

## Consumers' perceptions of quality, packaging, and purchase intentions: an analysis of the perfume market in Oman

Percepções dos consumidores sobre qualidade, embalagem e intenções de compra: uma análise do mercado de perfumes em Omã

Percepciones de los consumidores sobre la calidad, el envase y las intenciones de compra: un análisis del mercado de perfumes en Omán

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### ABSTRACT

Local perfume brands are typically successful due to their distinct strategies and product features. The purpose of this study is to determine how packaging visual elements influence consumer purchase intentions, focusing particularly on the packaging, material, and typography of information. Furthermore, the study examines how perceived quality mediates the relationship between selected packaging elements and consumer purchase intentions. We used quantitative data collected through a field survey using structured questionnaire adapting survey items from previous studies. Total 347 respondents from Oman participated in the survey. We used the Partial Least Square Structural Equation Modelling (PLS-SEM) to analyse data. The findings revealed that packaging design and typography of information positively influence purchase intention of customers. Packaging material was found to be insignificant to influence the purchase intention. It was found that perceived quality partially mediated the relationship between independent variables (packaging design, typography) and purchase intention. In addition, there was full mediation of perceived quality in the relationship between packaging material and purchase intention. This study contributes to the literature by providing an insight into Omani consumers' attitudes regarding the aesthetics of packaging, perception of quality, and purchase intention. In the context of local market, the study suggests managers use visual elements of packaging to attract customer for increasing the likelihood of purchase. To gain a better understanding of marketing communication efforts, future research might look at the type of material as a predictor and assess the effect of gender and prices on packaging elements and purchase intention.

**Keywords:** Aesthetics of packaging, packaging design, visual elements, purchase intention, perceived quality.

### RESUMO

As marcas locais de perfumes são bem-sucedidas devido às suas estratégias e características de produto de diferenciação. Este estudo visa determinar como os elementos visuais da embalagem, como design, material e tipografia das informações, influenciam as intenções de compra dos consumidores. Além disso, investiga como a qualidade percebida media a relação entre esses elementos da embalagem e as intenções de compra. Foram coletados dados quantitativos por meio de uma pesquisa estruturada com 347 participantes de Omã. Os resultados mostraram que o design da embalagem e a tipografia impactam positivamente a intenção de compra, enquanto o material da embalagem não teve efeito significativo. A qualidade percebida mediou parcialmente a relação entre o design e a tipografia com a intenção de compra, e mediou completamente a relação entre o material da embalagem e a intenção de compra. Este estudo contribui para a literatura ao oferecer insights sobre as atitudes dos consumidores omanitas em relação à estética da embalagem e percepção de qualidade. No mercado local, sugere-se que os gestores utilizem os elementos visuais da embalagem para atrair consumidores e aumentar a probabilidade de compra. Pesquisas futuras poderiam explorar o tipo de material e o impacto do gênero e dos preços sobre a intenção de compra.

**Palavras-chave:** Estética da embalagem, design de embalagem, elementos visuais, intenção de compra, qualidade percebida.

### RESUMEN

Las marcas locales de perfumes suelen ser exitosas debido a sus estrategias y características de producto distintivas. Este estudio tiene como objetivo determinar cómo los elementos visuales del empaque, especialmente el diseño, el material y la tipografía de la información, influyen en las intenciones de compra de los consumidores. Además, se examina cómo la calidad percibida media la relación entre estos elementos del empaque y las intenciones de compra. Se utilizaron datos cuantitativos recogidos a través de una encuesta estructurada con 347 participantes de Omán. Los resultados revelaron que el diseño del empaque y la tipografía tienen un impacto positivo en la intención de compra, mientras que el material del empaque no mostró influencia significativa. Además, la calidad percibida media parcialmente la relación entre el diseño y la tipografía con la intención de compra, mientras que medió completamente la relación entre el material de empaque y la intención de compra. Este estudio aporta a la literatura al ofrecer una visión sobre las actitudes de los consumidores omaníes respecto a la estética del empaque y la percepción de la calidad. En el mercado local, se sugiere que los gerentes utilicen los elementos visuales del empaque para atraer a los consumidores y aumentar la probabilidad de compra. Futuras investigaciones podrían explorar el tipo de material, así como el impacto del género y los precios.

**Palabras clave:** Estética del envase, diseño del envase, elementos visuales, intención de compra, calidad percibida.

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Managers in Oman should optimize packaging design and typography to enhance consumer perceptions of quality, thereby increasing purchase intentions and improving brand competitiveness.

**Originality/value:**

This study explores how specific packaging elements, particularly design and typography, mediate perceived quality and purchase intention in Oman's local perfume market, a context relatively underexplored in existing literature.

## INTRODUCTION

Consumer's perception of product quality is one of the determinants of their purchase intention. A functional and attractive packaging play important role in emotional satisfaction of consumers (Sharif *at al.*, 2024). In terms of packaging, sustainability, price, quality, and durability are important aspects of consumer perceptions of quality (Núñez *at al.*, 2024). In the luxury industry, packaging plays an important role as the first indication of perception formation among customers. By using striking packaging, brands can present a focused image to the world, because the packaging holds the first clue as to the quality of their products. (Klimchuk & Krasovec, 2013). A premium packaging creates effects of visual processing and positive impact on brand equity and consumer choice of a brand (Hwang & Kim, 2021) by influencing consumer perceptions (Chitturi *at al.*, 2022)

Marketers use packaging to attract consumers' attention so that their product can be distinguished from other. Consequently, a person might buy a product based solely on its packaging or cover. Many factors must be taken into consideration to ensure that the product is recognized by consumers. Package design can influence consumer behaviour toward a product (Alhamdi, 2022). Utilizing managerial learning and effectiveness for market development (Rundh, 2023), brands manages its product packaging in a way that attracts consumers, thereby increasing consumers' interest (Elkhattat & Medhat,2022).

Manufacturing companies often rely on their management staff to decide on a brand name. A great deal of effort is also required when designing packaging for the product by marketing perspectives. Because of the physical contact between the package and the consumer at the retail point , the package will have a direct influence on consumer (Warlop *at al.*, 2005; Zeithaml, 1988). The distinctive elements that are visible on a product's package make it more convenient for the consumer to memorize and identify easily. If companies have a better understanding of this concept, they will be better able to design packaging for consumer products. Consumers are more affected by packaging than they are realized (Silayoi & Speece, 2007). The importance of packaging is one of the reasons why many businesses dedicate a lot of resources to making their product look as attractive as possible. Therefore, brands of luxury category invest in packaging design extensively because a good representation makes the product more likely to sell. Many customers buy a personal use product based on perception of quality simply because the packaging or the cover looked interesting. Due to this behaviour that relies on the power of packaging, marketers try to increase the potential of customers' attraction in their product through aesthetic visuals of packaging (Ali *at al.*, 2010).

Market of perfumes is highly competitive and price conscious in local brands. Perfume is one of the most popular gift items in Arab societies, therefore, this behaviour may even be more extreme when a product is on display among other products. The importance of packaging is one of the reasons why many businesses dedicate a lot of resources to making their product look as attractive as possible. f a similar category, consumers associate the packaging with the perceived quality of the product. A poor-quality packaging on the other hand, might cause the consumer to disregard a product and purchase one with superior packaging. It is common within packaging attributes to portray the impression that they are superior in quality based on their appearance. Visual imagery representing products is often displayed on the outside of the packaging. When a certain item makes the customer convinced than similar products based on its appearance, they are more likely to purchase it.

Despite being competitive, market of perfumery has a huge potential in world market. Market reports estimate that the niche perfume market represents more than one billion euros in annual sales in the United States, England, Italy, France, the Middle East, and Russia (Fashion Network, 2017). In 2020, the global beauty and personal care products market reach USD 44.5 Billion. During the period 2021-2026, the market is expected to grow at a CAGR of 19.4% (Research and Markets, 2021).Local companies in the Gulf countries are producing oils, non-alcoholic perfumes, and alcoholic perfumes primarily target the domestic and Arab markets in the Middle East, including the GCC countries. Perfume markets in the Gulf Cooperation Council (GCC) countries are maturing by the time. The distinct strategies and dynamics of local brands give them a competitive edge in a cultural and customer choice context. As an example, UAE-based brand Ajmal not only dominates the market with a turnover of 1 billion AED per year with a 37.74% share of the GCC market among local brans. According to Statistica(2021), Oman's personal care market is expected to generate US\$57m in revenue in 2021 and US\$63m in volume by 2025, growing at a compound annual growth rate of 2.54%.

Success of local perfume brands depends largely on distinct strategies and product features. When it comes to packaging their products, companies face many challenges in deciding on packaging elements that catch the eye of consumers is especially challenging (Dinnie, 2009). Understanding the role of packaging elements in connection with quality perception is essential to improving the likelihood of a buyer's intent to purchase. To maximize the possibility of catching customers' attention, packaging must integrate intrinsic and extrinsic elements to impact on customer's perception. Visual elements of packaging (like packaging design, packaging material, and the packaging typeface) are important because they give a sense of quality, which affects the intent to buy. The previous research on consumer behavior in luxury brands has

mainly focused on factors influencing purchase intentions and purchase factors in the context of planned behavior theory. In addition to luxury brand purchase intentions, research has focused on the type of packaging and brand experience (Lim & An, 2021; Qi & Ploeger, 2021) (Alam & Sayuti, 2011; Dowd & Burke, 2013; Qi & Ploeger, 2019; Kamran & Srivastava, 2012). Previous research in packaging design has primarily focused on either purchasing intentions for food products, green packaging or technical aspects of packaging (Qi & Ploeger, 2019; Wang, 2017). Although packaging design has been extensively researched, the impact of visual aesthetics on purchase intentions in perfumery products as a subcategory of luxury brands has either been ignored or poorly studied. A recent study (Bigoin-Gagnan & Lacoste-Badie, 2018) examined the effect of symmetry on packaging aesthetic evaluation and purchase intention. Contemplating the considerable evidence from the literature, this study investigates how visual elements of perfume packaging influence purchase intentions among Omani consumers. This study aims to evaluate the effect of packaging visual elements on consumer purchase intentions, with a special focus on packaging design, packaging material, typography of information, and the design of the packaging. Additionally, the study also assesses the mediating effect of perceived quality on the relationship between selected packaging elements and consumers' purchase intention.

## Literature Review

### Theoretical Background

Skinner (1971) elaborated that behavior change when individuals respond to external events (stimuli). Extending Skinner's theory, stimulus response and reinforcement theory (Wells *at al.*, 1985) explains that behaviour manifests because of the interplay between stimulus and response: individuals are conditioned to respond. Behaviour exists when there is a stimulus of some sort or at least from this perspective. Consumers choose products based on how they feel about them, not the benefits they attribute to them (Ajzen, 1991; Fazio, 2007). Packaging is typically used to generate consumer impressions because people infer product preferences based on the packaging design and packaging affects opinions and judgments. According to Bigoin-Gagnan & Lacoste-Badie (2018), aesthetic evaluation of packaging influenced purchase intention. There are two main directions of research in package design, revealed in the literature: 1) holistic, 2) analytical. An analysis approach examines the influence of one or several components on consumer reactions while the holistic approach that investigates components like package colour, packaging shape, and package design information (Cui *at al.*, 2013; Hota & Charry, 2014; Silayoi & Speece, 2007; Zeghache, 2014). Guided by stimulus response and reinforcement theory, in current study, we presume an analytical approach in examining the impact of aesthetics of packaging on purchase intention.

### Purchase Intention

There is a close relationship between purchase intentions and purchase decisions, where intentions refer to possibilities, whereas purchase decisions refer to real decisions. Teng & Wang (2015) explain the concept of purchase intention as the consumer's desire to buy a specific product soon. Besides, purchase intentions serve as predictive indicators for the actual decision to buy: the actions of consumers in anticipating (Jayaraman *at al.*, 2015) a purchase of a product. This approach does not necessarily have to be implemented, as it relies on an individual's ability to implement it. Asshidin *at al.* (2016) argued that purchase intention is triggered when an individual has the intention of purchasing a certain item or service at a certain point in time. Among other factors, the conduct of customers and their recognition of the product, and their disposition will determine whether they buy. In determining a strategy of competitive advantage, it is helpful to understand consumer behaviour. Therefore, marketers seek to influence consumer attitudes that directly influence their actual behavior (MacInnis *at al.*, 2020 and Muniri *at al.*, 2019). The influence of packaging on consumer decision-making is apparent in almost every marketing communication strategy. Packages are increasingly being used to increase sales and lower marketing costs (Zekiri & Hasani, 2015).

### Aesthetic of packaging and purchase intention

Aesthetics contribute to psychological and social well-being as well as functional benefits. When it comes to satisfying customers' psychological needs, emotions play a key role in evaluation and judgment (Hoyer & Stokburger-Sauer, 2012). A variety of contexts have shown that the emotional value of an item has a substantial impact in influencing the decision to purchase it. Generally, the more positive an evaluation is, the more likely it is that the customer will decide to purchase. This suggests that aesthetic values, such as emotional value and ease of use of products, could influence the purchase intention, via a form of emotional bonding. The visual attributes of packaging such as the symmetry of materials, design, logo, and typeface leave a lasting impression on the perception of quality (Bajaj & Bond, 2018; Bettels & Wiedmann, 2019; Mahmood *at al.*, 2019). When the aesthetic attributes of an item or a design are balanced symmetrically, the spill over effect is apparent in the correspondence of the buyer's intention. Mutsikiwa & Marumbwa (2013) showed that aesthetically pleasing package design elements do not always trigger consumers to make a purchase. Choosing aesthetic elements carefully can enhance the ability of marketing to communicate its message to its target audience. In the present study, packaging design, packaging material, and typographic impressions are considered as key dimensions of packaging visuals for the selected product category (i.e., perfume) in terms of purchase intention and perceived quality. Studying the impact of

visual elements of packaging in Omani market of female beauty products author (Khan *at al.*, 2021; Kamran *at al.*, 2021) found that aesthetic elements (visibility, emotional appeal, and workability) of packaging significantly affects the purchase intention of consumers.

### **Packaging Design**

Packaging is a crucial marketing tool that extends beyond being simply a logistics tool: a psychological mechanism explains how it impacts purchase intentions. Consumers regularly interact with a product's packaging, which edifies their perceptions of the product. The package structure is seen as a combination of structural, graphical, and verbal design elements that have a chance of serving as consumer cues. A structural feature is a material's shape, size, weight, and texture, whereas a graphic feature is its colour, imagery, graphics, and type (Magnier & Schoormans, 2015; Underwood, 2003). The verbal features on a package consist of texts that are explicit in nature and are often about the products themselves (e.g., taste, nutritional value, shelf life by date, brand name). These feature add to sustainability which is conditioned by packaging (Steenis *at al.*, 2017) because packaging materials directly influence the environment. Through a package's colour, label, font, etc., customers can infer sustainability. Consumers may interpret such cues to develop perceptions of the product inside. Graphics on the packaging, among other visual aspects of packaging aesthetics help to make it stand out from the crowd, preserve its individuality, and promote brand recognition. Good graphic design enhances the physical appearance of a brand and improves its aesthetics. Package images may increase the curiosity of a consumer regarding the product they see on the packaging (Oaya *at al.*, 2017). Packaging graphics play a crucial role in drawing the consumer's attention and graphics help them find the brand of their choice in retail stores if they have no strong brand preferences. There is a significant relationship between the image and colour of a product and the purchasing behavior of consumers (Mohamed *at al.*, 2018). It is recommended that packaging design aligns with the target audience, as it adds to the product's visibility on display. According to this argument, innovative and distinctive packaging contributes to brand identity, consumer purchasing intent, and product differentiation. Packaging design also contributes to social values and emotions. Consumers select products of design that appeal to them in addition to familiarity and fascination. Therefore, packaging design as combination of colours and graphics plays a vital role in driving consumer intentions to purchase. Accordingly, our hypothesis is following.

*Hypothesis1: Packaging design has a positive impact on consumer purchase intentions.*

### **Packing Material**

Package design influences consumers' perceptions of product usability in a significant way and can influence consumers' purchase intentions (Yeo *at al.*, 2020). Packaging material relates to protection, useability, and impression of quality of a brand. However, consumers do not perceive a product's usability based on the colours and sizes of the packaging. The role of the packaging extends beyond protection and described by four functional attributes: containment, protection, convenience, and communication (Duizer *at al.*, 2009). Packaging influences the perception of usability and impulse buying based on its shape, colour, material, label, and size. Because of this, consumers often judge the quality of a product by its packaging. The environment-friendliness of the packaging and subsequent brand evaluation will likely be influenced by materials and claims related to the environment (Magnier & Schoormans, 2017). It is more likely that consumers will assume a product of high quality if it has an admirable package. Packaging materials can also affect consumer behavior. Many consumers cannot determine the overall quality of packaging, so they rely on the packaging material to determine whether the product is good (Scott & Vigar-Ellis, 2014). Silayoi & Speece (2007) described that consumer tend to judge a product's packaging by its appearance, material, and size. Thus, we hypothesize the following.

*Hypothesis2: Packaging material has a positive effect on consumer purchase intentions.*

### **Typography impression**

Typeface style is an important component of packaging because it determines how effectively product information will be communicated. Typewriter words are a mixture of denotation and connotation. Celhay *at al.* (2015) describe denoted meanings as literal meanings. In contrast, connotation meanings include associations with physical features of a typeface. Consumer buying intentions are influenced by font styles, followed by colour and packaging shape (Mutsikiwa & Marumbwa, 2013) and clearly containing the branding on the outside of the package. Consumers are attracted to the font style and can recognize the intended message. Due to the connection between font style and buying intentions, brands display strategically significant font styles on their products (Khan, 2018). Consumer response is motivated when font style is aligned with the message that's being communicated. The characteristics of typefaces influence how we view them: Bradley Hand typography is viewed as friendly, Times New Roman as professional and formal, while San Serif Helvetica is viewed as technical. Luxury products tend to use the Garamond font style, while economy products tend to use Century Bold. As a result of the emotional attachment that handwritten typefaces create, consumers are more likely to favourably evaluate the product (Schroll *at al.*, 2018). Considering this, we hypothesize the following.

*Hypothesis3: Typography impression has a positive impact on consumer purchase intention*

## Perceived Quality and purchase intention

The cognitive-affective model (Te'Eni, 2001) suggests that subjective quality can influence product purchase. Communication impact on action and relationship, therefore, consumers have a cognitive response to a product. Marketers recognize perceived quality as the primary influencer of purchase intention. By providing consumers with a reason to buy and by differentiating the brand from its competitors, perceived quality provides value to consumers. The quality of customer experience is a key aspect of corporate brand value. Customers do not measure product/service quality directly, but rather through the reputation of the company that produces it (Zeithaml, 1988). The perception of quality is evident at the purchase stage and prominent among other products' attributes (Choi & Kim, 2013). Customer's opinion about a product's superiority can be thought of as perceived quality and is more in depth than the objective characteristics of the product, which include inherent and extrinsic quality characteristics. Packaging is one way to differentiate perishable consumer goods from other relatively homogenous products. Kano's Theory of Attractive Quality and Packaging (Löfgren & Witell, 2005) argues that there are certain characteristics of packaging that a customer finds attractive and influences their decision to buy. The importance of typography impressions on packaging remains to be determined even though consumers often judge the quality of products by their packaging. A consumer is more likely to pay attention to packaging labels when buying products with high involvement. Sehwet & Kundu (2007) state that the design of the package is a critical factor in determining consumer purchasing intentions for low-participation products. We propose, however, that sustainable package designs can have a positive effect on the perceived quality of the product, based on a review of literature that supports the impact of sustainability on quality. Packaging makes products distinctive and helps brands differentiate themselves. Packaging influences customer perception of packaging's utility, since consumers perceive packaging's value based on quality. Both positive and negative views shape the attitude of young consumers towards visuals. Personal beliefs influence their perspectives and intentions more than social beliefs (Dhruv Sabharwal, 2021). In the customer's perspective, utility is one of the main concepts as to what makes a product desirable (Chavadi *at al.*, 2018; Smith & Colgate, 2007). In general, researchers assume that packaging plays an important role in the perception of quality by customers, and thereby affects their intent to purchase. Accordingly, we assume that perceived quality affects the relationship between aesthetics of packaging design and purchase intent. Following the argument on perceived quality dimensions, we propose the following hypotheses.

*Hypothesis4: Perceived quality mediates the relationship between packaging design and purchase intention.*

*Hypothesis5: Perceived quality mediates the relationship between packaging material and purchase intention.*

*Hypothesis6: Perceived quality mediates the relationship between typography and purchase intention.*

## METHODOLOGY

The present study utilized a quantitative survey method. A cross-sectional survey provided the data for this quantitative study. Using purposive sampling approach (Cheah *at al.*, 2020; Sarstedt *at al.*, 2018) a mall intercept survey was deployed due to its ability of high-quality data collection (Yao *at al.*, 2015), economy, better response rate and control over the type of respondents (Sibona *at al.*, 2020). The inherited limitations of mall intercept survey were avoided through a careful selection and screening (Sharma *at al.*, 2021) process adoption to assess eligibility of respondents. Customers who were observed to be highly involved in packaging assessment were asked a screening question (i.e., *is packaging important in your purchase decision?*) to assess their awareness of visual packaging concerns. Over a period of one month, the process was applied at several locations in Oman: customers with positive answers to this question were sampled in the study and asked to either fill out the questionnaire on-site or scan a barcode for it to be completed later.

Data confidentiality policy, consent for volunteer participation, and withdrawal rights were mentioned in the questionnaire. Between June and August 2021, five hundred and twenty-five questionnaires were distributed in six perfume shops at different locations in Oman. Some shop managers helped in collecting data and the majority questionnaire were distributed by researchers. To calculate the minimum required sample size, we used software called G\*power (Faul *at al.*, 2009) v3.1.9.2. According to G power, we needed 265 samples with an effect size of 0.05 to reach statistical power of 0.95. From the target population (Table 1), 347 questionnaires were returned, so we had a sufficient sample size to perform statistical analysis.

PLS-SEM was used for the statistical analysis of the data. The study administered a self-administered questionnaire to collect data from respondents. Suggested by previous research selecting a sample size 200 to 500 (Hair Jr *at al.*, 2021) would be sufficient for conducting management studies using PLS-SEM. Accordingly, a sample size of above 300 was targeted for this study. We used the non-probability sampling method, namely the purposive (judgment) sampling in our study. Those over the age of 18 who buy perfume for their own consumption constitute the study's unit of analysis. Based on a theoretical

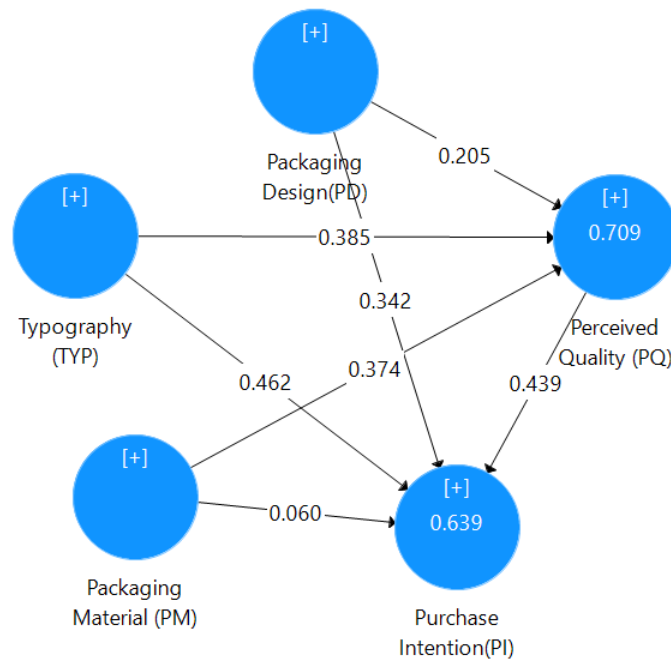
framework, a Likert scale-based questionnaire was developed. Items: packaging design and assessment of visual elements (e.g., colours, typefaces, logos, size, and graphics) were adapted from previous studies (Underwood, 2003), product quality (Chandrashekar, 2004), and purchase intention from (Spears & Singh, 2004) to be used in conceptual model (Figure 1).

**Table 1.** Respondents' demographic profile (n = 347)

Profile	Characteristics	Frequency	Percentage
Age	Below 20 years	45	13.0
	21-25	83	23.9
	26-30	118	34.0
	30 and above	101	29.1
Gender	Male	253	72.9
	Female	94	27.1
Nationality	Omani	281	81.0
	Non-Omani	66	19.0

Source: Authors' own: field survey

**Figure 1.** Conceptual Model



Source: Authors' development

## ANALYSIS AND RESULTS

A two-step analytical method (measurement scales and structural models): Partial Least Square Structural Equation Modeling (PLS-SEM) was used to have an assessment of measurement model and the path coefficient. In exploratory research, a variance-based nonparametric multivariate analysis through PLS-SEM (Henseler *at al.*, 2015) can be used to process non-normal data with a small sample size (Anderson & Gerbing, 1988).

### Measurement Model Assessment

The proportion of variance indicators of a construct was specified by convergent validity specifies. Table 2 indicates internal consistency (Joseph F Hair *at al.*, 2019) as factor loadings and the composite reliability for each construct all greater than 0.70 : average variance extracted (AVE)>0.5 confirmed the convergent validity of the model (Henseler *at al.*, 2015).

**Table 2.** Construct Validity

Items	Loadings	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
pd1	0.867	0.764	0.778	0.865	0.682
pd2	0.865				
pd3	0.739				
pi1	0.921	0.902	0.902	0.939	0.836
pi2	0.917				
pi3	0.905				
pm1	0.899	0.928	0.932	0.949	0.822
pm2	0.906				
pm3	0.916				
pm4	0.906				
pq1	0.874	0.895	0.897	0.928	0.762
pq2	0.913				
pq3	0.879				
pq4	0.825				
typ1	0.789	0.747	0.789	0.831	0.551
typ2	0.690				
typ3	0.715				
typ4	0.772				

Source: Authors' estimation

### Discriminant Validity

The relationship between the mean correlations of items across constructs and the geometric mean correlations of items within the same construct was described by the Ratio of Heterotrait-Monotrait correlations (HTMT). The HTMT values (Table 3) in the current study meet HTMT criteria (Henseler *at al.*, 2015; Hair *at al.*, 2019) satisfactorily.

**Table 3.** Discriminant Validity

	HTMT Ratio			
	PD	PI	PM	PQ
PD				
PI	0.807			
PM	0.795	0.646		
PQ	0.84	0.845	0.828	
TYP	0.802	0.785	0.72	0.798

Source: Authors' estimation

### Assessment of the structural model

The bootstrap re-sampling for 5000 samples (Joe F Hair *at al.*, 2011) through PLS was employed to test the statistical significance of each path coefficient. Table 4 shows the output of path coefficient analysis. The hypothesized path packaging design and purchase intention is positive and significant ( $\beta = 0.232$ ,  $t=3.258$ ) which supported H1. The hypothesized purchased material and purchase intention is insignificant ( $\beta = 0.100$ ,  $t=0.397$ ,  $p>0.05$ ), indulging zero between 2.50% and 97.5% CI (-0.304, 0.090). Hence, H2 was not supported. The relationship between typography impression and purchase intention ( $\beta = 0.262$ ,  $t=3.464$ ) is significant and supports H3.

Other direct relationship (PD -> PQ), (PM -> PQ), and (TYP -> PQ) are also significant. The bootstrapping analysis (Table 5) showed that all three indirect effects, (PD -> PQ-> PI) is significant ( $\beta = 0.102$ ,  $t=2.891$ ), (PM -> PQ -> PI) is significant ( $\beta = 0.197$ ,  $t=4.001$ ), and (TYP -> PQ -> PI) is significant ( $\beta = 0.153$ ,  $t=3.663$ ). The 95% Confidence Interval Bias Corrected (CIBC) lower and upper values do not straddle a 0 in between indicate a mediation and support H4, H5, and H6. The direct relationship of PQ and PI was insignificant and indirect effect (H5) is significant which indicates a full mediation of PQ on the relationship between PM and PI. PQ partially mediate the relationship between PD and PI and between TYP and PI (Zhao *at al.*, 2010; Nitzi *at al.*, 2016).

**Table 4.** Assessment of the structural model

Hypothesis	Path	Beta	SE	t-values	CI(BC)	
					2.50 %	97.50%
<i>Direct effects</i>						
H1	PD -> PI	0.232	0.070	3.258**	[0.048	,0.364]
	PD -> PQ	0.215	0.067	3.182*	[0.058	,0.447]
H2	PM -> PI	-0.100	0.073	1.397	[-0.304	,0.090]
	PM -> PQ	0.409	0.064	6.458*	[0.215	,0.536]
	PQ -> PI	0.481	0.095	5.142*	[0.179	,0.662]
H3	TYP -> PI	0.262	0.075	3.464*	[0.078	,0.439]
	TYP -> PQ	0.317	0.058	5.405*	[0.225	,0.529]
<i>Indirect effects</i>						
H4	PD -> PQ-> PI	0.102	0.036	2.891*	[0.039	,0.180]
H5	PM -> PQ -> PI	0.197	0.050	4.001*	[0.105	,0.301]
H6	TYP -> PQ -> PI	0.153	0.042	3.636*	[0.075	,0.240]

Note:

\*  $p < 0.05$ , \*\*  $p < 0.01$  (significant)

Predictors (PD: Packaging Design; PM: Packaging Material, TYP: Typography Impression)

Mediator: Perceived Quality (PQ), Dependent: Purchase Intention (PI)

CI(BC): Confidence Interval (Bias Corrected), 2.50%: Lower Limit, 97.5%: Upper Limit

Source: PLS-SEM output of the current study

### The explanatory power of the structural model

The predictive power (Table 5),  $R^2$  value shows a moderate (70.9 %) explanation of variance in PI and 63.9 % in PQ by the predictors. describes. Cross validated redundancy measure  $Q^2$  (0.531 and 0.527) indicates a high level of predictive accuracy:  $Q^2$  values higher than 0, 0.25 and 0.50 depict small, medium, and large predictive relevance (Joseph F Hair *at al.*, 2019). The effect size ranges from weak to medium. Overall, the model showed a good explanatory power.

**Table 5.** Explanatory statistics and Predictive Relevance

Endogenous latent constructs	R-Square	$Q^2$	Hypothesized Relationship	Effect size ( $f^2$ )
PI	0.709	0.531	PD -> PQ	0.069
PQ	0.639	0.527	PM -> PQ	0.218
			TYP -> PQ	0.288
			PD -> PI	0.079
			PM -> PI	0.156
			TYP -> PI	0.104
			PQ -> PI	0.156

$f^2 >= 0.02$  is small;  $>= 0.15$  is medium;  $>= 0.35$  is large (Cohen, 1988)

$R^2$  values 0.75, 0.5, and 0.25 are substantial, moderate, and weak (Joseph F Hair *at al.*, 2013)

Source: Authors' estimations

Prediction errors were approximately symmetrically distributed. Therefore, comparison of RMSE values with the LM benchmark indicated the predictive summary (Table 6). The majority values of  $Q^2_{predict} > 0$  and two of the indicators in the PLS-SEM analysis has higher RMSE values compared to the naïve LM benchmark, therefore, the model has a medium predictive power (Shmueli *at al.*, 2019).

**Table 6.** PLS predict assessment of manifest variables

Items	PLS_MAE	$Q^2_{predict}$	LM_MAE	(PLS_RMSE)-(LM_RMSE)
pi1	0.844	0.497	0.910	-0.066
pi2	0.938	0.449	0.941	-0.003
pi3	0.827	0.444	0.774	0.053
pq1	0.783	0.558	0.768	0.015
pq2	0.822	0.579	0.831	-0.009
pq3	0.913	0.476	0.933	-0.020
pq4	0.842	0.446	0.904	-0.062

Source: Authors' estimations



The statistical analysis indicated a full mediation of PQ in the relationship between PM and PI. Also, the outcomes indicate a partial mediation of PQ on the relationship between PD and PI, TYP and PI, respectively. The outcomes of the study approved its hypotheses and confirmed the proposed research model consistent with notable studies (Aaker & Keller, 1990; Liao *et al.*, 2014; De Angelis *et al.*, 2020; Srivastava *et al.*, 2024). Hence, the outcomes of the study suggest perceived quality as an important determinant of purchase intention in luxury products. According to the results, visual packaging design, typographic impression, and material affect both perception of product quality and purchase intention. Similarly, the findings are consistent with previous studies (Bajaj & Bond, 2018; Bettels & Wiedmann, 2019; Luffarelli *et al.*, 2019) who argued that visual elements of packaging affect purchase intention and perceived quality does have the relationship of visual elements and purchase intention.

Consistent with previous studies (Zekiri & Hasani, 2015) the impact of material on perceived quality was significant and consistent with previous studies. Contrary to previous studies (Yeo *et al.*, 2020) reported in the literature review, packaging material did not significantly affect purchase intentions. However, the indirect impact of packaging material was significant on purchase intention through perceived quality: a full mediation was shown. Hence, results established that packaging design, typography impression, and the material are important determinants of consumer perceptions of quality.

## FINAL REMARKS

The findings of this study provide significant theoretical insights. First, the conceptual model of the current study extends current research on the influence of packaging design by using visual elements of packaging as an influencer on perceived product quality and purchase intent. Second, this study extends the application of stimulus-response and reinforcement theory (Wells *et al.*, 1985) into the specific market context of the Sultanate of Oman. The outcomes of the study provide a better understanding to researchers of Omani consumers' attitudes toward quality perception and purchase intention. According to the results, consumer attitudes toward packaging are directly linked to perceived product quality and purchase intention. The outcomes of the study contribute to the literature by enhancing the understanding of visual communication influences on perfume packaging using visual packaging and consumer behaviour. Additionally, it provides theoretical insights into how packaging affects purchase intentions through perceived quality and facilitates an understanding of the role of visual elements of packaging.

### Managerial implications

Product packaging is one of the most common ways of communicating at the point of purchase. There is a significant relationship between the packaging design's visual style and the perception of quality. Positive consumer perceptions of quality lead to positive brand and product evaluations. This study suggests that perfume brands should develop products with appealing packaging to generate high brand preference in the competitive market. Using the impact of visual packaging, fragrance marketers can generate positive perceptions of their products among customers. Marketing must focus on visual elements of packaging like colour, typeface, logo, graphics, and size to instil a positive perception such as product quality, value, and brand preference. Therefore, a practical guideline is presented in the present study to help manufacturers and marketers of perfumes integrate consumer concerns into their marketing efforts through packaging communication.

### Limitations and scope for further research

The results must be interpreted considering certain research limitations. One of the limitations of the study is being focused on a single product category. Study results are based on a single product category that represents local Omani and Arab consumers, so may restrain generalization in other contexts. Another issue is that the majority of participants in the sample consists of Omani customers only. Whereas residents from other countries constitute approximately 38 % of the population of Oman which is not represented in the sample. Therefore, future studies may expand the sample to include respondents from other origins and consider related products from the fragrance product segment. In future research, it is recommended to examine the influence of packaging material type and reusability on purchase intentions, as well as the impact of packaging aesthetics on consumer involvement in product evaluation. Additionally, the moderating effect of gender and prices on the relationship between elements of packaging and purchase intention may also be investigated to improve understanding of marketing communication efforts.

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**Contribution of each author to the manuscript:**

Task	% of contribution of each author					
	A1	A2	A3	A4	A5	A6*
A. theoretical and conceptual foundations and problematization:	18%	18%	18%	18%	18%	10%
B. data research and statistical analysis:	18%	18%	18%	18%	18%	10%
C. elaboration of figures and tables:	18%	18%	18%	18%	18%	10%
D. drafting, reviewing and writing of the text:	18%	18%	18%	18%	18%	10%
E. selection of bibliographical references	18%	18%	18%	18%	18%	10%
F. Other (please indicate)	-	-	-	-	-	-

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