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ORIGINAL CONTRIBUTION

Factors Affecting Impulse Buying Behavior of Female Consumers in the Cosmetics Sector: The Moderating Role of Product-Category Familiarity

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Abstract— The increasing interest of female consumers in beauty and personal care has significantly contributed to the rapid growth of the cosmetics industry. In this sector, women often respond sensitively to environmental stimuli and tend to make unplanned, impulse purchasing decisions. This study aims to identify the key factors influencing Impulse Buying Behavior (IBB) among female consumers in the cosmetics sector and to examine the moderating role of Product-Category Familiarity (PCF) in these relationships. According to the literature, factors affecting impulse buying are commonly categorized into five groups: consumer-related, store-related, environmental, marketing-mix, and socio-demographic factors. This study focuses on three categories: environmental (social norms), store-related (in-store atmosphere and store promotion level), and consumer-related factors (perceived brand value, price consciousness, and hedonic value). The study gathered data from 550 respondents through a structured questionnaire and employed a convenience sampling technique. To assess the direct effect hypotheses, PLS-SEM was applied, while the moderating effect of product-category familiarity was analyzed using Multi-Group Analysis (MGA). The findings reveal that brand value, price consciousness, in-store promotions, hedonic consumption, and normative effect positively impact IBB, whereas store atmosphere has no significant effect. Furthermore, PCF moderates the relationships between perceived brand value, price consciousness, and normative effect with impulse buying. This study makes a contribution to the literature by empirically identifying the environmental, store-related, and consumer-related factors driving impulse buying in the cosmetics sector and provides strategic insights for practitioners. Additionally, it addresses a notable gap in the literature by exploring the moderating role of product category familiarity. However, the generalizability of the results is limited due to the use of convenience sampling and the exclusive focus on female consumers.

Index Terms— Impulse buying behavior, Product-category familiarity, Price consciousness, Normative effect, Level of sales promotion, Brand equity

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Introduction

The cosmetics industry encompasses a wide range of products aimed at enhancing or altering individuals' appearance, including skincare, haircare, makeup, perfumes, and personal care items. The growing interest in physical appearance and personal care has significantly contributed to the rapid expansion of this industry on a global scale. According to the cosmetics and beauty market report by cognitive

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market research, the transaction volume of the cosmetics industry is projected to reach approximately 300 billion dollars by 2024, with an anticipated annual growth rate of 4.8% over the next eight years.

This remarkable growth is not solely driven by rational, planned purchasing decisions; rather, it is increasingly fueled by emotionally driven and impulse consumer behavior. Cosmetic products are often purchased not merely out of necessity, but as a response to emotional satisfaction, aesthetic desires, or social influence. As a result, understanding the psychological and behavioral mechanisms underlying impulse buying has become a strategic priority for companies. Accurately identifying these triggers is essential for enhancing short-term sales, fostering customer and brand loyalty, and ensuring long-term profitability. Impulse buying has attracted significant academic interest across multiple disciplines, including behavioral economics, psychology, and marketing.

In this context, a comprehensive analysis of the factors influencing IBB in the cosmetics industry contributes not only to the academic literature but also provides strategic insights for practitioners in the field. As impulse buying becomes more common, retailers recognize its importance in consumers' decision-making. However, the factors affecting impulse buying can vary significantly across different industries (Wu & Lee, 2016). Thus, it is essential to study what causes impulse buying in the cosmetics sector, known for its emotional and pleasure-driven purchase.

While the general literature on impulse buying is extensive, studies focusing specifically on the cosmetics sector remain relatively limited. Existing research in this area has adopted a variety of perspectives. For instance, Souiden and Diagne (2009) examined the influence of personal, socio-cultural, and marketing factors on impulse buying in the context of men's cosmetic products. Yang et al. (2021) investigated the role of demographic factors such as age, income, and education, as well as the effects of promotional activities. More recent studies have explored the impact of consumer emotions and interaction quality (Golalizadeh et al., 2023), internal, external, and situational drivers (Tanveer et al., 2022), social anxiety and self-control (Xiao et al., 2024), service quality and customer experience Prayunita et al. (2025), and the influence of social media celebrities and influencers (Gupta et al., 2025).

IBB has attracted significant attention in consumer behavior and marketing literature due to the complex interplay of psychological and contextual determinants. Existing studies typically classify the factors influencing impulse purchases into three broad categories. Consumer-related factors reflect individual psychological tendencies and perceptions, including price consciousness (Gong et al., 2024), hedonic consumption motives (Yang et al., 2021), and perceived brand equity (Shukla & Banerjee, 2014). Firm-related factors refer to marketing strategies implemented by retailers, such as store atmosphere (Setiawan & Ardani, 2022) and sales promotions (Mandolfo et al., 2022). Environmental factors, on the other hand, encompass external social influences that indirectly affect consumer behavior, with normative effects (Nawaz et al., 2021) being a key example.

Additionally, previous studies have examined perceived stress (Xiao et al., 2024), consumption type (Liu et al., 2022), consumer experience (Lee et al., 2022), social influence (Yang et al., 2021), and economic development level (Dinpashoh & Allahverdipour, 2025; Zhao et al., 2022) as moderators. However, to date, no empirical study has examined the moderating role of PCF in the relationship between marketing cues and IBB. PCF, which expresses consumers' knowledge and experience about a product type, has the potential to influence factors that affect impulsive purchasing. The absence of empirical research on the regulatory role of PCF highlights an important theoretical gap.

In this context, the aim of this study is to examine the effects of price consciousness, brand equity, social influences, hedonic value, in-store promotions, and store atmosphere on IBB in the cosmetics sector. Additionally, the study aims to reveal the moderating role of PCF on these relationships.

In line with the purpose of the study, the concepts of imitation and counterfeit products, which form the conceptual framework of the research, as well as the interpersonal influence and ethical factors affecting the purchase of counterfeit products, were first explained, and the research hypotheses were developed. In the empirical part of the study, the hypotheses developed based on the literature were tested, and the findings were evaluated.

Problem statement and research questions

Impulse buying is a frequently studied phenomenon in consumer behavior literature, shaped by emotional, hedonic, and environmental factors. While the effects of variables such as price consciousness, brand equity, sales promotions, normative effect, hedonic value, and store atmosphere on IBB have been extensively investigated, studies focusing specifically on the cosmetics sector remain limited. Yet, cosmetics are emotionally driven, pleasure-oriented, and often purchased without prior planning, making them highly prone to impulse buying. Therefore, understanding the dynamics of IBB in the cosmetics sector is of both theoretical and practical importance. Moreover, to date, the moderating role of PCF in the relationship between these key factors and IBB has not been empirically explored in the literature. However, consumers' familiarity with a product category can significantly influence their responses to marketing stimuli and their decision-making processes. In this context, the core problem of the study is to reveal the key factors affecting IBB in the cosmetics sector and to investigate the moderating effect of PCF on these relationships. The research questions formulated in line with the aim of the study are presented below.

- What are the key factors that influence Impulsive Buying Behavior (IBB) in the cosmetics sector?
- How do variables such as price consciousness, brand equity, sales promotions, normative effect, hedonic value, and store atmosphere affect IBB in the context of cosmetic products?
- Does Product Category Familiarity (PCF) moderate the relationship between these key variables and impulsive buying behavior in the cosmetics sector?

Literature Review and Hypothesis Development

Impulse Buying Behavior (IBB) in the cosmetics ındustry Impulse buying is the unplanned, unintentional, rapid, spur-of-the-moment impulse purchase made without much thought in response to exposure to a stimulus and a sudden and strong impulse to buy (Beatty & Ferrell, 1998). IBB typically occurs when consumers feel a sudden urge to purchase something without consciously evaluating their buying decision (Chen et al., 2021). Today, impulse buying accounts for many sales in the modern retail sector. Therefore, the phenomenon of impulse buying has attracted the attention of researchers who bring different perspectives to the subject and use different conceptualizations and methods. This section of the study explains the factors affecting impulse buying in the cosmetics industry and the relationships that address the moderating role of PCF on these effects.

Price consciousness – Impulse buying behavior relationship

Price consciousness refers to the extent to which individuals prioritize spending as little as possible when making purchases (Alford & Biswas, 2002). Consumers with high price consciousness tend to place greater importance on a product's cost rather than its quality, often engaging in price comparisons and opting for lower-priced alternatives (Eastman et al., 2021). This is because these customers want value for the time and money they spend searching for a favorable price and do not want to experience cognitive regret. For this reason, price-conscious consumers tend to compare product prices, follow campaigns, and make price-oriented purchases.

Alford and Biswas (2002) argue that highly price-conscious individuals gain psychological and financial benefits by exploring options more. These consumers are more resistant to the lure of discounts and deals as they prefer to find the best price by researching prices in advance. The desire to search for options and evaluate them comprehensively prevents impulse buying. In the literature, studies suggest that consumers with high price consciousness make more impulse purchases (Rihn et al., 2018). In this study, it is expected that there will be a negative relationship between price consciousness and impulse buying. Accordingly, hypothesis H1 was developed.

H1: In the cosmetics sector, consumers' price consciousness negatively affects IBB.

Perceived brand equity – Impulse buying behavior relationship

Perceived brand equity refers to a consumer's subjective evaluation of the value and benefits offered by a brand (Zeithaml, 1988). It reflects the extent to which consumers believe a brand delivers on its promises and the outcomes associated with that perceived value (Carmeli & Tishler, 2004). This perceived value functions as an indicator, influencing consumer attitudes toward the brand (Punyatoya, 2015). According to O'cass and McEwen (2004), emotional and social values derived from the shopping experience positively shape how consumers view a brand, thereby increasing the likelihood of impulsive buying. Likewise, Beatty and Ferrell (1998) and Sun et al. (2023) reported a significant positive relationship between perceived brand equity and impulse purchasing behavior. Based on this understanding, the current study proposes that perceived brand equity in the cosmetics industry positively influences impulsive buying behavior. Accordingly, Hypothesis H2 was formulated.

H2: In the cosmetics sector, consumers' perceived brand equity positively affects IBB.

Level of sales promotion - Impulse buying behavior relationship

Interactions between sellers and consumers often evoke positive emotional responses, which, in turn, foster emotional impulse buying-a form of unplanned and affect-driven purchasing behavior (Liu et al., 2022; Nisa et al., 2022). In this context, sales promotions are among the most commonly used methods by sellers to engage with consumers. Sales promotions are a key promotional strategy employed by firms to increase consumer interest in a product or brand and to stimulate purchasing through short-term incentives (Dey, 2022). These promotions include a wide array of tools such as television advertisements, discounts, clearance sales, special offers, coupons, cash rebates, premiums, loyalty programs, free delivery, in-store demonstrations, bonus packages, cross-promotions, contests, sweepstakes, and various advertising efforts (Ahmed & Nihei, 2024; Schwemmer & Ziewiecki, 2018). These initiatives are particularly effective in triggering IBB, as they encourage immediate purchasing decisions by creating a sense of urgency and increasing perceived value (Akram et al., 2018; Ningrum & Widanti, 2023; Prakasiwi & Nuvriasari, 2024). The emotional arousal induced by such promotions often drives consumers to make impulse purchases as a way to improve their current emotional state Sun et al. (2023). In the cosmetics sector where

emotional and pleasure-oriented consumption is prevalent—sales promotions are expected to have a significant and positive effect on consumers' IBB. Accordingly, H3 hypotesis was developed.

H3: In the cosmetic sector, level of sales promotions positively affect IBB.

Normative effect - Impulse buying behavior relationship

The normative effect refers to an individual's need to conform to the expectations of the environment in order to identify with people who are important to him or to strengthen his image in their eyes (Bandyopadhyay, 2016). From a consumer behavior perspective, normative effects include the social pressures consumers feel about how they should behave or buy according to societal expectations. Thus, when a consumer is subject to normative effect, they consider the views, likes, wants, and anticipated standards of others important and are likely to act in line with them. Pressure to conform to the expectations of others often leads consumers to conform to group behaviors or purchasing patterns, which can influence their decision-making processes (He, 2016). Algesheimer et al. (2005) noted that individuals strongly affected by normative effect tend to avoid leaving a bad impression within their social group and prefer purchasing brands that align with those around them to demonstrate social conformity. Many studies have confirmed the relationship between normative effect and IBB. For example, a study by Zhang and Shrum (2009) found that individuals exposed to social comparison are likelier to make impulse purchases. Similarly, Naylor et al. (2012) examined the impact of normative effect on consumer behavior from both direct peer groups and indirect social media influences. The results show that both normative effects significantly increase consumers' probability of impulse buying. Le (2021) argued that consumers more exposed to normative effect seek products that provide socially visible benefits and care about social approval. In this context, in this study, perceived normative effect in the cosmetics sector is expected to affect IBB positively, and the H4 hypothesis was developed.

H4: In the cosmetics sector, consumers' perceived normative effect positively affects IBB.

Perceived hedonic value - Impulse buying behavior relationship

Hedonic motivations play an important role in shaping consumer behavior, especially in categories such as cosmetics and fashion, where emotions and experiences are central. These motivations lead consumers to seek pleasure and enjoyment through shopping (Yuan et al., 2022). Research shows that hedonic purchases are associated with emotional satisfaction, rewards, or minimization of negative emotions (Iyer et al., 2020).

Yi and Jai (2020) suggest that impulse buying is a pleasure-driven behavior, closely associated with emotional, psychological, and social needs rather than rational thinking or practical outcomes. Similarly, Jam et al. (2025) and Tarka et al. (2022) emphasize that hedonic consumption has a direct and notable effect on spontaneous purchases, with consumers often experiencing a sense of empowerment and positivity following the act of buying. Other studies support the positive relationship between hedonic shopping value and IBB (Huang et al., 2024; Kempa et al., 2020; Ramadania et al., 2022; Yiğit, 2020). In this study, it is expected that the hedonic value perceived by consumers in the cosmetics sector will positively affect IBB. In this direction, hypothesis H5 was developed.

H5: In the cosmetics sector, perceived hedonic value positively affects IBB.

In-store atmosphere - Impulse buying behavior relationship

The concept of in-store atmosphere can be defined as all physical and non-physical elements of a store that can influence a customer's behavior toward a retailer (Francioni et al., 2018). According to Qureshi et al. (2025), elements such as fixtures, cleanliness, color scheme, layout, product arrangement, and visually appealing decorations constitute the physical characteristics of store atmosphere. Non-physical elements include factors such as temperature, scent, background music, and lighting.

The in-store atmosphere is one of the most important factors influencing individuals' shopping behavior. According to Setiawan and Ardani (2022), a store environment that attracts customers creates a sense of comfort, encouraging customers to stay in the store longer. Spending more time in the store may encourage customers to make unplanned purchases. A store atmosphere that prepares the ground for customers to feel happy and comfortable can influence consumers' spontaneous purchasing decisions. Additionally, touching, hearing, smelling, or tasting products in stores can also lead to impulsive purchases. Kholis et al. (2023) argue that a positive store atmosphere can increase IBB by triggering positive emotional responses.

Choirul and Artanti (2019), Rasheed et al. (2017), Setiawan and Ardani (2022), and Tahiry et al. (2025) have demonstrated that store atmosphere significantly influences IBB. In this context, this study predicts that store atmosphere will positively influence IBB in the cosmetics industry, and Hypothesis H6 has been developed.

H6: In the cosmetics sector, store atmosphere positively affects IBB.

Moderating role of Product-Category Familiarity (PCF)

Dangelico et al. (2024) define PCF as "cognitive information structures stored in memory about a specific product category." PCF is related to consumers' experiences with a product category. Consumers' past experiences with a product group and their evaluation of products play an important role. Therefore, consumers often prefer products they are familiar with without considering companies' products and offers. Grewal et al. (1998) found that consumers with low PCF heavily rely on external cues—such as brand reputation, societal expectations, store ambiance, and promotional offers—when making purchasing decisions. In contrast, consumers with high PCF form a much more complex schema in their decision process. The development and analysis of this complex schema is achieved through increasing levels of systematic cognitive information rather than intuitive processing (Ratneshwar & Chaiken, 1991). Consumers with higher levels of familiarity compare options faster and make more refined and logical decisions based on the systematic information revealed by their experiences.

Shukla and Banerjee (2014) revealed that PCF has an important moderating effect on impulse buying. They found that when PCF is low, brand equity, store promotions, and price consciousness significantly affect impulse buying. However, this effect is absent or decreases when PCF is high. As mentioned above, PCF provides emotional and cognitive reasons for consumers to purchase impulsely. Consumers familiar with the product-category are expected to have a lot of information, such as price, product quality, alternative products, and advantages or disadvantages provided by brands. For this reason, consumers with high PCF are less likely to make an immediate purchase due to store promotions, store atmosphere, hedonicity, brand equity, normative effect, and price consciousness. In this context, as consumers' familiarity with the product-category increases, the effect of the independent variables in our model on impulse buying is expected to decrease. In other words, it is predicted that familiarity with the product-category has a moderating effect. In this context, hypotheses H7-H12 were developed.

H7: Consumers' PCF moderates the relationship between price consciousness and IBB in the cosmetics sector. The effect of price consciousness on IBB is lower for people with high PCF.

H8: Consumers' PCF moderates the relationship between perceived brand equity and IBB in the cosmetics sector. The effect of perceived brand equity on IBB is lower for people with high PCF.

H9: Consumers' PCF moderates the relationship between level of sales promotions and IBB in the cosmetics sector. The effect of level of sales promotions on IBB is lower for people with high PCF.

H10: Consumers' PCF moderates the relationship between perceived normative effect and IBB in the cosmetics sector. The effect of perceived normative effect on IBB is lower for people with high PCF.

H11: Consumers' PCF moderates the relationship between perceived hedonic value and IBB in the cosmetics sector. The effect of perceived hedonic value on IBB is lower for people with high PCF.

H12: Consumers' PCF moderates the relationship between store atmosphere and IBB in the cosmetics sector. The effect of store atmosphere on IBB is lower for people with high PCF.

The research model created in line with the developed research hypotheses is shown in Figure 1.

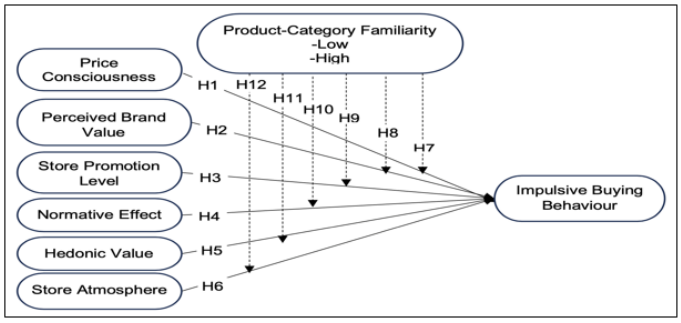

Fig. 1 *The Research model*

Methodology

In this section of the study, the methodological framework of the empirical research is developed to test the research hypotheses, and the study results are presented. In this direction, the formulation of the scale questions and sampling and demographic information about the participants are presented. Then, the data analyses and findings to be applied to test the relationships in the research model are presented. The measurement and structural models were evaluated in this context, and research findings were presented. The research hypotheses were tested with PLS-SEM and PLS-MGA analysis.

Data collection instruments and data collection process

A survey was used as the data collection tool in the study. Before creating the survey statements, the relevant literature was reviewed and studies examining the variables included in the scope of the research were examined in detail. The survey form consists of scales related to the variables of the research and questions designed to obtain information about the demographic characteristics of the participants. The nine-item impulsive purchasing scale was adapted from Rook and Fisher (1995); the five-item price consciousness scale was adapted from Lichtenstein et al. (1993); and the hedonic consumption scale was adapted from Babin et al. (1994) The store atmosphere scale, consisting of eight statements, was adapted from Villi and Kayabaşı (2013), and the brand value scale, consisting of five statements, was adapted from Vera and Trujillo (2017). The store-level promotions scale consists of five statements, the product class familiarity scale consists of three statements, and the normative influence scale consists of four statements. These scales were adapted from the study by Shukla and Banerjee (2014).

Population and sampling

The research population consists of female consumers who reside in Turkey and use cosmetic products. The research data was collected using a convenience sampling method. The research model was tested using data obtained from 550 surveys. When the demographic characteristics of the participants were examined, 35.8% were married and 64.2% were single women. 11.5% of the participants were aged 16-20, 49.5% were aged 20-30, 28% were aged 31-40, 7.4% were aged 41-50, and 3.6% were aged 51 and above. When examining the educational levels of the participants, 2.2% have a primary school education, 1.8% have a middle school education, 32.2% have a high school education, 19.3% have an associate degree, 37.5% have a bachelor's degree, and 7.1% have a postgraduate degree.

Evaluation of measurement model

To assess the reliability of the measurement scales, Cronbach's alpha and Composite Reliability (CR) coefficients were calculated and presented in Table 1. The Cronbach's alpha and CR coefficients for the scales are above the recommended threshold value of 0.70 (Hair et al., 2010). To assess the suitability of the measurement model, each external indicator factor loading in the reflective structure was checked to see if it was higher than 0.6, as recommended by Chin et al. (2008). Table 1 shows that all loading values for the scale items are higher than 0.6. After evaluating the suitability of the measurement model, the construct validity of the scales was examined. In this process, the convergent validity of the scales was analyzed first, followed by the discriminant validity. To test the convergent validity of the scales, the Average Variance Explained (AVE) and Composite Reliability (CR) coefficients were calculated and found to be above the threshold values (CR ≥ 0.70; AVE ≥ 0.50) determined by Fornell and Larcker (1981). Based on these results, convergent validity was established for all scales.

Table I
Consctruct validity and factor loadings of the outer model

Construct	Mean	SD	Loading	α	CR	AVE
Price Consciousness (PC)				0,903	0,911	0,720
PC1	3.344	1.363	0.847			
PC2	3.473	1.361	0.880			
PC3	3.322	1.343	0.843			
PC4	3.435	1.308	0.845			
PC5	3.211	1.356	0.827			
Brand Value (PBV)				0,895	0,907	0,702
PBV1	3.295	1.323	0.828			
PBV2	3.289	1.330	0.852			
PBV3	3.335	1.339	0.875			
PBV4	3.087	1.392	0.824			
PBV5	3.091	1.361	0.809			
Store Promotion Level (SPL)				0,895	0,904	0,704
SPL1	3.324	1.336	0.841			
SPL2	3.207	1.312	0.863			
SPL3	3.355	1.337	0.853			
SPL4	3.313	1.248	0.823			

Cont...

Construct	Mean	SD	Loading	α	CR	AVE
SPL5	3.275	1.241	0.814			
Normative Effect (NE)				0,816	0,830	0,645
NE1	2.884	1.181	0.757			
NE2	2.744	1.264	0.856			
NE3	2.756	1.336	0.850			
NE4	2.956	1.312	0.743			
Hedonic Value (HV)				0,895	0,907	0,691
HV1	3.140	1.319	0.831			
HV2	3.216	1.352	0.871			
HV3	3.025	1.292	0.819			
HV4	3.324	1.268	0.882			
HV5	2.689	1.234	0.747			
Store Atmosphere (SA)				0,906	0,916	0,604
SA1	3.024	1.294	0.820			
SA2	2.995	1.219	0.816			
SA3	2.500	1.209	0.780			
SA4	2.858	1.254	0.831			
SA5	2.613	1.214	0.699			
SA6	3.147	1.300	0.789			
SA7	3.189	1.299	0.791			
SA8	3.271	1.233	0.674			
Product-Category Familiarity (PCF)						
PCF1	2.638	1.154	0.842			
PCF2	2.911	1.239	0.745			
PCF3	2.922	1.224	0.734			
Impulse Buying Behaviour (IBB)				0,933	0,935	0,654
IBB1	3.182	1.295	0.727			
IBB2	2.965	1.324	0.817			
IBB3	2.835	1.342	0.832			
IBB4	2.984	1.358	0.764			
IBB5	2.809	1.440	0.854			
IBB6	3.002	1.354	0.798			
IBB7	3.053	1.358	0.833			
IBB8	3.011	1.388	0.851			
IBB9	3.011	1.388	0.792			

To test the validity of the separation, the method proposed by Fornell and Larcker (1981) and the HTMT coefficients proposed by Henseler et al. (2015) were used. Fornell and Larcker (1981) stated that, for factor validity to be considered valid, the square root of the AVE value for each construct must be greater than the correlation coefficients between the constructs. As seen in Table 2, this condition is met. Additionally, it is observed that the HTMT coefficients in Table 2 are below the 0.85 value recommended by Henseler et al. (2015). In this context, construct validity was checked using both test methods, and construct validity was established for all scales. As a result, construct validity has been confirmed for all structures in the measurement model.

Table II
Discriminant validity

Fornell-Larcker Criteria	IBB	PC	HV	PBV	SA	SPL	NE
IBB	0.808*						
PC	-0.401	0.849*					
HV	0.350	-0.232	0.831*				
PBV	0.355	-0.246	0.338	0.838*			
SA	0.331	-0.179	0.386	0.283	0.777*		
SPL	0.381	-0.269	0.374	0.341	0.422	0.839*	
NE	0.378	-0.236	0.284	0.308	0.452	0.288	0.803*
HTMT criteria	IBB	PC	HV	PBV	SA	SPL	NE
IBB							
PC	0.431						
HV	0.381	0.256					
PBV	0.376	0.264	0.379				
SA	0.350	0.194	0.433	0.308			
SPL	0.412	0.292	0.422	0.378	0.472		
NE	0.426	0.267	0.333	0.355	0.518	0.340	

*$\sqrt{AVE}$.

Evaluation of structural model

In assessing the structural model, key indicators such as the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2) were taken into account. Special emphasis was placed on the R^2 and Q^2 values during this evaluation. As shown in Table 3, the R^2 value for the Impulse Buying Behavior (IBB) variable is 0.334, and the Q^2 value is 0.331. According to Chin et al. (2008), an R^2 value between 0.33 and 0.67 indicates moderate explanatory power. Similarly, Hair et al. (2010) emphasized that a Q^2 value greater than zero signifies predictive relevance for the model, with values between 0.15 and 0.35 reflecting moderate predictive strength of the independent variables on the dependent construct.

Additionally, the structural model's fit was further evaluated by examining the effect sizes (f^2) of exogenous variables on the endogenous variable. Cohen (2013) classified f^2 values as small (0.02–0.15), medium (0.15–0.35), and large (above 0.35). In this study, as illustrated in Table 3, all independent variables demonstrated a small effect size on consumers' impulse buying intentions within the cosmetics sector.

Table III
PLS-SEM analysis evaluation

Direct Relationship Hypotheses	β	t	f^2	p-value	Result
H1: PC → IBB	-0,248	5,761	0,081	0,000	Supported
H2: PBV → IBB	0,132	3,250	0,021	0,001	Supported
H3: SPL → IBB	0,149	2,798	0,024	0,005	Supported
H4: NE → IBB	0,174	3,666	0,034	0,000	Supported
H5: HV → IBB	0,119	2,377	0,016	0,018	Supported
H6: SA → IBB	0,061	1,078	0,004	0,281	Not supported
R^2 = 0,334; Q^2 = 0,331					

Findings

The parameters related to the analysis are given in Table 3. According to the analysis results, price consciousness (β=-0,248, t=5,761) negatively affects IBB in the cosmetics sector. Perceived brand equity (β=0,132, t=3,250), store promotion levels (β=0,149, t=2,798), normative effect (β=0,149, t=2,798) and hedonic value (β=0,149, t=2,798) positively affect IBB in cosmetics sector. In-store atmosphere (β=0.061, t=1.078) does not affect IBB. Accordingly, hypotheses H1, H2, H3, H4, H5 are supported while hypothesis H6 is not supported.

One of the study's main objectives is to reveal the moderating effect of cosmetic PCF on the relationships evaluated above. To determine the degree of familiarity of the participants with the cosmetic product-category, the median of the PCF scale was calculated as 3. Familiarity scores with a median above three were classified as having high familiarity with the product-category, while those below three had low familiarity. As a result, it was determined that 244 people had high familiarity with the cosmetic product-category and 306 people had low familiarity with the classification made among 550 people who participated in the research. To reveal the moderating effect of PCF on hypotheses H1-H6, a PLS-MGA approach was adopted to compare group-specific bootstrap PLS-SEM results.

Table IV
Multı-group analysis results

Moderation Hypotheses	**Cosmetic Product_Category Familiarity**				**Difference**		
	Low *(n=244)*		High *(n=306)*		$\Delta\beta$	*p-value*	**Result**
	β	t	β	t			
H7: PC → IBB	-0,287	4,904	-0,124	1,9	-0,163	0,009	Supported
H8: PBV → IBB	0,243	4,390	0,096	0,828	0,147	0,049	Supported
H9: SPL → IBB	0,131	1,97	0,154	2,49	-0,023	0,404	Not supported
H10: NE → IBB	0,232	3,672	0,052	0,829	0,179	0,019	Supported
H11: HV → IBB	0,147	2,267	0,040	0,548	0,107	0,120	Not supported
H12: SA → IBB	0,026	0,425n.	0,149	2,219	-0,123	0,084	Not supported

According to the PLS-MGA result in Table 4, price consciousness ($\beta_{Low\_Familiarity} = -0,287, t = 4,904, p < 0,01$; $\beta_{High\_Familiarity} = -0,124, t = 1,97, p < 0,05$; $\Delta\beta = -0,163, p < 0,01$), perceived brand equity ($\beta_{Low\_Familiarity} = -0,243, t = 4,390, p < 0,01$; $\beta_{High\_Familiarity} = 0,096, t = 0,828, p > 0,10$; $\Delta\beta = 0.147, p < 0.05$), and normative effect ($\beta_{Low\_Familiarity} = 0.232, t = 3.672, p < 0.01$; $\beta_{High\_Familiarity} = 0.052, t = 0.829, p > 0.10$; $\Delta\beta = 0.179, p < 0.05$) on IBB in cosmetics sector show statistically significant

differences according to PCF. The effects of price consciousness, brand equity, and normative effect on IBB are higher in consumers with low PCF. Increasing familiarity decreases these effects.

However, according to the PLS-MGA analysis, store promotion level ($\beta_{Low\_Familiarity} = 0.131, t = 1.970, p < 0.05$; $\beta_{High\_Familiarity} = 0.154, t = 2.496, p < 0.05$; $\Delta\beta = -0.023, p > 0.01$), hedonic value ($\beta_{Low\_Familiarity} = 0.147, t = 2.267, p < 0.05$; $\beta_{High\_Familiarity} = 0.040, t = 0.548, p > 0.10$; $\Delta\beta = 0.107, p > 0.10$), and store atmosphere ($\beta_{Low\_Familiarity} = -0.026, t = 0.425, p > 0.10$; $\beta_{High\_Familiarity} = 0.149, t = 2.219, p < 0.05$; $\Delta\beta = -0.123, p > 0.10$) on IBB do not differ by cosmetic PCF level. Accordingly, hypotheses H7, H8, and H10 are supported. Hypotheses H9, H11, and H12 are not supported.

To see the direction of the effect of the moderating variable in hypotheses H7, H8, and H10 supported by PLS_MGA analysis more clearly, the relationships are explained graphically in Figure 2. As seen in the graphs, the level of PCF plays a negative moderating variable role in the relationships between normative effect and perceived brand equity and IBB in the cosmetics sector. That is, when the level of PCF is high, the degree of the relationship between normative effect perceived brand equity and IBB decreases. Similarly, a negative relationship exists between price consciousness and IBB. The degree of this effect increases when PCF is low. In other words, PCF has a negative moderating effect on the relationship between price consciousness and IBB.

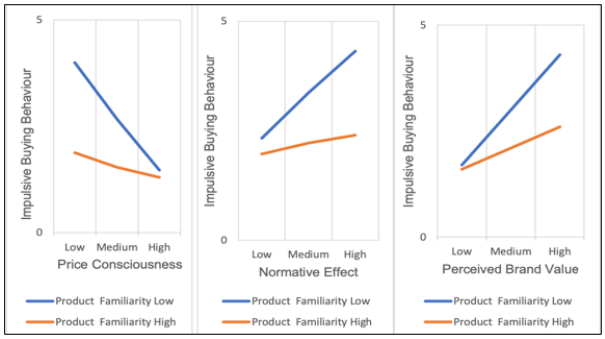

Fig. 2 *Graphical presentation of moderating effects*

Discussion

The growing interest of consumers in beauty and personal care products has contributed to the rapid growth of the cosmetics industry. The cosmetics industry is one of the sectors with the highest levels of impulse buying due to its wide range of products, ability to differentiate products, and the customer experiences it offers. Impulse purchases can help retailers increase their profits, build customer loyalty, and strengthen their competitive advantage in the market. Therefore, it is important to identify the factors that drive consumers toward impulse purchases in the cosmetics industry. This study examines the factors influencing impulsive purchasing behavior in the cosmetics industry, focusing on the moderating role of product class familiarity.

According to the research findings, price consciousness has a negative effect on impulsive purchases in the cosmetics industry. Scheinbaum et al. (2020) noted that price-conscious customers feel regret because they seek the best prices.He argued that this situation prevents impulse purchases. Similarly, Lastovicka et al. (1999) revealed in their research that price-conscious consumers spend more time making purchasing decisions and postponing their purchases. In the study, it was found that perceived brand equity has a positive effect on impulse buying in the cosmetics sector. In the existing literature, studies support the relationship between consumers' perceived brand equity and their behavioral intentions to purchase (Graciola et al., 2020; Isa et al., 2018). Baumgartner et al. (2008) attributed consumers' tendency to impulsely purchase products with high brand equity to the perception of these brands as reliable, reputable, and high quality.

Another result of the study also shows that store promotions, normative effect, and perceived hedonic value positively affect impulse shopping in the cosmetics sector. There are different studies supporting these effects in the literature. Chomvilailuk and Butcher (2014) revealed the positive effect of normative effect on store impulse buying. Lord et al. (2001) stated that when a consumer is normatively influenced, he/she cares about the influencers' opinions, preferences, desires, and expectations and tends to act accordingly. Handayani and Munawar (2024) revealed that hedonic shopping value and attractive sales promotions increase consumers' impulse buying tendencies. Grigsby et al. (2021) and Yi and Jai (2020) stated that marketers and retailers have traditionally used external stimuli, such as store promotions and advertisements, to trigger impulse shopping.

In-store atmosphere is another factor whose effect on impulse buying in the cosmetics sector was examined in the study. However, contrary to the hypothesis (H6), the effect of store atmosphere on impulse buying was not found in the research findings. When the literature is examined, some studies do not support the relationship in parallel with this finding Mutiah et al. (2018) and Yudiatantri and Nora (2019). Different studies explained this situation from different perspectives. Ballantine et al. (2010) argued that excessive stimuli

can overwhelm consumers and reduce IBB. Sheikh et al. (2023) stated that the effect of store atmosphere on impulse buying is not valid for all sectors. Wijaya and Setyawan (2020) explained that many stores are in shopping malls today. Hence, the atmosphere created by the shopping mall rather than the store atmosphere is effective in impulse buying.

Finally, the study tested the moderating effects of PCF on the relationships (H1-H6) described above. The findings revealed that price consciousness, normative effect, and perceived brand equity moderate impulse buying.

Price consciousness, normative effect, and perceived brand equity were found to have a lower effect on impulse buying in consumers familiar with the cosmetic product-category. The moderating effect of PCF was not found in other relationships. He (2016) stated that consumers familiar with the product-category have less cognitive burden and risk in decision-making and make decisions between choices more easily. Therefore, high familiarity with the product-category alone is an important factor explaining impulse buying. In this context, factors such as normative effect, brand value, and price consciousness are important factors that trigger impulse buying in consumer groups with lower PCF. If the consumer knows the product and product-category well, the effect of such intrinsic and extrinsic stimuli decreases (Shukla & Banerjee, 2014).

Conclusion and recommendations

Considering the research findings, several suggestions can be made for marketing managers. First, pricing should be dynamic to appeal to price-conscious consumers, considering competitors' prices. Assurances such as best price guarantees can be offered to influence the decisions of price-conscious consumers. In addition, since products with high brand equity enable consumers to make faster and more emotional decisions, brands should focus on creating a strong identity and building trust. Given the strong normative effect, elements such as social proof and customer reviews should be emphasized, and social media platforms should be used to encourage user sharing. Promotions should be reinforced with time-limited deals, product discounts, or loyalty programs to create a sense of urgency in consumers' shopping decisions. Focusing on hedonic motivations and presenting cosmetics with luxury elements, such as self-care or rewards, can increase impulse purchases. Moreover, optimizing store layouts and online experiences can also be highly effective in triggering impulse purchases. Finally, personalized marketing and customer data analytics should be used to reach the right consumer at the right time and encourage impulse buying.

Limitations and future research directions

Although this study makes important contributions to the literature, it has some limitations. An important limitation is that the convenience sampling method determined the study sample. When the scope and results of the study are evaluated, it can guide future studies. In order to obtain more homogeneous findings, the study population was limited to female consumers. In future studies, different moderator variables such as gender, age, and income can be used. In addition, there are many factors affecting impulse buying. However, these factors and their degree of influence are expected to vary across sectors. In this context, different sectors can be compared in future studies.

Conflict of Interest Statement

The authors declare that they have no conflict of interest regarding the preparation or publication of this article

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