Are you what you pay?
Analysis of price knowledge and consumer profiles

¿Eres lo que pagas?
Análisis de conocimiento de precios y perfiles de consumidores

Isabel Cristina Flores-Rueda

Professor at Universidad Autónoma de San Luis Potosí-UASLP, Mexico
isabel.flores@uaslp.mx
https://orcid.org/0000-0003-1257-2893

Armando Sánchez-Macías

Professor at Universidad Autónoma de San Luis Potosí-UASLP, Mexico
armando.sanchez@uaslp.mx
https://orcid.org/0000-0001-9575-3248

Mónica Eugenia Peñalosa-Otero

Professor at Universidad de Bogotá Jorge Tadeo Lozano, Colombia
monica.penalosa@utadeo.edu.co
https://orcid.org/0000-0002-2208-9224

Sofía Cheverría-Rivera

Professor at Universidad Autónoma de San Luis Potosí-UASLP, Mexico
sofia@uaslp.mx
https://orcid.org/0000-0003-1099-8719

Abstract: the present research addresses the diversity of traits in the Mexican retail market, aiming to find fundamental common attributes among consumers in retail stores. Aim: To examine differences in preferences among various consumer segments regarding pricing strategies implemented by a supermarket and their role in fostering a transformative experience. Five prosperous consumer segments are highlighted: i) myopic switcher light, ii) strategic switchers light, iii) myopic switchers heavy, iv) strategic loyal heavy, and v) myopic loyal light. The application of the segmentation approach allows decision-makers to discern more accepted strategies in each segment, easing an understanding of how to effectively address the distinctive characteristics of consumers. This informed approach supplies a valuable framework for specialists and marketing decision-makers, enabling them to adapt specific strategies grounded regarding the diverse preferences exhibited by consumers in the Mexican retail sector. The research highlights the feasibility of adopting market segmentation-based pricing strategies in various regions, providing practical milestones to streamline the implementation of pricing tactics in the Mexican retail context.

Keywords: pricing strategy, retail management, multivariate analysis.

Retos, 14(27), 2024 Revista de Ciencias de la Administración y Economía
print ISSN: 1390-6291; electronic ISSN: 1390-8618
www.retos.ups.edu.ec

Resumen: esta investigación aborda la diversidad de rasgos en el mercado minorista mexicano, buscando identificar atributos comunes fundamentales entre los consumidores de tiendas de retail. El objetivo es analizar las variaciones en las preferencias de distintos tipos de consumidores con respecto a las estrategias de precios implementadas por un supermercado y cómo estas contribuyen a una experiencia transformadora. Se destacan cinco segmentos de consumidores prósperos: i) myopic switcher light, ii) strategic switchers light, iii) myopic switchers heavy, iv) strategic loyal heavy, y v) myopic loyal light. La aplicación del enfoque de segmentación permite a los tomadores de decisiones discernir estrategias más aceptadas en cada segmento, facilitando la comprensión de cómo abordar efectivamente las características distintivas de los consumidores. Este enfoque informado proporciona un marco valioso para especialistas y tomadores de decisiones de marketing, permitiéndoles adaptar estrategias específicas según las preferencias diferenciadas de los consumidores en el mercado minorista mexicano. La investigación destaca la viabilidad de adoptar estrategias de precios basadas en la segmentación de mercado en distintas regiones, ofreciendo hitos prácticos para eficientizar la implementación de tácticas de precios en el contexto retail en México.

Palabras clave: estrategias de precios, gestión minorista, análisis multivariable.

Introduction

Consumer behavior, influenced by pricing strategies, often presents challenges for retailers, motivating the exploration of pricing tactics (Li and Peng, 2020), because price is an element that encompasses objective and subjective aspects, and challenges rational paradigms in consumer behavior studies (Hinterhuber, 2015). Cheah *et al.* (2020) highlight the crucial role of the price image, closely linked to the perception of value, confidence and consumer attitude (Boada *et al.*, 2022), making common pricing strategies, such as promotions and discounts, to attract interested customers (Park *et al.*, 2020), thus recognized events such as *Black Friday* and seasonal promotions (Cheah *et al.*, 2020) adapt well, conferring an advantageous positioning for *retail* smaller businesses *(Mandviwalla and Flanagan, 2021).*

Factors such as demand, growth potential, perceived service, price elasticity and perceived quality help to create more effective pricing strategies (Chen *et al.*, 2020) as dynamic pricing, however, in the absence of direct physical interaction, price becomes a decisive indicator of product qualities (Wang *et al.*, 2020; Kalyanaram *et al.*, 2022). Especially in *Personalized Dynamic Pricing* (PDP) which involves adjustments based on supply, demand and competition and is supported by evidence, suggesting that customers consider price as a reliable indicator of product quality (Priester *et al.*, 2020). The perception of equity plays an essential role in price acceptance, influencing attitudes ranging from reasonable to fair (Priester *et al.*, 2020; Theysohn *et al.*, 2013). Few studies focus on consumer segments and their attitudes towards *retail* store pricing strategies; even authors such as Cheah *et al.* (2020) identify that few academic studies have investigated the consequences of retail price imaging, while others classify such research as sporadic due to a lack of consensus in analyzing individual differences in consumer susceptibility to pricing practices.

Literature review

The study of consumer behavior in the face of price changes and price discrimination is based on a little-explored concept in the literature described as Pricing Tactic Persuasion Knowledge (PTPK). Chen *et al.* (2021) used consumers' persuasive knowledge of marketing specialists' pricing tactics as an approach to determine whether the impact of these promotions could be improved or diminished, concluding that increasing the frequency of exposure to these products—virtuous and vice foods—could have a positive effect on decisions to buy any product. This concept (PTPK) involves interdisciplinary findings of behavior, operations research, economics, marketing and management, among others that seek to identify how consumers react to different price perceptions, even those labeled by the consumer as unfair — compared to prices perceived as fair — it is a fact that consumers react differently to increases or falls in reference prices of products (Kalyanaram *et al.*, 2022).

Therefore, it is worth highlighting the importance of perception as a mechanism for receiving, interpreting and understanding external signals that will acquire a meaning after a cognitive process in purchasing decisions, in the communica-

tion of the quality and value of the product, social and emotional benefit, among others (Büyükdağ *et al.*, 2020). This is evidenced in psychological pricing strategies, where, according to the analysis of consumer perception, consumers tend to show a preference for prices that end in round figures (e.g. ninety, thousand, or other prices with zero endings), being particularly popular those that end in nine (e.g. ninety-nine), followed by those that end in five (forty-five).

This trend contributes to increasing product sales, in addition, Zhang *et al.* (2023) point out that both the coincidence between consumer preferences and the price sensitivity coefficient positively influence the price of the product and the company's profits, although they have diverse impacts on the demand for the product. Differences in the perceived value of the three types of consumers are identified, with matching consumers being the optimal group. When *retail* stores develop and implement pricing strategies, they do so undoubtedly with the purpose of being profitable and sustainable over time. However, Hinterhuber (2015) argues that beyond working with traditional pricing models, what is important is to analyze the profile of the consumer and how he / she interprets psychological prices, as well as to consider social comparison, rather than past *experiences, which influence fair price judgments. The pricing matching guarantee strategy (PMG)* is based on this dynamic, where retailers adjust prices and refund the difference if consumers find lower prices after purchase, causing demand and price competition to increase, leading retailers to offer more meaningful promotions (Li and Peng, 2020).

Market segmentation

Market segmentation guides decisions in marketing, allowing to adapt strategies and standardization degrees according to the market (Hajibaba *et al.*, 2020); even in contexts such as *e-commerce,* there is a desire to micro-segment (Kalyanaram *et al.*, 2022). Authors such as Gisches *et al.* (2021) point out that in markets with multiple sales periods, the presence of myopic consumers is assumed, but there are other types in the market.

Segmentation is a powerful tool that allows to know more deeply specific markets and, based on previous research, there are consumption differences in attitudes, motivations and use of products (Hassan *et al.*, 2022). This allows us to identify new consumption behaviors and, therefore, generates new opportunities in the market (Mejía and Valencia, 2024).

Aviv *et al.* (2019) and Wang *et al.* (2017) have identified consumer behaviors in response to prices, highlighting those called *strategic*. These consumers consider the benefits of postponing the purchase in anticipation of end-of-season discounts. Wang *et al.* (2017) detail that *strategic* consumers make additional decisions, such as the time of purchase, recognizing future availability in the recovery market. Meanwhile, Gisches *et al.* (2021) define them as forward-looking consumers, considering the entire path of the price strategy and deciding when to buy.

Contrary to so-called strategic, Wang *et al.* (2017) define another behavior called *myopics* because they do not take future prices into account in their purchasing decisions, they buy only during the sale period and are not willing to return to the retailer during the recovery period because the value of the item is lower in that period or simply because these consumers are short-sighted and are willing to pay their value for the product. Gisches *et al.* (2021) mention that this type of behavior — *myopics*— is due to a selection of reserve values either from public or private knowledge, i.e., they are not actively involved in the decision-making process, and purchasing behavior focuses on purchasing the product immediately when its price is lower than its evaluation, opting to abstain from participating in the market.

Operations management scholars have extensively addressed research on strategic consumer behavior; since the 1970s, it has been shown that monopolists must sell products at marginal cost if strategic consumers expect price reductions. Currently, studies such as that of Wang *et al.* (2017) delve into the optimal price design of a seasonal product with *strategic* consumers, identifying the presence of a single price reduction and variable strategies to stimulate their purchase, highlighting inventory and price manipulation to induce

strategic consumers to buy during the sale period. In this sense, Wei *et al.* (2022) discuss the *strategic* consumers' anticipation to future price decrease due to the company's cost reduction, consequently, more consumers postpone their purchases, promoting dynamic pricing and engagement strategies. Yuan *et al.* (2023) underscore the importance of extending the limited duration of the exchange if all customers are myopic; in relation to this anticipation, Tang *et al.* (2021) identify strategic consumer segments with variation in wait times and different levels of patience in pricing and retail ordering decisions.

Priester *et al.* (2020) point out the recognition of behaviors due to their purchase history of light users and heavy users, in addition to noting that consumers evaluate pricing strategies based on the loyalty status that prices can change from differences between different sellers, differences in behavior that extend to the evaluation of pricing strategies based on the purchase history and consumer loyalty (Priester *et al.,* 2020; Aviv *et al.,* 2019) as well as levels of patience (Tang *et al.,* 2021).

Pricing Strategies

Seeking to leverage the strategic nature of certain consumer segments and adapt to their preferences to maximize business outcomes, Wang *et al.* (2017) point specific strategies aimed at strategic consumers: i) targeted price reduction during sales periods for monopolists; ii) limited inventory maintenance to create rationing risk; iii)

use of early signage to evidence product quality; iv) dynamic approaches such as delayed price matching; v) creation of shortage perceptions with limited releases. According to Shirai and Satomura, (2021), there is no universally appropriate pricing strategy approach for mass consumer products, as valuation must consider factors such as quality, customer service, ability to pay, and even the quantity of the product. The new pricing instruments represent an important strategic potential for retailers (Priester *et al.,* 2020), who are beginning to implement this practice comprehensively (Zuiderveen-Borgesius and Poort, 2017). Table 1 summarizes the main variables and approaches obtained by outstanding empirical studies that address the prospect of customer segmentation due to their behavior before price strategies.

This research (see Table 1) addresses the impacts of markets on the various pricing strategies studied. According to Boada *et al.* (2022), it is crucial to analyze not only the technical aspects when establishing prices, but also the subjective elements of the consumer, because knowledge of the price is not the only element of decision to purchase a product. Strategies such as discounts and low prices near the expiration date seek to influence purchasing behavior, optimizing revenue and reducing waste (Zorbas *et al.,* 2020). There is no universal pricing strategy that is perfect for all retail stores; a balanced approach is needed that consider business and production costs, consumer trends, revenue targets and competitors' prices.

Table 1

Key variables analyzed in pricing strategies

Variables	Approach to pricing strategy	Main authors
High-Low Prices (Hi-Low)	The Hi-Low strategy consists of setting high initial prices and then reducing them through discounts to attract consumers willing to pay more and reach those most sensitive to the price. Although it focuses on price-sensitive buyers, this strategy faces challenges linked to brand perception and customer loyalty.	Zhang *et al.* (2023) Hinterhuber (2015)
Discounts on added prices	The commercial value of the product in addition to the discounts is a determining factor when making a purchase, especially for low-income households, sensitive to price reduction strategies, such as promotions.	Zorbas *et al.* (2020)

Variables	Approach to pricing strategy	Main authors
Benefit prices, seasonal and special prices for healthy products	These strategies are intended to give customers a lower total cost to incentivize the purchase; it is crucial not to increase the initial price too much, as this can make the strategy not work. People, being risk averse, usually choose the easiest and fastest option, such as getting something for free, without the need to make calculations; however, consumers evaluate whether they get additional benefits or complementary products before deciding.	Zorbas *et al.* (2020); Ku *et al.* (2020), Hinterhuber (2015)
Price-matching with other retailers	Price matching involves matching prices with other retailers, generating competitiveness and customer retention, but presents challenges such as pressure on profit margins. This strategy benefits competitiveness, it also poses challenges such as pressure on profit margins.	(Li & Peng, 2020; Gonzaga-Añazco *et al.* 2018)
Discounts for errors in price signage or for approaching the expiry date	They can benefit the consumer when there are labeling errors, highlighting the importance of transparency in transactions, while proximity discounts seek to reduce food waste and provide more accessible options to consumers.	Nakandala *et al.* (2020)

Note. Based on Zhang *et al.* (2023); Nakandala *et al.* (2020); Zorbas *et al.* (2020), Ku *et al.*

In the context of the discriminated prices, Wang *et al.* (2017) highlight the presence of strategic and myopic consumers during the sale period, differentiating their behavior before inventory and price decisions. The taxonomy of price discrimination addresses different degrees of scope in segment knowledge (Shirai and Satomura, 2021) and the implementation of pricing strategies should be carefully considered by luxury retailers and even wholesalers. Cheah *et al.* (2020) suggest that, instead of simply lowering prices significantly, luxury retailers can formulate or evaluate positioning strategies in relation to their target markets, which involves creating a more attractive price image, offering "value for money" in a creative and practical way. It is essential to know that a pricing strategy that involves significantly reducing prices could be detrimental to the luxury appeal of the product.

The study by Yuan *et al.* (2023) sheds light on managerial decisions regarding products of successive generations under conditions of limited duration of exchange and the presence of strategic clients. The results suggest that to maximize profits, it is beneficial to extend the limited duration of the exchange, advocating the implementation of a dynamic pricing strategy.

The investigation of the effects of price strategies on consumer purchasing decisions as well as their loyalty to brands is fundamental in the retail market (Arora *et al.*, 2022), therefore, new price

instruments represent a constantly evolving strategic potential (Zuiderveen-Borgesius and Poort, 2017). However, apart from considering technical aspects, it is necessary to take into account the subjective aspects of the consumer, recognizing that price is only one aspect among several determining factors in the purchase process (Boada *et al.*, 2022).

As a result of the analysis of the theoretical background, fundamental questions are raised about consumers' price inclinations, investigating the differences between loyal and rebranding consumers, as well as reactions to temporary and long-term offers. The research issue that guides this study is:

> PI1. *Are there different types of consumers around their preferences and knowledge of pricing strategies, and how can these strategies contribute to an experience that fosters consumer loyalty?*

This study seeks to shed light on the complications associated with pricing strategies and their influence on consumer purchasing behavior, identifying and analyzing significant variations in preferences for pricing strategies; it focuses on understanding how these practices impact consumer loyalty, providing valuable ideas for the design of commercial strategies that promote positive results for both consumers and companies. In addition, it is necessary to clarify that the pricing

strategies analyzed in this study were found in a *retail* environment and were not created or set for the specific purpose of this research, but instead they focus on the real price dynamics observed in the retail market by the consumer, providing an authentic analysis of the interaction between the pricing knowledge that consumers have and the profiles around it.

Materials and method

To propose a segmentation of consumers according to their preferences by different pricing strategies in retail stores, and to collect the data a simple random sampling technique was needed, which ensured that each individual in the population had the same probability of selecting it. The calculation of the descriptive research considers a population of more than 100 000 inhabitants (N). From the formula of finite populations and taking into account an error of 7%, a confidence level of 95% (Z score = 1.96), a response of 208 complete questionnaires of different consumers is obtained. The sausages department of the supermarket presents a variation in price strategies due to the nature of fresh products which may present different market structures, as well as price policies based on the deterioration of freshness and competition (Nakandala *et al.*, 2020), based on the characteristics of the products and consumers surveyed, it is necessary to segment consumers from a cluster analysis, considering the revised dimensions in the literature on price knowledge that are the proposed observable variables; i) low prices, HI-LO prices, discount prices ii) season prices, healthy products and price-benefit ratio, iii) price equalization, discount prices, iii) poor signaling and, iv) expiration prices.

On the latent variables, it is necessary to explain that they were carefully selected from the literature review to capture a comprehensive image of how price strategies impact on purchasing decisions and consumer loyalty; consequently, blocks of observable variables (indicators) were designed referring to the strategies used for low prices, HI-LO prices, discount prices following the work of Bozkurt and Gligor (2019), Díaz and Paredes (2019) and Chung and Li (2013), while

for the strategies used for seasonal prices, healthy products and price-benefit ratio the works of Díaz and Paredes (2019) and Ali (2021) were used; on price equalization and discount prices follows the work of Yan and Ke (2015), while for the strategies of poor signaling some indicators of Bozkurt and Gligor (2019), Díaz and Paredes (2019), on expiration prices are taken as a reference Chung and Li (2013) and characteristics of the profile of the consumer surveyed as marital status, age, occupation, sex with which it is identified. Specifically, a structured instrument of 39 indicators is designed that address the four observable variables proposed with the preferences of consumers on the price strategies performed by the sausages department of the *retail* store. The answers oriented to respond to the preferences of consumers on the price strategies were closed questions on a 5-position Likert scale (5 = Total agreement - 1 = Total disagreement).

Analysis and statistical validity of the instrument consumer behavior in relation to pricing

Using the IBM SPSS 19 and IBM AMOS statistics, where an exploratory factor analysis was first performed to examine the distribution of the studied constructs and among the results it is highlighted that the data did not reflect problems, from the varimax rotation and the main axis extraction method, five constructs were revealed that explain 45.16% of the total explained variance. The overall Kaiser-Mayer-Olkin (KMO) measure is 0.881 and the results of the Bartlett sphericity test are statistically significant ($p < 0.000$), indicating that the data are ideal for factorization. Therefore, confirmatory factor analysis is carried out to evaluate the convergent and discriminant validity of the instrument measures, and the measurement model shows an adequate level of fit: Chi square ($x2$) = 422.00 ($p=0.000$); CFI = 0.930; IFI = 0.931; RFI = 0.846; NFI = .871; RMSEA= 0.069. The findings of both exploratory and confirmatory factor analysis indicate that the proposed model correctly fits the criteria defined by Salgado and Espejel (2016).

Table 2

Model results of structural equations

Latent Variables	Observable variable codes	Exploratory factor		Confirmatory factor			Composite reliability, Cronbach alpha and convergent		
		Observable variable weights	Total explained variance cumulative%	λ	Measurement Error	Critical Ratio	VME	rc	α
Discounts, high and low prices (Hi-Low)	HI_LO2	0.655		1.000					
	PRICING_LOW03	0.715		0.808	0.070	11.585			
	ESTRA_DES1	0.708	15.14	0.806	0.061	13.311	0.683	0.992	0.937
	PRICING_LOW02	0.702		0.750	0.071	10.548			
	ESTRA_DES3	0.692		0.813	0.061	13.412			
Discounts, high and low prices (Hi-Low)	HI_LO5								
	PRICING_LOW01	0.671		0.672	0.068	9.815			
	HI_LO4	0.599	15.14	0.748	0.064	11.692	0.683	0.992	0.937
	HI_LO1	0.637		0.812	0.057	14.285			
	HI_LO3	0.600		0.861	0.069	12.521			
	ESTRA_DES2	0.725		0.833	0.059	14.137			
Prices-profit, season and healthy products	PREC_TEMP3	0.609		1.000					
	PREC_TEMP1	0.587		0.987	0.084	11.791			
	PROD_SAL2	0.550	25.32	0.531	0.076	6.949	0.643	0.979	0.804
	ESTR_REFE2	0.506		0.697	0.090	7.778			
	PRECI_BENE2	0.596		0.687	0.071	9.682			
Price matching with other retailers	PREC_EQUAL2	0.745		1.000					
	OFER_PREC3	0.723	34.69	0.642	0.081	7.971	0.719	0.976	0.780
	PREC_EQUAL1	0.657		0.863	0.076	11.289			
Low prices for closeness to expiry date	CADU_FIXED2	0.725	40.87	1.000			0.826	0.971	0.833
	CADU_FIXED1	0.738		0.808	0.097	8.350			
Discounts for errors in price signals	BAD_SIGN1	0.596	45.16	1.000			0.800	0.937	0.685
	BAD_SIGN2	0.561		0.774	0.210	3.679			

Note. Elaboration based on the results.

In addition, the Cronbach's Alpha coefficient (α) —which must be greater than 0.7— indicates that the latent variables present a good internal consistency. However, it was necessary to evaluate the convergent validity that refers to the evaluation of several indicators —observable

variables— aimed at measuring the proposed latent variables, which represent the same thing. In this sense, the adjustment of these indicators is significant and show a high correlation. To carry it out the method proposed by Hair *et al.* (2010) and applied in economic studies by Forero-Bautista and Ortegón-Cortázar (2023) where from the calculation of the Extracted Mean Variance (VME) the shared variance between its latent variable is measured, providing a measure of convergence between factor and indicators, the data are considered to have adequate convergence due to all indicators, having a value above 0.5 and a composite reliability (CR) of at least 0.7, thus confirming the convergent validity (see values in Table 2).

In the evaluation of the discriminant validity, the method proposed by De la Rubia (2019) and

Salgado and Espejel (2016) is followed, which involves the test of the extracted variance against correlations. This test consists in examining the factor correlation matrix (Table 3) and observing that the correlations between factors do not exceed 0.7, a higher value indicates a significant amount of shared variance. In addition, this correlation should not exceed that which already exists in relation to the measures suggested for another construct, i.e., to the result of the Mean Extracted Variance (MEV), in particular, the correlations between latent variables proposed are not higher than the amount of shared variance that they have with other variables proposed in the model. This analysis ensures that each construct measures a unique concept and is not strongly linked to others in the factor correlation matrix, thus validating discrimination between constructs.

Table 3

Matrix of correlations between latent variables

| Construct	Discounts, high and low prices (Hi-Low)	Discounts for errors in price signal	Prices-profit, season and healthy products	Price matching with other retailers	Low prices for closeness to expiry date
Discounts, high and low prices (Hi-Low)	1.000	0.002	0.514	0.206	0.116
Discounts for errors in price signal	0.002	1.000	0.001	0.036	0.108
Prices-profit, season and healthy products	0.514	0.001	1.000	0.197	0.217
Price matching with other retailers	0.206	0.036	0.197	1.000	0.131
Low prices for closeness to expiry date	0.116	0.108	0.217	0.131	1.000

Note. Elaboration based on the results.

Multivariate analysis: clusters

Recent advances in cluster methods suggest using cluster techniques include hierarchical analysis, followed by k-mean analysis. Considering the above, both methods were performed for estimating the number of clusters and later check their suitability; on the hierarchical analysis data were used from the history of cluster which had

a convergence of 207 stages, with coefficients between 0 and 17,304 distance values (see Figure 1).

Figure 1
Cluster history
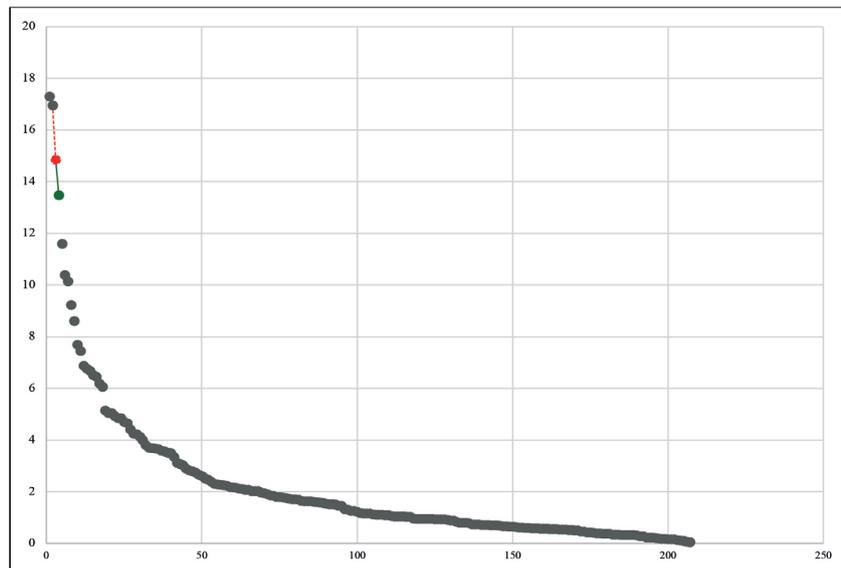
Note. Elaboration based on the results.

Considering the number of groups as definitive, the k-mean analysis was carried out using the dimensions constructed from the literature review. The results confirm that consumers can be classified into five different types according to their price preferences at Walmart; the first group represents 17.78% of the total sample, the second group is the largest with 25.96%, the third group has 18.26%, almost similar to the fourth group with 18.75%, and finally, the last group constitutes 19.23% of the total sample. Table 3 summarizes the results of the k-mean analysis. It is relevant to note that the analysis of variance (ANOVA) confirms the significance of the five dimensions, showing that the strategies of discounts, high and low prices (Hi-Low), strategies of prices-profit, season and healthy products, strategy of price equalization with other retailers, discounts for errors in the price signal, and strategy of low prices by proximity to the expiry date are all significant at 95% (p = 0.000). In addition, it is highlighted that the dimension of price equalization and discount prices is the one that shows the greatest difference between the consumer segments of the retailer, as indicated by the values in column F.

Table 4
Results of k-means

Strategies/Segments	1	2	3	4	5	F	Sig.
	17.79 %	25.96 %	18.27 %	18.75 %	19.23 %		
Discounts, high and low prices (Hi-Low)	-0.76737	0.67249	-0.31572	0.515	-0.40034	28.178	0.000
Prices-profit, season and healthy products	-0.15474	0.13991	-0.07942	0.937	-0.88414	33.966	0.000
Price matching with other retailers	0.43219	0.46378	0.71186	-0.823	-0.90008	59.461	0.000
Discounts for errors in price signal	-0.81429	-0.12555	0.97469	0.102	-0.10307	31.475	0.000
Low prices for closeness to expiry date	-0.56756	0.74554	-0.12689	-0.411	0.04025	22.676	0.000

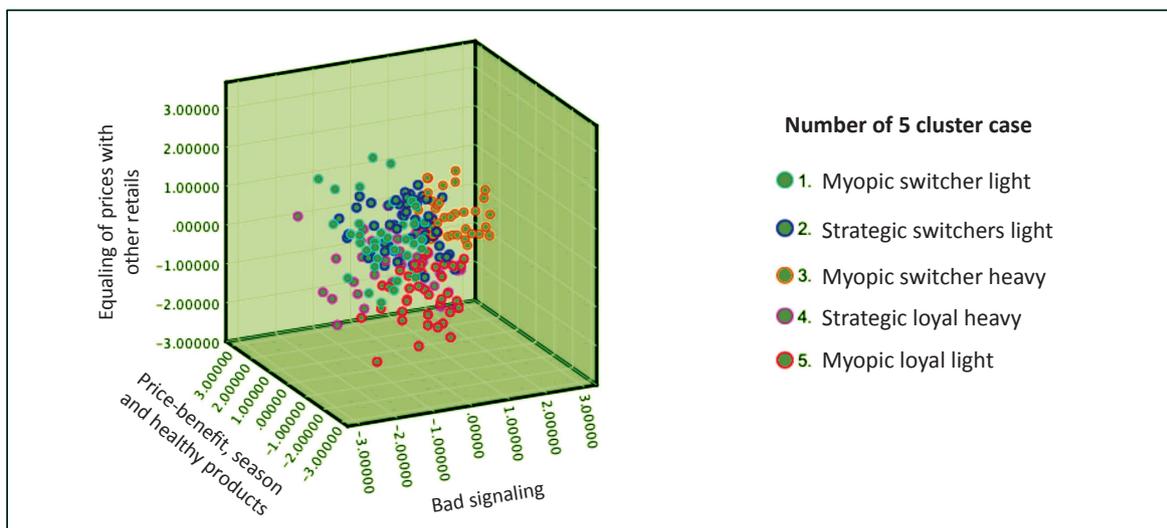*Note.* Elaboration based on the results.

Results and discussion

The choice to use the terms *strategyc* and *myopic* as first references to describe consumer segments is based on the existing academic literature described in previous sections, which have established these terms as key categories for analyzing consumer and decision behavior in the context of pricing strategies, based on conceptual clarity and broad acceptance of these terms in academic research related to trade management and pricing strategy.

The first group of consumers in the retail store shows negative signals in relation to discounts, standing out in the standard deviation of price signage (CCF = -0.81429) and in high-low price strategies (CCF = -0.76737) compared to other similar conglomerates, in addition, it presents positive ratings in the price equalization strategy (CCF = 0.43219). The scores obtained suggest that these consumers do not have preferences that imply perceptions of financial savings, and the possibility that these consumers perceive that the discount strategies implemented do not meet their expectations is high, generating dissatisfaction with the promotional tactics of the retail store. This profile of consumers has been named consumers: *myopic switcher light* and constitutes

the smallest fraction of the total sample, representing 17.79%. This small proportion within the consumer group shows its uniqueness and highlights the need for specific strategies to address and retain this market within the large customer landscape of the retail store.

The *second group* of consumers shows a positive inclination towards reduced prices, especially when products are close to their expiry date (CCF = 0.74554), however, this group exhibits the lowest negative rates in the acceptance of discounts associated with errors in price signaling (CCF = -0.12555), indicating a reluctance to take advantage of these mistakes to buy products at lower prices. These consumers have been identified as *strategyc switchers light* consumers because they tend to take advantage of the gradual decrease in prices on products close to the expiry date, but do not consider it favorable to take advantage of signaling errors to purchase more units of a product than initially planned. They make up the largest proportion in the total sample, representing 25.96% of the total, highlighting their strategic importance and the need to adjust business tactics to meet their distinctive preferences. Figure 2 illustrates cluster centers in the factors with the highest F score or that represent the largest difference between segments.

Figure 2
Grouped 3D scattering

Note. Elaboration based on the results.

Conclusions

The research addresses the challenge of identifying consumer profiles in the retail context according to their preferences towards various pricing strategies; five distinctive profiles emerged with significant variations in affinity towards specific strategies, these findings offer valuable insights to design personalized marketing strategies and tailor pricing tactics to the specific preferences of each segment, highlighting the importance of personalization for a transformative experience and improving consumer loyalty.

This study identifies, from the analysis of the literature explained in previous sections and empirical research, the distinction of two groups of dichotomous consumers: *strategic* and *myopics*; for *strategic loyal* heavy consumers, strategies such as price-earnings, seasonal prices and healthy products are preferred, strengthening loyalty. In contrast, *myopic switcher light* consumers, less receptive, show variable purchasing behaviors where the price matching strategy is crucial to differentiate between loyalists and *switchers*, therefore, retail stores must adapt pricing strategies according to the preferences of each segment to increase loyalty.

The managerial implications underscore the importance of understanding consumer profiles and customizing pricing strategies to transform the experience and foster loyalty, it also highlights that strategic behavior is not universal, and retailers must address challenges to identify variations in purchasing behaviors as well as creative strategies and improvements in the shopping experience, especially in prestigious areas, which can intensify interaction and connection between consumers and brands.

For future research, it is suggested to delve into the adaptation of tactics aimed at specific segments, such as the *myopic switcher light* group, characterized by its low receptivity towards certain pricing strategies, thus suggesting the need for a more personalized approach to understand their motivations and preferences. In addition, exploring how adaptive tactics can transform their behavior would provide practical *insights* for retailers seeking to improve their ability to

adapt to the diversity of consumer purchasing behaviors. The professional contributions of this research guarantee its multidisciplinary application where personalized marketing strategies could be included, optimization in pricing strategies, improvement in customer experience, adaptation to the diversity of customer behavior, in disciplines such as marketing, *retail* sales, strategic planning, logistics, consumer experience, among others, offering valuable guidance for specialists and marketing decision makers in the effective personalization of retail strategies. The *third group* of consumers stands out for showing the highest and most positive values (CCF = 0.07469) in their willingness to take advantage of differenced in price signaling, while exhibiting negative and low values in relation to discount strategies and in high and low-price schemes (CCF = -0.31572). This profile corresponds to consumers who take advantage of the errors in the signal of the store or department to acquire products at lower prices. These consumers can be identified as *myopic switchers heavy*, since, despite being willing to take advantage of the signal errors, they do not show a clear inclination towards the active search for savings if it involves investing time and effort. This group, which capitalizes on errors in signaling, represents 18.27% of the total sample, highlighting its importance in the consumer landscape and pointing out the need for specific strategies to address their preferences.

The *fourth group* of consumers shows the highest values in price-earnings, seasonal and healthy products strategies (CCF = 0.97469), and the negatives in price-matching strategies with other retailers compared to other segments (CCF = -0.82263), in addition, it demonstrates significant loyalty to the retailer, based on its reluctance to buy products during special dates, such as Christmas. These consumers can be identified as *strategic loyal heavy* consumers, since, despite the efforts of other establishments in implementing pricing strategies, they maintain a high loyalty towards the retailer; their preference is based on the combination of strategies that highlight economic benefits, seasonal considerations and the selection of healthy products. The *strategic loyal heavy* occupies 18.75% of the total sample, indicating its importance in the group of consumers and highlighting the need

to preserve and strengthen the relationship with these customers through strategies that highlight their distinctive preferences.

The *fifth group* of consumers shows the lowest value in the price equalization strategy with other retailers (CCF = -0.90008), and in the strategies of price-earnings, prices per season and healthy products (CCF = -0.88414), despite its reluctance towards various price strategies, it presents positive values, although moderate, in the strategies of prices close to the expiry date (CCF = 0.04025). This consumer profile is tailored to the type of individuals who do not take advantage of the offers submitted by the retailer and do not see discount strategies as attractive. In addition, it is very likely that this consumer will not seek low prices if he/she seeks to invest time and effort. This type of consumer is called *myopic loyal light* in relation to all pricing strategies; their lack of receptivity to conventional discount strategies and indifference to price matching with other retailers suggest moderate but selective loyalty. By representing a specific and discernible component of the sample total, this segment highlights the importance of designing pricing strategies that align with their purchasing preferences and behaviors.

Referencias bibliográficas

Ali, B. (2021). Consumer attitudes towards healthy and organic food in the Kurdistan region of Iraq. *Management Science Letters, 11*(7), 2127-2134. https://doi.org/10.5267/j.msl.2021.2.015

Arora, A., Rani, N., Devi, C. y Gupta, S. (2022) Factors affecting consumer purchase intentions of organic food through fuzzy AHP, *International Journal of Quality & Reliability Management, 39*(5), 1085-1103. https://doi.org/10.1108/IJQRM-01-2021-0019

Aviv, Y., Wei, M. M. and Zhang, F. (2019). Responsive Pricing of fashion products: the effects of demand learning and strategic. Consumer behavior. *Management Science*, *65*(7), 2982-3000. https://doi.org/10.1287/mnsc.2018.3114

Boada, A, Herrera, B, Zapata, D. and Vahos, F. (2022). Fijación de precios: Estrategias que todo emprendimiento debe tener en cuenta. *Baltic Journal of Law & Politics, 15*(3), 2198-2217. https://bit.ly/3wwJwIQ

Bozkurt, S. and Gligor, D. (2019). Customers' behavioral responses to unfavorable pricing errors: the role of perceived deception, dissatisfaction and price consciousness. *The Journal of Consumer Marketing, 36*(6), 760-771. https://doi.org/10.1108/jcm-06-2018-2726

Büyükdağ, N., Soysal, A. N. and Kitapci, O. (2020). The effect of specific discount pattern in terms of price promotions on perceived price attractiveness and purchase intention: An experimental research. *Journal of Retailing and Consumer Services,* 55, 102112. https://doi.org/10.1016/j.jretconser.2020.102112

Cheah, Jun-Hwa, Waller, D., Thaichon, P., Ting, H. and Lim, Xin-Jean (2020). Price image and the sugrophobia effect on luxury retail purchase intention. *Journal of Retailing and Consumer Services*, *57*(102188). https://doi.org/10.1016/j.jretconser.2020.102188

Chen, Q., Huang, R. and Hou, B. (2020). Perceived authenticity of traditional branded restaurants (China): impacts on perceived quality, perceived value, and behavioural intentions, *Current Issues in Tourism, 23*(23), 2950-2971, https://doi.org/10.1080/13683500.2020.1776687

Chen, Y.-T., Lan, L.-C. and Fang, W.-C. (2021) What do customers want? The impact of pricing tactic persuasion knowledge and frequency of exposure, *British Food Journal,123*(7) 2321-2334. https://doi.org/10.1108/BFJ-04-2020-0343

Chung, J. and Li, D. (2013). The prospective impact of a multi-period pricing strategy on consumer perceptions for perishable foods. *British Food Journal (Croydon, England)*, *115*(3), 377-393. https://doi.org/10.1108/00070701311314200

De la Rubia, M. (2019). Revisión de los criterios para validez convergente estimada a través de la Varianza Media Extraída. *Psychologia. Avances de la disciplina, 13*(2), 25-44. https://bit.ly/4bQbq2i

Díaz, M. G. and Paredes, C. M. (2019). *Relación entre las estrategias de fijación de precio y la decisión de compra en un supermercado en la ciudad de Cajamarca en el año 2018*. [Tesis de Grado]. Repositorio de la Universidad Privada del Norte. https://bit.ly/3IcCkUy

Forero-Bautista, A. and Ortegón-Cortázar, L. (2023). ¿Por qué visitar lifestyle centers? Variables alternativas de atracción a través de un modelo de ecuaciones estructurales. *Retos Revista de Ciencias de la Administración y Economía, 13*(25), 79-95. https://doi.org/10.17163/ret.n25.2023.06

Gisches, E. J., Qi, H., Becker, W. J. and Rapoport, A. (2021) Strategic retailers and myopic consumers: Competitive pricing of perishable

goods. *Journal of Behavioral and Experimental Economics*, *92*(101700). https://doi.org/10.1016/j.socec.2021.101700

Gonzaga-Añazco, S. J., Alaña-Castillo, T. P. and Yánez-Sarmiento, M. M. (2018). Estrategias para la fijación de precios de productos de consumo masivo en la provincia de El Oro. *Revista Universidad y Sociedad, 10*(2), 221-227. https://bit.ly/3TjViPL

Hair, J. F., Black, W. C., Babin, B. J. and Anderson, R.E. (2010) *Multivariate Data Analysis.* 7th Edition. Pearson.

Hajibaba, H., Grün, B. and Dolnicar, S. (2020) Improving the stability of market segmentation analysis, *International Journal of Contemporary Hospitality Management*, *32*(4), 1393-1411, https://doi.org/10.1108/IJCHM-02-2019-0137

Hassan, N., Hashim, N., Padil, K. and Bakhary, N. (2022). Uncertainties: An investigation of aleatory and epistemic errors in market segmentation analysis. *Journal of Convention & Event Tourism*, *24*(1), 1-31. https://doi.org/10.1080/15470148.2022.2089796

Hinterhuber, A. (2015). Violations of rational choice principles in pricing decisions. *Industrial Marketing Management*, *47*, 65-74. https://doi.org/10.1016/j.indmarman.2015.02.006

Kalyanaram, G., Saini, G. K., Mony, S. and Jayasankaran, N. (2022) Behavioral response to online pricing: empirical and managerial insights, *Journal of Indian Business Research*, *14*(2), 167-185. https://doi.org/10.1108/JIBR-07-2021-0281

Ku, H.-H., Wang, S.-H. and Chiang, H.-W. (2020) Framing a promotional offer as free-with-purchase or as a bundle? The perspective of information salience, *Marketing Intelligence & Planning, 38*(4), 495-507. https://doi.org/10.1108/MIP-04-2019-0198

Li, H. and Peng, T. (2020) How does heterogeneous consumer behavior affect pricing strategies of retailers? *IEEE Access*, *8* 165018-165033. https://doi.org/10.1109/ACCESS.2020.3022491

Mandviwalla, M. and Flanagan, R. (2021). Small business digital transformation in the context of the pandemic. *European Journal of Information Systems*, *30*(4), 359-375. https://doi.org/10.1080/0960085X.2021.1891004

Mejía, J. F. and Valencia, A. (2024). Un enfoque antropológico a la segmentación de mercados: aportes de las variables cualitativas en clasificación de consumidores/usuarios. *Tendencias*, *25*(1), 220-243. https://doi.org/10.22267/rtend.242501.247

Nakandala, D., Lau, H. and Zhang, J. (2021). Pricing of fresh food enterprises in different market structures. *Enterprise Information Systems*, *15*(3), 373-394. https://doi.org/10.1080/17517575.2020.1722250

Park, I., Jung, I. and Choi, J. (2020) Market competition and pricing strategies in retail supply chains, *Manage Decis Econ.*, *41*(8), 1-11. https://doi.org/10.1002/mde.3200

Priester, A., Robbert, T. and Roth, S. (2020) A special price just for you: effects of personalized dynamic pricing on consumer fairness perceptions. *J Revenue Pricing Manag 19*, 99-112. https://doi.org/10.1057/s41272-019-00224-3

Salgado, L. and Espejel, J. E. (2016). Análisis del estudio de las relaciones causales en el marketing. *Innovar*, *26*(62), 79-94. https://doi.org/10.15446/innovar.v26n62.59390

Shirai, M. and Satomura, T. (2021) Unit pricing for multiple product sizes: identifying moderators and mediators of consumer evaluations, *European Journal of Marketing, 55*(5), 1539-1566. https://doi.org/10.1108/EJM-08-2018-0560

Tang, Y., Song, Y., Xu, C. and Fan, T. (2021) Optimal pricing and ordering policies with different patience levels of consumers. *Industrial Management & Data Systems*, *121*(2), 436-455. https://doi.org/10.1108/IMDS-08-2020-0491

Theysohn, S., Klein, K., Völckner, F. and Spann, M. (2013). Dual effect-based market segmentation and price optimization. *Journal of Business Research*, *66*(4), 480-488. https://doi.org/10.1016/j.jbusres.2011.11.007

Wang, J., Pham, T. L. and Dang, V. T. (2020). Environmental consciousness and organic food purchase intention: a moderated mediation model of perceived food quality and price sensitivity. *Int. J. Environ. Res. Public Health*, *17*(3), 850. https://doi.org/10.3390/ijerph17030850

Wang, X., Ma, P. and Zhang, Y. (2017). Pricing and inventory strategies under quick response with strategic and myopic consumers. *International Transactions in Operational Research: A Journal of The International Federation of Operational Research Societies*, *27*, 1729-1750. https://doi.org/10.1111/itor.12453

Wei, Q., Zhang, J. and Zhu, G. (2022). Pricing and inventory carryover strategy considering cost learning effect and strategic consumers. *International Transactions in Operational Research: A Journal of The International Federation of Operational Research Societies*, *31*(1), 541-567. https://doi.org/10.1111/itor.13105

Yan, B. and Ke, C. (2018). Two strategies for dynamic perishable product pricing to consider in strategic consumer behaviour. *International Journal of Production Research*, *56*(5), 1757-1772. https://doi.org/10.1080/00207543.2015.1035814

Yuan, X., Ma, Z. and Zhang, X. (2023) Dynamic pricing for the successive-generation products in the presence of strategic customers and limited trade-in duration. *Kybernetes, 52*(11), 5329-5352. https://doi.org/10.1108/K-02-2022-0237

Zhang, X., Gu, X. and Qu, Y. (2023) Research on pricing strategy of online education products considering consumers' matching degree and price

comparison behavior. *Kybernetes,* 52(8), 2672-2692. https://doi.org/10.1108/K-11-2021-1141

Zorbas, C., Eyles, H., Orellana, L., Peeters, A., Mhurchu, C. N., Riesenberg, D. and Backholer, K. (2020). Do purchases of price promoted and generic branded foods and beverages vary according to food category and income level? Evidence from a consumer research panel. *Appetite, 144*(104481). https://doi.org/10.1016/j.appet.2019.104481

Zuiderveen-Borgesius, F. and Poort, J. (2017). Online price discrimination and EU data privacy law. *Journal of Consumer Policy*, *40*(3), 347-366. https://doi.org/10.1007/s10603-017-9354-z