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PERCEPTION OF PRICE IMAGE DIMENSIONS OF TWO COMPETING DISCOUNT RETAILERS: RESULTS FROM AN EMPIRICAL STUDY

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Purpose: This article aims to identify potential similarities and differences in the perceptions of price image dimensions related to the two analyzed discount store brands. This assessment is especially relevant because these two brands vary significantly in size (with approximately 3500 vs. 900 stores) and are involved in a price war, which has resulted in a so-called marketing duopoly, despite the presence of other discount retailers and alternative store formats.
Design/methodology/approach: The content addressed five dimensions of the price image of discount retailers: price-level perception, value for money, price perceptibility, price processibility, and price evaluation certainty. The survey was conducted in 2024 using Computer-Assisted Web Interviewing (CAWI). It included 621 respondents who prefer one of the two discount brands that have been involved in a price war since 2023. A series of one-way ANOVAs was conducted to compare six variables across two discount retailers. For each analysis, F-statistics, partial eta squared effect sizes, and estimated marginal means were reported.
Findings: The research provides a detailed analysis of price image, highlighting similarities in the perception of dimensions associated with perceived value, price level, and price evaluation certainty. However, it also identifies differences in the clarity of price communication, particularly concerning price perceptibility and price processibility.
Research limitations/implications: Although this study revealed statistically significant differences, the small effect sizes indicate limited practical relevance. Therefore, conclusions and recommendations should be interpreted with caution. Future research should consider longitudinal designs, regional analyses, and more advanced statistical approaches to address current limitations and deepen understanding of the observed patterns.
Originality/value: This article represents the first attempt to conduct an in-depth examination of the price image of retailers operating in the Polish market. In research, the price image is usually treated as a single variable, without specifying its components. In this research, two discount retailers involved in a price war were analyzed based on the five dimensions of price image identified in the literature. Given the challenges associated with capturing a price war as a market phenomenon, the findings presented in this study are particularly valuable.
Keywords: price image, discount retailer, price communications, price competition, price war.
Category of the paper: research paper.

1. Introduction

Consumer price perception is the mental process through which individuals interpret and assign meaning to price-related information. How consumers perceive a store's pricing plays a key role in shaping their information-seeking behavior, choice of store, and purchasing decisions (Lii et al., 2023). Zielke et al. (2023) indicated that effectively managing price perceptions is crucial for brand managers because a brand's price image can act as a significant filter, influencing customer preferences and purchase intentions even before they begin searching for price information on a specific product. Scholars have highlighted the relevance of examining price image, as it plays a crucial role in shaping consumers' price perceptions and influencing their behavioral intentions (Chang, Wang, 2014). Store image is important for retailers and marketing managers' business strategies, as it ensures market differentiation (Graciola et al., 2020), with store price image representing a key component of the overall store image. The issue of price image is complex, especially in light of the growing awareness of its multidimensional nature (Bondos, 2015). As early as the 1970s, definitions began to identify the essence of price image (e.g., "a 'buyer attitude towards price on the assortment level" (Zielke, 2011, p. 332), although they did not yet reflect the multidimensional nature of the concept. Zielke (2006, p. 299) defined a price image as "a multidimensional latent variable that consists of subjective beliefs and feeling about the pricing activities of a retailer's company, store, or category". In the view of Hamilton and Chernev (2013), price image reflects consumers' general beliefs about the price levels they associate with a given retailer.

In today's competitive market environment, in-store promotions and price discount tactics are crucial strategies used by marketing practitioners to attract customers (Park, Jang, 2025). Using AI for pricing is becoming increasingly common. AI can adjust prices in real-time and use personal data to predict buying behavior and offer personalized prices (Chen et al., 2024; Jung et al., 2024). While price promotions are considered an important method for boosting business performance, it is important to recognize that their results can vary because managers typically implement a mix of different promotional approaches (Niu et al., 2024). At times, the competition between retailers becomes so intense that it is justified to refer to the phenomenon as a price war.

According to literature, a price war is a particularly intense form of price-based competition that arises when one or more firms decide to substantially lower their prices to gain a strategic advantage or expand their market position. A price war describes a situation where companies compete for market share by reducing their prices (Cheng, 2024). It constitutes one of the most intense forms of competitive interaction in the marketplace (Heil, Hensen, 2001). This initial price action often provokes similar responses from competitors, resulting in a downward spiral of price cuts and increased market pressure. Such situations are typically driven by factors such as market saturation, the entrance of new competitors, declining profitability, or intentional

competitive strategies. While price wars may offer short-term gains for consumers, they often lead to shrinking profit margins for firms and can negatively impact long-term market dynamics and stability (Nivornusit et al., 2024). Price wars have become a growing trend in numerous sectors of the market (Krämer et al., 2016). At the beginning of the 21st century, the level of understanding of the unique phenomenon of market competition known as price wars was limited, as little was known about their nature and how they emerge (Heil, Helsen, 2001). However, despite the limited understanding of the phenomenon, price wars among large retailers were considered common (Heerde et al., 2008). Price wars are increasingly frequent because managers often perceive changing prices as a simple, fast, and easily reversible move (Rao et al., 2000).

Numerous typical price-related differences exist between online and offline buying processes (Berends, Gerpott, 2025). This study focuses specifically on the formation of price image within the offline retail environment. Competitive pricing involves all actions and strategies related to setting product prices while taking competitors into account. It goes beyond simply matching rival prices, encompassing a broader analysis of both current and anticipated pricing behaviors of competing firms, to achieve long-term profit maximization (Gerpott, Berends, 2022).

Most price wars begin unintentionally, often due to minor misunderstandings or misinterpretations of market conditions. It is uncommon for a price war to be launched as a planned competitive strategy – and even less common for one to end satisfactorily (Garda, Marn, 1993). However, according to the authors, the context of the price war described in the article should not be considered accidental. In the analyzed case, we observed a price war initiated by large retailers. During retailer-initiated price wars, hundreds of brands are affected simultaneously, which influences both brand and retailer positioning (Sotgiu, Gielens, 2015).

This article examines price competition between two major discount retailers operating in the Polish market. The ongoing price war between them serves as a clear example of competitive pricing. Both chains set their prices with the competitor in mind, yet do not simply copy each other blindly. Instead, they continuously monitor each other's pricing strategies and respond to changes in order to attract customers while aiming to maximize their profits. Such actions reflect the essence of competitive pricing.

In the pricing management literature, the issue of price communication is not sufficiently emphasized (Krämer, 2020). This article aims to identify potential similarities and differences in the perceptions of price-image dimensions across the two analyzed discount-store brands. The primary source for the study and subsequent analyses was the article by Zielke (2010), which defined the dimensions of price image. Although the concept of price image dimensions has been considered in various ways in later publications (Susanto et al., 2023; Zielke, 2011, 2018; Hamilton, Chernev, 2013; Chang, Wang, 2014; Amara, Bouslama, 2011), the authors focused on Zielke's (2010) framework. Below, each of the five dimensions is presented and explained.

Price-level perception refers to how consumers assess whether prices are high or low, without necessarily considering differences in product quality. This perception often starts at the individual product level but can influence views of the overall price level of an entire store. At the category, store, or retailer level, price-level perception is often used interchangeably with the term price-level image. When it comes to individual products, consumers form price-level perceptions by comparing a product's price to a benchmark, commonly called the reference price (Zielke, 2010; Roth et al., 2017).

Value for money is commonly understood as a balance between what is given and what is received (Zeithaml, 1988). In the retail context, it represents the result of a trade-off between the costs incurred and the benefits gained from both product and store attributes. While price-level perception and value for money are seemingly interconnected, a retailer may be evaluated differently on each dimension (Zielke, 2010). *Price perceptibility* describes the degree to which customers can effortlessly and clearly identify price information in a retail setting, reflecting how visibly and accessibly prices are presented on products or shelves. In this context, practices related to price labelling play an important role.

Price processibility describes how easily consumers can mentally process and compare the prices of different product options while shopping at the point of sale. Zielke (2010) suggested that although price labelling can serve as a precursor to price perceptibility, the level of price processibility may be influenced by factors such as the use of unit pricing or the organization of shelf displays. And finally, price e*valuation certainty* describes how easily consumers can assess prices ("how easily customers perceive the price-evaluation process" Zielke, 2010, p. 751). Such as difficulty may relate not only to evaluating the prices of individual products, but also to judging the overall price positioning of an entire store. Researchers emphasize the distinct nature of this dimension of price image compared to price processibility and price perceptibility, and highlight its connection to the consumer's level of price knowledge.

2. Methods

A series of one-way ANOVAs was conducted to compare five variables across two discount retailers involved in a price war. The set of variables comprised five dimensions of price image identified by Zielke (2010). For each analysis, the F statistic and effect size (measured by partial eta squared) were reported. Estimated marginal means were used to illustrate group differences between the retailers. All analyses were performed using SPSS, with the significance level set at α=.05. The variables included in the one-way ANOVAs were derived by averaging the items that define each construct.

The individual variables included in the analysis were adapted from the scientific literature (Zielke, 2010) and defined as presented below.

Price level. PL1: *Prices at discount stores are typically low*; PL2: *You can find affordable products at discount stores*; PL3: *The prices of products in discount stores are lower than those in non-discount stores*; PL4: *Non-discount stores tend to be more expensive than discount stores.*

Price perceptibility. PPe1: *In discount stores, prices are clearly visible*; PPe2: *In discount stores, it is easy to see the price of a product*; PPe3: *In discount stores, prices are easy to identify compared to other store formats.*

Value for money. VfM1: *The prices at discount stores are reasonable considering the value I receive for my money*; VfM2: *Prices at discount stores are not too high to what I get for my money*; VfM3: *Discount stores offer a good balance between product quality and price*; VfM4: *When compared to other types of stores, the price-to-quality ratio of products in discount stores is favorable*; VfM5: *The price-to-quality ratio of products in discount stores is better than in other store formats.*

Price processibility. PPr1: *In discount stores, it requires considerable effort to compare the prices of various products*; PPr2: *In discount stores, finding the best-priced product in a category takes a significant amount of time*; PPr3: *In discount stores, I doubt that the price on the shelf will match the one at checkout.*

Evaluation certainty. EC1: *I cannot evaluate discount stores based on their price levels*; EC2: *I find it challenging to assess the overall price levels of discount stores*; EC3: *I find it difficult to evaluate the overall price level of discount stores*; EC4: *I am unable to assess discount stores based on their pricing levels.*

3. Results

3.1. Research sample characteristics

The survey was conducted in 2024 using the Computer-Assisted Web Interviewing (CAWI) technique. The research sample included 621 respondents, with 317 (51.0%) preferring one discount retailer (A) and 304 (49.0%) the other (retailer B), both engaged in a price war. Slightly over half were women (52.2%), while men comprised 47.8%. Respondents were adults categorized into age groups: 18-24 years (5.5%), 25-34 years (26.4%), 35-44 years (24.3%), 45-54 years (18.7%), and 55 years and older (25.1%). Among the household categories, two-person households made up the largest share of the survey sample at 38.6%, followed by three-person households at 23.0%, four-person households at 17.2%, and one-person households at 13.7%. Large households with five or more members were the least represented at 7.5%. The survey sample consisted mainly of households without children (66.0%), followed by those with one child (19.5%), two children (11.6%), three children (2.6%), and four or more

children (0.3%). Regarding income, most respondents (69.6%) were main earners, 19.0% were sole earners, and 11.4% relied on others for support.

The sample accurately reflects the population in terms of gender and place of residence, with each voivodeship represented in proportion to its size relative to the country. The spatial scope of the study was a crucial factor because the market presence of the two analyzed brands varies across the country, resulting in a different distribution of their stores.

The study focused on two discount retailers, A and B, who had already been engaged in an intense price competition (a so-called price war) for several months at the time of the research. Therefore, respondents had been exposed to their price-focused communication efforts long enough to justify examining their behavior in the context of the price war. Retailers A and B are two leading discount chains in Poland, but differ in several ways. Retailer A, owned by Portuguese company Jerónimo Martins, entered the Polish market in 1995 and operates over 3700 stores as of 2024. Retailer B, part of the German Schwarz Group, opened its first Polish store in 2002 and now has around 900 stores. Both focus on low prices and private-label products, but there are differences in how many private-label ("own brand") products they offer: B's assortment has one of the highest shares of private-label FMCG – about 62%. Retailer A also has a high share, but slightly lower, approximately 50% for FMCG products under its own brands.

3.2. Findings

The analysis was performed using the General Linear Model (GLM) procedure in SPSS, with estimated marginal means plotted to illustrate the direction and magnitude of the effect.

In the first stage, the analysis included five dimensions of price image. A statistical significance test (at the $p < 0.05$ level) revealed no significant differences in three of the dimensions between two groups of consumers with a strong preference for a particular discount retailer (A or B):

- Price level: similar values across groups, approximately 3.6 on a 5-point Likert scale.
- Value for money: approximately 3.5 on a 5-point Likert scale.
- Price evaluation certainty: approximately 2.8 on a 5-point Likert scale.

The lack of significant differences in perceived price level, value for money, and price evaluation certainty suggests a convergence in consumer perceptions of discounters engaged in the price war. This may indicate that, despite competitive pricing strategies, these brands are not differentiating themselves in the eyes of consumers on these dimensions.

Interestingly, considering the items that define price evaluation certainty, the relatively neutral score (~2.8) may indicate a lack of pricing transparency or complexity in price structures, suggesting an area for potential improvement (Fig 1[1]).

[1] Due to space limitations, the article includes only the charts related to variables with statistically significant differences and notably distinct values.

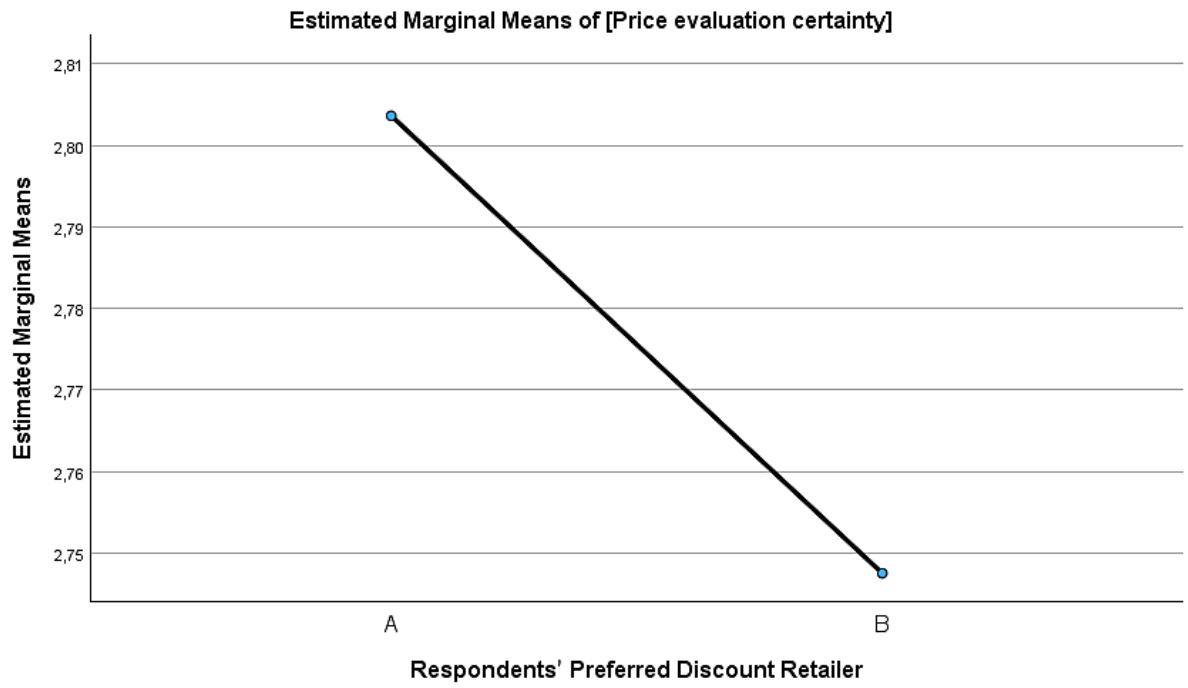

Figure 1. Differences in Price Valuation Certainty of Discounters Involved in the Price War.
Source: Own work.

A one-way analysis of variance (ANOVA) was conducted to examine whether the levels of price perceptibility and price processibility differ depending on consumers' preference for a discount retailer involved in a price war. Statistically significant and interesting differences were identified in two dimensions:

- *Price perceptibility* – a higher level was attributed to discounter B compared to discounter A (Fig. 2), $F(1, 619) = 10{,}206$, $p = .001$.
- *Price processibility* – a higher level was reported for discounter A (Fig. 3), $F(1, 619) = 7{,}311$, $p = .007$.

However, to interpret these results accurately, it is important to consider how each variable is defined, particularly the individual items that create these dimensions.

Taking this into account, discounter B is actually evaluated more favorably in both dimensions – in terms of price perceptibility, higher values indicate greater ease in noticing and recognizing prices, while for price processibility, lower values reflect lower cognitive effort and fewer doubts during the price evaluation process. Thus, although raw scores suggest mixed results, a closer look at the scale structure reveals that discounter B performs better on both dimensions from the consumer's perspective.

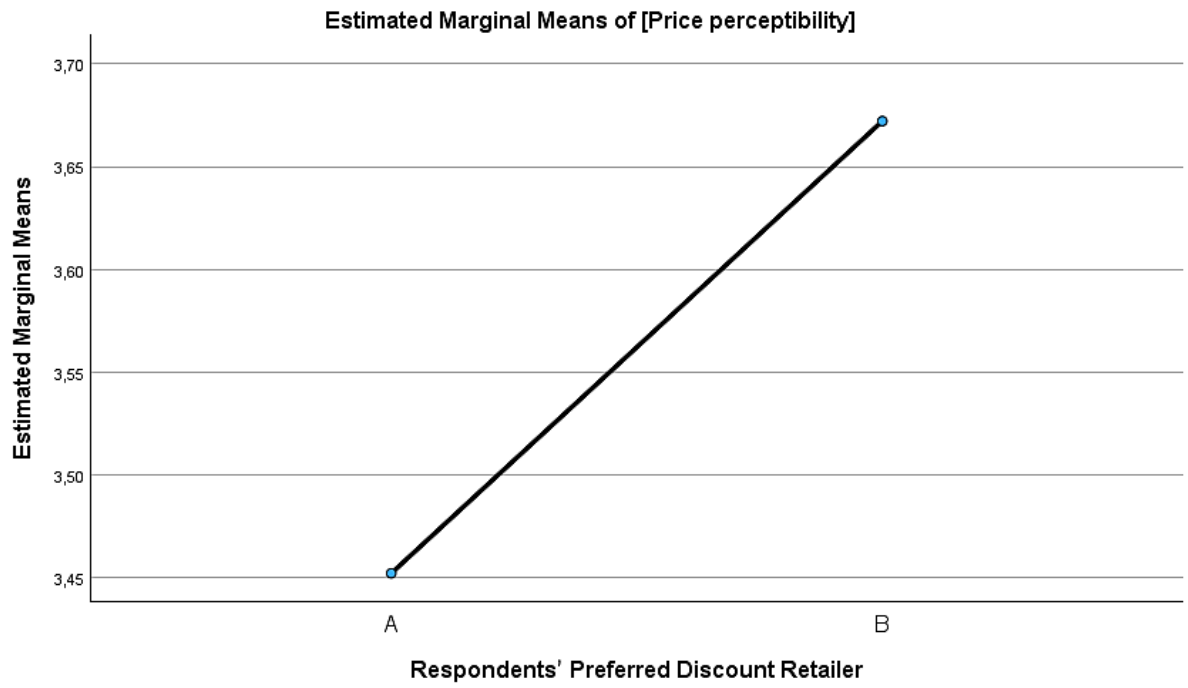

Figure 2**.** Differences in Perceived Price Perceptibility of Discounters Involved in the Price War. Source: Own work.

A one-way analysis of variance (ANOVA) was conducted to examine whether the independent variable q1 significantly affects the level of the dependent variable price perceptibility (Fig. 1). The partial eta-squared value ($\eta^2 = .016$) indicates that q1 explains 1.6% of the variance in the dependent variable. Although the effect is statistically significant, its strength is small (according to the Cohen's (1988) interpretation of $\eta^2 < 0.01$ negligible; $0.01 \leq \eta^2 < 0.06$ small; $0.06 \leq \eta^2 < 0.14$ medium; $\eta^2 \geq 0.14$ large). Additionally, the statistical power of the test was .891, meaning there was an 89.1% chance of detecting an effect if one truly exists. This suggests that the test had adequate statistical power.

In summary, the ANOVA revealed a significant effect of q1 on price processibility $F(1, 619) = 10.21$, $p = .001$, $\eta^2 = .016$. Although the effect was statistically significant, its magnitude was small.

Figure 3. Differences in Perceived Price Processibility of Discounters Involved in the Price War.
Source: Own work.

A one-way analysis of variance (ANOVA) was conducted to examine whether the independent variable q1 significantly affects the level of the dependent variable price processibility (Fig. 2). The partial eta-squared value ($\eta^2 = .012$) indicates that q1 explains 1.2% of the variance in the dependent variable. Although the effect is statistically significant, its strength is small (according to the Cohen's (1988) interpretation of $\eta^2 < 0.01$ negligible; $0.01 \leq \eta^2 < 0.06$ small; $0.06 \leq \eta^2 < 0.14$ medium; $\eta^2 \geq 0.14$ large). Additionally, the test's statistical power was .770, meaning there was an 77.0% chance of detecting an effect if one truly exists. This suggests that the test had adequate statistical power.

In summary, the ANOVA revealed a statistically significant effect of retailer preference (q1) on price processibility, $F(1, 619) = 7.311$, $p = .007$, $\eta^2 = .012$. Although the effect was significant, its magnitude was small.

4. Discussion

The issue of a retailer's price image is an important research topic because shopping intentions and store choice are influenced by price image (Zielke, Toporowski, 2012). Price image can significantly impact sales performance, making it crucial for managers to pay attention to it (Elshiewy, Peschel, 2022). The development of price image is a dynamic process (Lourenço et al., 2015), and given the dynamic nature of the retail environment, this issue warrants further research attention. We believe that the research context addressed in this

article, namely retailer-initiated price wars, will contribute to a better understanding of price wars, particularly in terms of price communication and consumer perception.

This article aimed to identify potential similarities and differences in the perceptions of price-image dimensions across the two analyzed discount-store brands. The results of the study indicate that consumers do not differ significantly in their overall assessment of price levels, perceived value, or certainty regarding price evaluation, regardless of their preferred retailer. However, differences emerge in operational aspects related to price clarity and readability. This suggests that retailers may vary in how they present and communicate prices, even if the actual price levels are perceived similarly.

A noticeable difference exists between discount retailer A and B in the share of private label products in their assortments. While private labels account for approximately 70% of B's offerings, retailer A's share is significantly lower – estimated at around 40-50%. This distinction seems to be reflected in consumer perceptions: in our study, consumers who prefer retailer B rated their preferred retailer significantly higher on the dimension of price processibility than consumers who prefer retailer A rated their own preferred retailer. According to Zielke (2010), price processibility tends to improve when national brands are positioned near private labels of similar quality. The market reality appears to confirm this idea – a strong presence of private labels may positively influence consumers' ability to process and evaluate prices, likely because of simpler price structures and less ambiguity.

As mentioned earlier, the relatively low score on price evaluation certainty may indicate a lack of transparency or complexity in pricing, which could be an area for improvement for both retailers. In the context of the lower consumer ratings for discount retailer A compared to retailer B regarding price communication, it is important to highlight specific practices by retailer A that have been negatively evaluated by the Polish Office of Competition and Consumer Protection (UOKiK). In 2020, UOKiK fined retailer A for discrepancies between shelf prices and checkout charges, as well as for missing price information – practices considered unfavorable to consumers. More recently, in 2025, UOKiK initiated an investigation into unclear pricing communication related to multi-item purchases (UOKiK, 2025). These are just two examples of irregularities in price communication identified by the regulatory authority. As shown by the findings in this article, such practices harm consumers' perceptions of overall price transparency.

5. Summary

The analysis showed that during the price war between the two discount retailers, their customers did not notice significant price differences. However, they did notice differences in how prices were communicated, specifically in perceived price processibility and

price perceptibility. Importantly, differences in price clarity and readability can influence shopping comfort, consumer trust, and retailer preference. In practice, this means that how prices are presented and transparency can shape brand perception and consumer choices, even when there are no perceived differences in value for money.

In the authors' view, the findings provide a strong basis for the conclusion that a price war alone may not be sufficient – if prices are poorly communicated, the intended competitive advantage may be lost.

Despite using competitive pricing strategies, the two discount retailers analyzed do not differ significantly in the eyes of consumers across three key areas: price level, perceived value, and confidence in price evaluation. The authors believe that the lack of differences in these important aspects should not be seen as a sign of ineffective pricing strategies. Instead, the ongoing price war between the two retailers seems to create a mutually beneficial effect: it boosts each brand's position in the minds of its respective customers. This intense pricing rivalry – highlighted by messages like "retailer A is more expensive than B" (or vice versa, depending on the source) – results in a kind of duopoly within the FMCG market. The aim is not necessarily to make consumers loyal to retailer A switch to retailer B, but rather to reinforce the idea that there are no real options beyond these two leading players.

The analyses presented provide interesting insights; however, they are also subject to certain limitations, of which the authors are aware. The one-way ANOVA method allows for detecting statistically significant differences between groups in the studied variables, but it has its constraints. Primarily, ANOVA examines only mean differences and does not account for potential confounding factors or interactions between variables that might influence the results. In this study, statistically significant differences were found between the ratings of the two analyzed retailers, but the effect sizes were small. This indicates that, although the differences are statistically valid, their practical significance is limited. Therefore, caution is warranted when drawing conclusions and making practical recommendations based on these findings. Additionally, due to the cross-sectional nature of the data, causal relationships cannot be established.

Future research could benefit from expanding the current analytical approach beyond one-way ANOVA by utilizing multifactorial designs or multivariate analyses. These methods would allow for the exploration of interactions between variables, such as the relationship between brand preference and customer characteristics, leading to a more comprehensive and nuanced understanding of consumer behavior. Additionally, the share of private-label products in discount retailers' assortments may represent a relevant contextual factor for future research, as incorporating assortment structure variables into the model could provide a more comprehensive explanation of price image perceptions. Finally, conducting longitudinal studies would be valuable for observing changes over time and establishing causal relationships between the studied variables, thus addressing the limitations of cross-sectional data. Given the spatial variability in store distribution and market penetration, further studies focusing on

specific regions or markets are recommended. This focus would enable a deeper investigation into local consumer behavior patterns and retailer strategies, which may vary significantly across different geographic areas.

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