5	5	5	5	5	5	2	1	2	5
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75	3	3	3	3	3	3	3	3	5	2	1	3	4
100	5	5	5	4	5	5	5	5	3	2	2	2	3
100	3	2	3	4	2	2	2	3	3	2	2	3	4
106	5	5	5	5	5	6	5	6	2	2	1	3	5
75	4	7	6	6	7	7	5	6	5	2	2	2	3
75	6	6	6	7	5	5	6	5	2	2	1	2	4
75	4	3	4	5	3	2	2	3	3	2	2	1	5
75	6	7	6	7	6	5	5	5	4	2	1	2	4
96	6	6	6	5	6	6	6	5	4	2	2	3	5
92	3	3	3	4	3	3	3	3	5	2	2	2	3
102	4	4	4	5	4	4	4	4	2	1	1	1	4
96	4	4	3	3	4	4	4	4	2	1	1	1	3
75	4	3	4	5	6	5	4	5	4	1	1	3	2
88	5	5	5	5	6	6	5	6	2	1	2	2	4
93	5	4	4	3	4	3	3	3	4	1	1	1	5
9	6	6	7	4	6	6	6	6	3	5	1	4	5
9	5	5	5	6	5	5	5	5	5	5	2	3	3
7	6	4	5	6	6	4	6	2	7	5	1	3	2
10	4	4	4	6	4	4	4	3	6	4	1	5	5
9	6	6	7	5	6	6	7	6	4	4	2	3	3
10	3	3	2	2	2	2	1	3	3	4	2	6	3
10	5	6	4	5	6	6	5	6	5	4	2	4	2
8	6	6	6	5	6	6	6	6	5	3	2	3	2
8	7	7	7	6	7	7	7	7	4	3	1	6	4
8	7	7	7	6	7	7	7	7	4	3	2	2	3
7	6	5	4	3	6	5	6	6	5	3	2	3	3
10	5	5	4	3	5	5	6	5	5	3	1	4	3
9	6	6	6	5	6	6	6	6	4	3	2	4	4
9	6	6	6	5	6	6	6	6	4	3	1	4	5
9	4	4	4	4	4	4	4	4	2	2	1	3	3

10	5	5	5	5	5	5	5	5	4	2	2	1	3
10	4	4	4	4	4	4	4	4	4	2	2	3	3
10	4	4	4	5	4	4	4	4	7	2	1	5	4
8	5	5	5	5	5	5	5	5	5	2	2	2	3
9	7	6	6	5	7	6	7	6	1	2	2	3	3
10	5	4	3	6	5	5	4	5	3	2	2	3	4
7	1	7	7	7	6	7	7	7	4	2	2	1	1
7	6	4	5	6	6	2	6	6	7	2	1	2	3
10	4	4	4	5	4	4	4	4	3	1	2	1	3
10	7	5	5	5	5	2	4	3	4	1	2	2	3
7	5	3	5	3	4	2	3	3	5	1	1	1	3
7	5	1	3	2	5	2	6	4	6	1	2	1	3
7	6	7	6	6	5	1	5	5	3	1	2	2	2
8	6	6	6	6	6	6	6	6	5	1	1	1	5
7	5	4	4	5	5	4	2	2	5	1	2	3	3
8	7	7	7	7	7	7	7	7	4	1	2	3	3
7	5	6	6	5	7	7	6	5	6	1	2	3	4
7	2	3	6	5	4	5	3	5	4	1	2	2	3
9	7	7	7	6	7	7	7	5	3	1	4	2	3

Appendix C

PLS-SEM Data Analysis via SmartPLS 4

Control Variables

CV1 — Age	Percentage	Count
Under 25	21,32%	29
25–34	36,76%	50
35–44	16,18%	22
45–54	15,44%	21
55 and over	10,29%	14
Grand Total	100,00%	136

CV2 — Gender	Percentage	Count
Female	41,18%	56
Male	54,41%	74
Prefer not to say	4,41%	6
Grand Total	100,00%	136

CV3 — Monthly Net Income	Percentage	Count
Under €1,000	18,38%	25
€1,000–€1,999	26,47%	36
€2,000–€2,999	25,00%	34
€3,000–€3,999	13,24%	18
€4,000 and above	2,94%	4
Prefer not to say	13,97%	19
Grand Total	100,00%	136

CV4 — Purchase Frequency	Percentage	Count
Several times a month	1,47%	2
Once a month	7,35%	10
Every few months	43,38%	59
Once or twice a year	25,74%	35
Rarely / less than once a year	22,06%	30
Grand Total	100,00%	136

Manipulation Check

Path	Standard deviation	Sample Size	Sample mean	T statistics	P values
HIGH_HED	0,6892	42	6,5317	18,9661	0,0037
HIGH_UTIL	0,5236	30	6,1333	20,6122	
LOW_HED	1,1755	30	1,9889	18,9661	
LOW_UTIL	1,1401	34	1,6471	20,6122	

Option A

Outer loadings - Matrix						
Indicator	BRAND LOYLATY	PRICE FAIRNES S	PRICE SENSITV ITY	WTP	PRICE FAIRNES S x BRAND LOYLAT Y	PRICE SENSITV ITY x BRAND LOYLAT Y
BRAND LOYALTY_1	0.784					
BRAND LOYALTY_2	0.831					
BRAND LOYALTY_3	0.817					
BRAND LOYALTY_4	0.880					
BRAND LOYALTY_5	0.895					
PRICE FAIRNESS_1		0.930				
PRICE FAIRNESS_2		0.973				
PRICE FAIRNESS_3		0.963				
PRICE SENSITIVITY_1			0.778			
PRICE SENSITIVITY_2			0.784			
PRICE SENSITIVITY_3			0.815			
PRICE SENSITIVITY_6			0.844			
PRICE SENSITIVITY_7			0.895			
PRICE SENSITIVITY_8			0.967			
WTP A_1				0.920		
WTP A_2				0.962		
WTP A_3				0.951		
WTP A_4				0.918		
PRICE FAIRNESS x BRAND LOYLATY					1.000	
PRICE SENSITIVITY x BRAND LOYLATY						1.000

Path coefficients					
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values
BRAND LOYLATY -> WTP	0.629	0.628	0.118	5.340	0.000
PRICE FAIRNESS -> WTP	0.330	0.319	0.084	3.946	0.000

PRICE FAIRNESS x BRAND LOYLATY -> WTP	0.022	0.020	0.102	0.216	0.829
PRICE SENSITVITY -> WTP	-0.153	-0.066	0.260	0.589	0.556
PRICE SENSITVITY x BRAND LOYLATY -> WTP	0.095	-0.002	0.267	0.356	0.722

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYLATY	0.898	0.910	0.924	0.709
PRICE FAIRNESS	0.954	1.046	0.969	0.913
PRICE SENSITVITY	0.954	0.968	0.939	0.722
WTP	0.955	0.956	0.967	0.880

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYLAT Y	PRICE FAIRNES S	PRICE SENSITV ITY	WTP	PRICE FAIRNES S x BRAND LOYLAT Y	PRICE SENSITV ITY x BRAND LOYLAT Y
BRAND LOYLATY						
PRICE FAIRNESS	0.127					
PRICE SENSITVITY	0.152	0.225				
WTP	0.750	0.310	0.104			
PRICE FAIRNESS x BRAND LOYLATY	0.130	0.021	0.103	0.124		
PRICE SENSITVITY x BRAND LOYLATY	0.362	0.053	0.413	0.255	0.251	

f-square Matrix						
Construct	BRAND LOYLAT Y	PRICE FAIRNES S	PRICE SENSITVI TY	WTP	PRICE FAIRNES S x BRAND LOYLAT Y	PRICE SENSITVI TY x BRAND LOYLAT Y
BRAND LOYLATY				0.726		
PRICE FAIRNESS				0.250		
PRICE SENSITVIT Y				0.041		
WTP						
PRICE FAIRNESS x				0.001		

BRAND LOYLATY						
PRICE SENSITVITY x BRAND LOYLATY				0.011		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.603	0.547

Option B

Outer loadings - Matrix						
Indicator	BRAND LOYLATY	PRICE FAIRNES S	PRICE SENSITV ITY	WTP	PRICE FAIRNES S x BRAND LOYLAT Y	PRICE SENSITV ITY x BRAND LOYLAT Y
BRAND LOYALTY_1	0.739					
BRAND LOYALTY_2	0.837					
BRAND LOYALTY_3	0.866					
BRAND LOYALTY_4	0.877					
BRAND LOYALTY_5	0.866					
PRICE FAIRNESS_1		0.926				
PRICE FAIRNESS_2		0.944				
PRICE FAIRNESS_3		0.928				
PRICE FAIRNESS_4_R		0.747				
PRICE SENSITIVITY_1			0.819			
PRICE SENSITIVITY_2			0.901			
PRICE SENSITIVITY_3			0.885			
PRICE SENSITIVITY_5			0.767			
PRICE SENSITIVITY_6			0.930			
PRICE SENSITIVITY_7			0.909			
PRICE SENSITIVITY_8			0.893			
WTP B_1				1.000		
PRICE FAIRNESS x BRAND LOYALTY					1.000	

PRICE SENSITIVITY x BRAND LOYALTY						1.000
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Path coefficients					
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
BRAND LOYALTY -> WTP	0.374	0.430	0.172	2.170	0.030
PRICE FAIRNESS -> WTP	0.371	0.384	0.134	2.777	0.006
PRICE FAIRNESS x BRAND LOYALTY -> WTP	0.137	0.048	0.218	0.631	0.528
PRICE SENSITIVITY -> WTP	-0.064	-0.076	0.227	0.282	0.778
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	-0.167	-0.085	0.223	0.752	0.452

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYALTY	0.898	0.946	0.922	0.703
PRICE FAIRNESS	0.909	0.930	0.938	0.792
PRICE SENSITIVITY	0.955	1.137	0.957	0.763

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.179					
PRICE SENSITIVITY	0.153	0.191				
WTP	0.377	0.365	0.093			
PRICE FAIRNESS x BRAND LOYALTY	0.437	0.054	0.101	0.265		
PRICE SENSITIVITY x BRAND LOYALTY	0.226	0.112	0.510	0.082	0.268	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND	PRICE SENSITIVITY x BRAND

					LOYLAT Y	LOYLAT Y
BRAND LOYALTY				0.157		
PRICE FAIRNESS				0.191		
PRICE SENSITIVITY				0.004		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.017		
PRICE SENSITIVITY x BRAND LOYALTY				0.019		

R-square Overview		
	R-square	R-square adjusted
WTP	0.332	0.239

Scenario HIGH_UTIL

Option A

Outer loadings - Matrix						
Indicator	BRAND LOYALT Y	PRICE FAIRNES S	PRICE SENSITI VITY	WTP	PRICE FAIRNES S x BRAND LOYALT Y	PRICE SENSITI VITY x BRAND LOYALT Y
BRAND LOYALTY_1	0.856					
BRAND LOYALTY_2	0.744					
BRAND LOYALTY_3	0.743					
BRAND LOYALTY_4	0.886					
BRAND LOYALTY_5	0.860					
PRICE FAIRNESS_1		0.978				
PRICE FAIRNESS_2		0.995				
PRICE FAIRNESS_3		0.987				
PRICE SENSITIVITY_1			0.880			
PRICE SENSITIVITY_2			0.905			
PRICE SENSITIVITY_3			0.853			
PRICE SENSITIVITY_4 _R			0.811			

PRICE SENSITIVITY_5			0.903			
PRICE SENSITIVITY_6			0.941			
PRICE SENSITIVITY_7			0.829			
PRICE SENSITIVITY_8			0.959			
WTP A_1				0.889		
WTP A_2				0.889		
WTP A_3				0.868		
WTP A_4				0.931		
PRICE FAIRNESS x BRAND LOYALTY					1.000	
PRICE SENSITIVITY x BRAND LOYALTY						1.000

Path coefficients						
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	
BRAND LOYALTY -> WTP	0.644	0.585	0.239	2.698	0.007	
PRICE FAIRNESS -> WTP	0.136	0.148	0.221	0.618	0.537	
PRICE FAIRNESS x BRAND LOYALTY -> WTP	0.004	0.122	0.380	0.011	0.991	
PRICE SENSITIVITY -> WTP	-0.005	0.030	0.233	0.021	0.984	
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	0.230	0.135	0.275	0.837	0.403	

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYALTY	0.878	0.895	0.911	0.672
PRICE FAIRNESS	0.986	1.055	0.991	0.973
PRICE SENSITIVITY	0.965	1.076	0.967	0.786
WTP	0.917	0.922	0.941	0.800

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.178					
PRICE SENSITIVITY	0.241	0.126				

WTP	0.632	0.118	0.130			
PRICE FAIRNESS x BRAND LOYALTY	0.465	0.264	0.186	0.339		
PRICE SENSITIVITY x BRAND LOYALTY	0.238	0.289	0.077	0.135	0.070	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY				0.481		
PRICE FAIRNESS				0.025		
PRICE SENSITIVITY				0.000		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.000		
PRICE SENSITIVITY x BRAND LOYALTY				0.059		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.409	0.286

Option B

Outer loadings - Matrix						
Indicator	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY_1	0.881					
BRAND LOYALTY_2	0.752					
BRAND LOYALTY_3	0.787					
BRAND LOYALTY_4	0.856					
BRAND LOYALTY_5	0.814					

PRICE FAIRNESS_1		0.976				
PRICE FAIRNESS_2		0.994				
PRICE FAIRNESS_3		0.988				
PRICE SENSITIVITY_1			0.958			
PRICE SENSITIVITY_2			0.914			
PRICE SENSITIVITY_3			0.956			
PRICE SENSITIVITY_4_R			0.722			
PRICE SENSITIVITY_5			0.832			
PRICE SENSITIVITY_6			0.718			
PRICE SENSITIVITY_7			0.752			
PRICE SENSITIVITY_8			0.799			
WTP B_1				1.000		
PRICE FAIRNESS x BRAND LOYALTY					1.000	
PRICE SENSITIVITY x BRAND LOYALTY						1.000

Path coefficients						
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values	
BRAND LOYALTY -> WTP	0.672	0.623	0.202	3.321	0.001	
PRICE FAIRNESS -> WTP	0.292	0.310	0.193	1.517	0.129	
PRICE FAIRNESS x BRAND LOYALTY -> WTP	0.063	0.114	0.260	0.243	0.808	
PRICE SENSITIVITY -> WTP	-0.254	-0.183	0.234	1.086	0.278	
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	-0.073	-0.088	0.214	0.342	0.733	

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
BRAND LOYALTY	0.878	0.889	0.911	0.671
PRICE FAIRNESS	0.986	1.132	0.991	0.972
PRICE SENSITIVITY	0.965	0.565	0.949	0.700

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.178					
PRICE SENSITIVITY	0.241	0.126				
WTP	0.680	0.170	0.115			
PRICE FAIRNESS x BRAND LOYALTY	0.476	0.275	0.189	0.420		
PRICE SENSITIVITY x BRAND LOYALTY	0.371	0.034	0.156	0.226	0.397	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY				0.720		
PRICE FAIRNESS				0.160		
PRICE SENSITIVITY				0.144		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.006		
PRICE SENSITIVITY x BRAND LOYALTY				0.010		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.567	0.476

Scenario LOW_HED

Option A

Outer loadings - Matrix

Indicator	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY_1	0.919					
BRAND LOYALTY_2	0.814					
BRAND LOYALTY_3	0.860					
BRAND LOYALTY_4	0.877					
BRAND LOYALTY_5	0.802					
PRICE FAIRNESS_1		0.968				
PRICE FAIRNESS_2		0.959				
PRICE FAIRNESS_3		0.969				
PRICE SENSITIVITY_2			0.788			
PRICE SENSITIVITY_3			0.815			
PRICE SENSITIVITY_5			0.837			
PRICE SENSITIVITY_6			0.961			
PRICE SENSITIVITY_7			0.918			
PRICE SENSITIVITY_8			0.844			
WTP A_1				0.914		
WTP A_2				0.928		
WTP A_3				0.937		
WTP A_4				0.760		
PRICE FAIRNESS x BRAND LOYALTY					1.000	
PRICE SENSITIVITY x BRAND LOYALTY						1.000

Path coefficients					
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values
BRAND LOYALTY -> WTP	0.471	0.435	0.237	1.991	0.047
PRICE FAIRNESS -> WTP	0.442	0.371	0.249	1.778	0.076
PRICE FAIRNESS x BRAND LOYALTY -> WTP	-0.011	-0.014	0.176	0.060	0.952
PRICE SENSITIVITY -> WTP	0.030	-0.023	0.227	0.131	0.896
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	-0.017	-0.034	0.194	0.089	0.929

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYALTY	0.908	0.916	0.932	0.732
PRICE FAIRNESS	0.963	0.968	0.976	0.932
PRICE SENSITIVITY	0.946	0.937	0.946	0.744
WTP	0.908	0.926	0.937	0.788

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.773					
PRICE SENSITIVITY	0.288	0.192				
WTP	0.838	0.813	0.242			
PRICE FAIRNESS x BRAND LOYALTY	0.617	0.634	0.179	0.542		
PRICE SENSITIVITY x BRAND LOYALTY	0.609	0.444	0.190	0.445	0.680	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY				0.226		
PRICE FAIRNESS				0.252		
PRICE SENSITIVITY				0.002		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.001		
PRICE SENSITIVITY x BRAND LOYALTY				0.000		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.692	0.628

Option B

Outer loadings - Matrix						
Indicator	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY_1	0.955					
BRAND LOYALTY_2	0.880					
BRAND LOYALTY_3	0.852					
PRICE FAIRNESS_1		0.951				
PRICE FAIRNESS_2		0.954				
PRICE FAIRNESS_3		0.982				
PRICE SENSITIVITY_1			0.837			
PRICE SENSITIVITY_2			0.908			
PRICE SENSITIVITY_3			0.926			
PRICE SENSITIVITY_4_R			0.837			
PRICE SENSITIVITY_5			0.838			
PRICE SENSITIVITY_6			0.808			
PRICE SENSITIVITY_7			0.825			
PRICE SENSITIVITY_8			0.777			
WTP B_1				1.000		
PRICE FAIRNESS x BRAND LOYALTY					1.000	
PRICE SENSITIVITY x BRAND LOYALTY						1.000

Path coefficients					
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values

BRAND LOYLATY -> WTP	-0.117	-0.209	0.440	0.266	0.790
PRICE FAIRNES -> WTP	0.077	0.013	0.409	0.188	0.851
PRICE FAIRNES x BRAND LOYLATY -> WTP	-0.016	-0.194	0.415	0.039	0.969
PRICE SENSITIVITY -> WTP	-0.285	-0.219	0.357	0.797	0.425
PRICE SENSITIVITY x BRAND LOYLATY -> WTP	-0.104	0.033	0.438	0.237	0.813

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYLATY	0.877	0.881	0.925	0.804
PRICE FAIRNES	0.963	1.211	0.974	0.926
PRICE SENSITIVITY	0.948	1.030	0.952	0.715

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALT Y	PRICE FAIRNES S	PRICE SENSITI VITY	WTP	PRICE FAIRNES S x BRAND LOYALT Y	PRICE SENSITI VITY x BRAND LOYALT Y
BRAND LOYLATY						
PRICE FAIRNES	0.773					
PRICE SENSITIVITY	0.341	0.164				
WTP	0.236	0.072	0.227			
PRICE FAIRNES x BRAND LOYLATY	0.622	0.647	0.159	0.145		
PRICE SENSITIVITY x BRAND LOYLATY	0.661	0.357	0.188	0.132	0.461	

f-square Matrix						
Construct	BRAND LOYALT Y	PRICE FAIRNES S	PRICE SENSITI VITY	WTP	PRICE FAIRNES S x BRAND LOYALT Y	PRICE SENSITI VITY x BRAND LOYALT Y
BRAND LOYLATY				0.004		
PRICE FAIRNES				0.002		
PRICE SENSITIVITY				0.067		
WTP						
PRICE FAIRNES x BRAND LOYLATY				0.001		
PRICE SENSITIVITY x				0.005		

BRAND LOYLATY						
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R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.125	-0.057

Scenario LOW_UTIL

Option A

Outer loadings - Matrix						
Indicator	BRAND LOYALT Y	PRICE FAIRNES S	PRICE SENSITI VITY	WTP	PRICE FAIRNES S x BRAND LOYALT Y	PRICE SENSITI VITY x BRAND LOYALT Y
BRAND LOYALTY_1	0.895					
BRAND LOYALTY_2	0.909					
BRAND LOYALTY_3	0.928					
BRAND LOYALTY_4	0.793					
BRAND LOYALTY_5	0.915					
PRICE FAIRNESS_1		0.981				
PRICE FAIRNESS_2		0.968				
PRICE FAIRNESS_3		0.970				
PRICE FAIRNESS_4_R		0.868				
PRICE SENSITIVITY_1			0.777			
PRICE SENSITIVITY_2			0.817			
PRICE SENSITIVITY_3			0.778			
PRICE SENSITIVITY_5			0.944			
PRICE SENSITIVITY_7			0.886			
WTP_A_1				0.943		
WTP_A_2				0.959		
WTP_A_3				0.954		
WTP_A_4				0.963		
PRICE FAIRNESS x BRAND LOYALTY					1.000	

Path coefficients					
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values
BRAND LOYALTY -> WTP	-0.120	-0.061	0.225	0.536	0.592
PRICE FAIRNESS -> WTP	0.202	0.177	0.224	0.902	0.367
PRICE FAIRNESS x BRAND LOYALTY -> WTP	0.333	0.182	0.269	1.236	0.216
PRICE SENSITIVITY -> WTP	-0.244	-0.291	0.142	1.720	0.086
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	0.104	0.107	0.194	0.535	0.593

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYALTY	0.934	0.950	0.950	0.791
PRICE FAIRNESS	0.962	0.961	0.972	0.899
PRICE SENSITIVITY	0.902	0.928	0.924	0.711
WTP	0.968	0.976	0.976	0.912

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.596					
PRICE SENSITIVITY	0.358	0.272				
WTP	0.673	0.604	0.433			
PRICE FAIRNESS x BRAND LOYALTY	0.803	0.540	0.281	0.826		
PRICE SENSITIVITY x BRAND LOYALTY	0.747	0.515	0.295	0.744	0.914	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY				0.020		
PRICE FAIRNESS				0.110		

PRICE SENSITIVITY				0.207		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.410		
PRICE SENSITIVITY x BRAND LOYALTY				0.014		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.755	0.711

Option B

Outer loadings - Matrix						
Indicator	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY_3	0.917					
BRAND LOYALTY_4	0.960					
BRAND LOYALTY_5	0.875					
PRICE FAIRNESS_1		0.984				
PRICE FAIRNESS_2		0.972				
PRICE FAIRNESS_3		0.970				
PRICE FAIRNESS_4 R		0.860				
PRICE SENSITIVITY_2			0.809			
PRICE SENSITIVITY_3			0.891			
PRICE SENSITIVITY_5			0.937			
PRICE SENSITIVITY_6			0.704			
PRICE SENSITIVITY_7			0.918			
PRICE SENSITIVITY_8			0.786			
WTP B_1				1.000		
PRICE FAIRNESS x BRAND LOYALTY					1.000	

PRICE SENSITIVITY x BRAND LOYALTY						1.000
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Path coefficients						
Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics	P values	
BRAND LOYALTY -> WTP	0.062	0.018	0.290	0.212	0.832	
PRICE FAIRNESS -> WTP	-0.355	-0.268	0.272	1.307	0.191	
PRICE FAIRNESS x BRAND LOYALTY -> WTP	0.063	0.028	0.208	0.301	0.763	
PRICE SENSITIVITY -> WTP	-0.324	-0.321	0.332	0.976	0.329	
PRICE SENSITIVITY x BRAND LOYALTY -> WTP	0.600	0.423	0.355	1.690	0.091	

Construct reliability and validity				
Construct	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Average variance extracted (AVE)
BRAND LOYALTY	0.924	1.261	0.941	0.843
PRICE FAIRNESS	0.962	0.975	0.973	0.899
PRICE SENSITIVITY	0.933	0.966	0.937	0.714

Discriminant validity (Heterotrait-monotrait ratio - HTMT)						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY
BRAND LOYALTY						
PRICE FAIRNESS	0.596					
PRICE SENSITIVITY	0.316	0.269				
WTP	0.182	0.297	0.211			
PRICE FAIRNESS x BRAND LOYALTY	0.758	0.612	0.173	0.277		
PRICE SENSITIVITY x BRAND LOYALTY	0.558	0.273	0.119	0.489	0.582	

f-square Matrix						
Construct	BRAND LOYALTY	PRICE FAIRNESS	PRICE SENSITIVITY	WTP	PRICE FAIRNESS x BRAND LOYALTY	PRICE SENSITIVITY x BRAND LOYALTY

BRAND LOYALTY				0.002		
PRICE FAIRNESS				0.112		
PRICE SENSITIVITY				0.144		
WTP						
PRICE FAIRNESS x BRAND LOYALTY				0.012		
PRICE SENSITIVITY x BRAND LOYALTY				0.218		

R-square Overview		
Construct	R-square	R-square adjusted
WTP	0.392	0.283

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Declaration on the Use of Artificial Intelligence (AI) Tools

The undersigned Aileen Schweitzer, student ID number 909058, enrolled at Ca' Foscari in the Master's Degree Programme in International Management – Double Degree Program in International Management in cooperation with the University of Hohenheim, author of the final degree thesis “The Effect of Brand Loyalty on Consumers' Willingness to Pay for Price Increases: A Comparison Between Hedonic and Utilitarian Products”, thesis supervisor Prof. Andreas Hinterhuber, aware of the penalties provided for in Article 76 of the Consolidated Act set out in Presidential Decree no. 445 of 28 December 2000, and of the loss of benefits provided for in Article 75 of the same Consolidated Act in the event of false or misleading statements, under his/her own responsibility pursuant to Articles 46 and 47 of Presidential Decree no. 445 of 28 December 2000,

DECLARES

☐ that he/she has NOT used generative artificial intelligence technologies to support various aspects of the research and writing of the final paper/degree thesis;

☒ that he/she HAS used generative artificial intelligence technologies to support various aspects of the research and writing of his/her final paper/degree thesis, in particular (for each point, write in full the requested information):

- ChatGPT (OpenAI, based on GPT-5.5; released on 23 April 2026)
- Claude (Anthropic, based on Claude Sonnet 4.6; released on 17 February 2026)
- Gemini Advanced / Gemini Pro (Google, based on Gemini 3.1 Pro; released on 19 February 2026)

- provide information on how the tool was used:

- ☒ revision and optimisation of texts to improve clarity and coherence;
- ☒ revision and optimisation of texts to improve clarity and coherence;
- ☒ spelling, grammar, punctuation and sentence structure correction;
- ☒ support for the automatic drafting of sentences;
- ☒ preliminary research to obtain an initial overview of the topic

- Use across multiple sections of the thesis, primarily for language revision, translation support, text refinement, and preliminary literature orientation where applicable

- All information, suggestions, formulations, translations, and outputs generated with AI tools were carefully reviewed, checked, and revised by the author before being incorporated into the thesis. Any factual statements, references, citations, and academic content were independently verified using original academic literature, scientific databases, cited publications, and the author's own analysis.

DECLARES FURTHER

that all material generated by AI has been carefully checked, reviewed and reworked by the author, who assumes full responsibility for the quality, accuracy and scientific integrity of the work.

Place: Venice

Date: 24.06.2026

Signature of the Author: A. Schell