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Exploring the Relationship Between Form Features and Price Perception

Fei Chen Wu, Han Bing Li, and Chun-Heng Ho

Department of Industrial Design, National Cheng Kung University, Tainan City, 70101, Taiwan

ABSTRACT

Price is undeniably a critical factor that shapes consumers' decisions when navigating the intricate landscape of purchasing. Within the realm of consumer behavior, studies have shed light on a fascinating phenomenon: consumers tend to assess the internal cues of a product, particularly its form, when gauging product quality during the purchasing process. Only when form falls short as a judgment criterion do they turn to external cues, such as price. This leads to an intriguing inference — the form of a product significantly influences its perceived price. In light of this, our study is committed to delving deeply into the complex interplay between form features and the perception of price, with the aim of pinpointing specific design elements that enhance consumer perceived price. To focus on the interaction between form features and the perception of price, we eliminate the potential impact of color and material. Thus, this study selects glass perfume bottles with relatively simple colors and materials as the research objects. The study adopts a two-stage experimental approach conducted in the form of focus groups. In the first stage, five high-involvement consumers with over 25 perfume purchasing experiences discussed together to choose seven bottles that are unanimously considered high-priced perfume bottle samples. In the second stage, five expert designers with over 15 years of design experience are invited to extract the design features from the samples selected in the previous stage. The results of this study indicate that specific design features contribute to people's perception of higher prices. Examples of such features include the simulated diamond surface cut, an overall aspect ratio close to 16:9, small and delicate decorations, and clearly demarcated lines between the cap and body. The findings thereby provide valuable insights for designers and strategic recommendations for businesses in terms of pricing strategies.

Keywords: From, Form feature, Price perception

INTRODUCTION

When consumers decide whether to purchase a product, price often emerges as the most crucial determining factor. In academic research, prices are categorized differently, as outlined by Jacoby and Olson (1976), who distinguish between objective monetary prices and subjective price perceptions. Price perception is explained as consumers' evaluation of the high or low value of a product based on their past purchasing experiences. Consumers frequently simplify actual prices into straightforward judgments such as "expensive" or "affordable" for ease of memory and evaluation. Thus, price perception is

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not the actual monetary price but a subjective assessment existing in the consumer's mind, distinct from the objective price characteristics of the product (Dickson & Sawyer, 1990; Emery, 1969; Zeithaml, 1988).

Teas and Agarwal (2000) further define price perception as an embodiment of monetary sacrifice, reflecting consumers' perception of the cost incurred for purchasing a product. Consequently, when consumers hold favorable evaluations of price or perceive it as reasonable, their willingness to purchase is typically increased (Chiang & Jang, 2007). Research indicates that consumers, during shopping, tend to use internal cues of a product (such as its design, features, and other objective attributes) as the basis for evaluating product quality. When internal cues are insufficient as judgment criteria, external cues (such as price and place of origin) become the most influential factors in evaluation (Dodds, Monroe & Grewal, 1991). In other words, consumers assess the design (internal cues) of a product before considering its price (external cues). Hence, it can be inferred that the design of a product significantly influences its perceived price.

To evaluate the assessment of product design, it is crucial to understand the constituents of product design, as proposed by Ming-Chuen Chuang and Chun-Chih Chen (1994). They suggest that the Feature of product design comprises two main components: the visible manifestation of the product and the intangible product design imagery. Tangible features refer to the visible manifestation of the product, while intangible features encompass the emotional traits conveyed by the product (Cheng, 1997), commonly referred to as product design imagery.

Therefore, the primary objective of this study is to investigate the design features that evoke a perception of high pricing among consumers, aiming to establish the relationship between different Form Features and price perception.

PRICE PERCEPTION

Various scholars have provided different definitions of price perception. This study compiles scholars' interpretations of price perception, as presented in Table 1.

Table 1. Price perception defined by various scholars.

Scholar (Year)	Price Perception
Emery (1969)	Consumers form an evaluation of the price in their minds based on their past purchasing experiences.
Zeithaml (1988)	The price encoded by consumers in the form of "expensive" or "affordable" reflects their internal perception, not the external objective monetary value.
Dickson& Sawyer (1990)	
Teas & Agarwal (2000)	One form of monetary sacrifice.

As this study predominantly delves into examining the influence of product form on consumers' price judgments, the objective monetary price is not

within the purview of this investigation. Moreover, considering the diverse definitions of price perception offered by various scholars, this study amalgamates discussions on price perception and adopts a definition inspired by the concepts presented by Dickson, Sawyer, and Zeithaml. Price perception is defined as the initial speculation about the price that consumers form upon their first encounter with a product, distinct from the objective monetary value.

FORM FEATURES

Shape evokes different feelings, emotions, or images depending on its unique features. Features broadly refer to the distinctive phenomena of things, indicating their unique qualities or characteristics. It is a crucial factor in showcasing the commonality or distinctiveness between things (Cheng, 1997). However, the term "shape" in English lacks a direct English equivalent and is derived from the German word "Gestaltung," serving as a noun, with its corresponding verb form being "gestalten." Its etymological meaning refers to the complete form (Gestalt) discussed in Gestalt psychology, emphasizing unified and holistic features as a fundamental condition for form (Chiu, 1987; Lu, 1984).

Shape encompasses the integration of form with other elements such as color, texture, dynamics, and space (Lu, 1984). Naomi (1984) proposes dividing the elements of shape into three main aspects: form, color, and texture. Yong-Fu Chiu (1987) considers the primary constituents of product "form" to include form, color, and material. Lin (1998) extends the components of product shape to form, structure, material, and color, as well as symbols and images manipulated during the design process. Form is a key identifying characteristic of an object's volume (Wallschlaeger, Busic-Snyder & Morgan, 1992), and without a carrier, material and color cannot be interpreted. Ching-Fu Lu (1984) mentioned in his book "Principles of Form" that the first element of shape is form, indicating its paramount importance. To focus on studying how the form will affect price perception, this study selected glass perfume bottles with relatively simple material and color as the research stimuli.

In past research, numerous scholars have conducted studies on the form features, and their definitions and compositions are shown in Table 2.

Table 2. Form features defined by various scholars.

Scholar (Year)	Form Features
Kuohsiang Chen, Charles L. Owen (1997)	Form elements, bonding relationship, detail processing, color, material, texture
Breemen, Ernest J.J. van, Sudijono Slamet (1999)	Detail shape, composition, color, material, texture
Chun-Juei Chou, Kuohsiang Chen (2003)	Body shape, bonding relationship, corner treatment, detail features, panel shape, attachment shape

RESEARCH PROCESS

This research employs a two-stage approach utilizing a focus group interview and expert interviews. In the first stage, the study focuses on the selection of design samples. More than a hundred photos of glass perfume bottles were collected and then their color and brand text information were eliminated to avoid interference. An expert panel, consisting of frequent consumers of perfume, conducted a focus group interview to categorize the samples based on perceived price ranges. Ultimately, seven distinct experimental samples regarded as high-price perfumes were selected. In the second stage, design experts were invited for individual interviews to extract morphological features from the previously selected samples and establish the correlation between different form features and consumer price perceptions.

Stage 1: A Focus Group Interview

To begin, a search for "perfume" was conducted on the FragranceNet shopping website, yielding a total of 100 perfume bottle design photos based on sales volume. FragranceNet, established in 1997, is a globally recognized online shopping platform with over 6 million users, specializing in perfume sales. The selected perfume bottle photos were processed to remove brand logos and text information, presenting a uniform representation in the form of black-and-white photos from a frontal perspective. Samples with distinct brand-centric designs were excluded during the selection process to mitigate interference from material color and brand text information. Finally, a focus group of 5 frequent perfume consumers was convened to identify some distinct high-price samples. To ensure objectivity in the selection process, the focus group comprised five highly involved consumers who purchased 15 or more full-sized perfumes recently (one bought 15 bottles, two bought 25 bottles, and two bought 30 bottles). The results obtained through collective discussions of the interview are presented in Table 3.

Table 3. The experimental samples selected as the result of the focus group interview.

No.	Sample	No.	Sample	No.	Sample
C01		C02		C03	

(Continued)

Table 3. Continued

No.	Sample	No.	Sample	No.	Sample
C04		C05		C06	
C07					

Stage 2: Expert Designers' Interview

The second stage involves inviting 3 expert designers to extract morphological features from the 7 experimental samples collected. As this stage focuses on morphological feature extraction, the invited experts need to possess an extremely high level of visual sensitivity to form, enabling them to accurately capture the morphological features of the samples, including proportions, decorations, and other detailed elements. Additionally, they must have sufficient practical design experience and professional skills. Usually, those who have more than 10 years of experience would be considered a domain expert. Therefore, 3 professional industrial design experts, with 20, 16, and 15 years of design experience in morphological design, were invited to participate in this research.

EXPERT INTERVIEW RESULTS AND ANALYSIS

The expert interviews were conducted using a semi-structured approach, focusing primarily on five aspects: overall silhouette, proportions, the junction between the bottle cap and body, local lines, and details handling. Each expert participated in a one-on-one, in-depth interview. The results of these interviews were analyzed and summarized for each sample. The outcomes are presented as follows.

Sample C01

The three experts unanimously emphasized that proportion is the aesthetic basis of the overall design. The aspect ratio of the C01 sample (Table 3, C01) is close to 16:9, and the nozzle is located at one-third of the overall design to elongate the proportions. The overall design mainly uses facet cutting to simulate the facets of diamonds. Coupled with gloss post-processing, the light and shadow refraction is enhanced. Both Expert 1 and Expert 2 pointed out that sharp edges and corners represent precise craftsmanship, and precise facets show the difficulty of production, thereby increasing the objective cost and price.

Regarding the processing of local details, the approach to each detail is consistent, and each detail adopts the same cross-section technique as the main outline. The combination of the neutral elongated oval shape with the round nozzle ensures overall harmony, avoids excessive emotional richness, and provides a stable perception. It is worth noting that according to Experts 2 and 3, the continuous and integrated connection between the bottle cap and the bottle body is a design feature that easily arouses consumers' perception of a high-priced product.

In terms of line processing, Expert 2 believes that geometric lines and facets can cleverly hide the parting line of the product.

Sample C02

As can be seen from the sample C02 in Table 3, the overall design of the C02 sample simulates the cut of a diamond. The diamond pattern in the C02 sample is more pronounced compared to the C01 sample, closely resembling the overall outline of a diamond. Expert 1 and Expert 2 believe that the bottom of pointed bottles needs stable support to create a feeling of careful care and enhance consumers' price awareness. The shape of the bottle also evokes the image of a voluminous medieval skirt, creating a luxurious feel. The length of the bottle cap constitutes one-third of the overall form, and the width of the bottle cap also comprises one-third of the overall width. Utilizing the golden ratio in both length and width divisions elongates the overall proportions, presenting the main form as more refined and slender.

In terms of the detailed treatment of the bottle cap, both Expert 2 and Expert 3 unanimously propose that the crown and shield serve as symbols of royalty and nobility. The delicate relief on the shield symbolizes craftsmanship and an increase in objective costs. Regarding the relationship between the bottle cap and the bottle body, Expert 2 suggests that the separation between the bottle cap and the bottle body is clean and crisp. Using different geometric prototypes, specifically employing a spherical cylindrical shape for the bottle cap and an irregular pyramid for the bottle body. This explicit distinction between the bottle cap and the bottle body boundaries prevents users from any confusion, making it clear where to open the bottle.

Sample C03

Regarding the C03 sample in Table 3, Expert 1 points out that the asymmetrical overall form is distinct from the typical impression of perfume bottle

designs. Perhaps, when paired with a unique fragrance, it could serve as a source of high perceived price. Expert 3 suggests that the source of the high perceived price in this sample might stem from the proportions. The overall form is divided into three equal parts, with the ratio of the bottle cap to the entire form being 1:3. Each independent entity has a length-to-width ratio of 3:2, and the resulting displacement creates a void with a length-to-width ratio of 3:1. This intentional displacement helps avoid issues of excessive width in the displaced section, ensuring overall stability while providing a sense of solidity with a subtle breakthrough. The entire form is segmented with a ratio of 3:1, approaching the golden ratio of 0.618, imparting a rational and harmonious beauty to the overall design.

Sample C04

According to the C04 in Table 3, the most eye-catching feature of the C04 sample is the angel sculpture design on the bottle cap. Expert 1 pointed out that the angelic shape, combined with the image of a wedding dress on the bottle, can arouse female consumers' yearning for weddings and wedding dresses. In terms of proportion, the aspect ratio of the overall silhouette is close to 16:9. The width of the bottle neck matches the width of the bottle base. The cap still accounts for one-third of the overall proportions, and the widest part of the bottle is at one-third of the height. Expert 3 emphasized that proportion is the basis of all aesthetic interests and claimed that even people without formal aesthetic training would find well-proportioned elements beautiful. It is important to emphasize that beauty is also a major source of high perceived price.

In addition, the C04 sample uses different degrees of frosting on the bottle cap and bottle body. For this matte application, Expert 2 and Expert 3 gave different opinions. Expert 2 believed that the frosted texture adds visual weight and can be applied to bottle caps to prevent the overall design from appearing top-heavy. On the contrary, expert 3 believed that the frosted texture gives a lighter feeling and is more suitable for the upper part of the overall design. When applied to bottle caps, it can reduce the presence of the mouth and add a sense of mystery. The matte finish also helps reduce subtle irregularities in light and shadow, making it ideal for doll-like designs. Additionally, Expert 2 stated that continuous and smooth connections between the cap and body and neck can provide a high-price experience for consumers.

Sample C05

All three experts agreed that the visual balance and solidity created by the consistent thickness of the cap and base were the primary source of the high perceived price of the C05 sample (Table 3, C05). In addition, the repeated linear design on the bottle introduces unique light and shadow refraction, and the overall aspect ratio of 16:9 enhances the design sense. Expert 2 further stated that within the same prototype framework, using a cylindrical bottle cap and bottle body can give a sense of precision, and the clear connection between the cap and bottle body also contributes to this feeling.

Regarding bottle caps, Expert 3 suggested that solid glass bottle caps made from a simple, uniformly cut piece can convey a sense of weight. Solid, transparent, and thick elements tend to evoke a sense of grandeur. When combined with an elongated bottleneck of a certain height, a clear contrast is created. This comparison has the potential to produce high perceived prices.

Sample C06

As shown in the sample C06 in Table 3, the pure and simple main outline, coupled with the golden ratio of 1:3 between the bottle cap and the bottle body, are the distinctive design features of the C06 sample with its high perceived price. In terms of local lines, Expert 3 pointed out that the lines on the top of the bottle cap and the sides of the bottle protrude outward, creating a sense of outward expansion in the overall design. This feature contributes to the simplicity of the design without being monotonous. In addition, Expert 1 pointed out that the sample has a high consistency in thickness, with the thicker part at the bottom and the thinner part at the top. The lid is designed with a large top and a small bottom to help prevent visual distraction in the center.

Sample C07

The aspects that experts were most concerned about with the C07 sample (in Table 3) are its diamond-cut facets and intricate cap. Expert 1 believed that the high perceived price of this sample stems from the decorative elements on the cap and the engraving on the bottom of the bottle. Expert 2 believed that the overall facets and lines are relatively rigid, which forms a strong contrast with the soft decoration at the connection between the bottle cap and the bottle body. The waisted design on both sides of the bottle body enhances the overall proportion, and the width of the bottle cap continues the width of the bottle body, ensuring the continuity of the overall shape. Expert 3 stated that the high perceived price of this sample stems from the proportions, especially the golden ratio of the cap to the bottle body, the 3:2 aspect ratio of the cap, and the decorative elements in the middle of the cap, which introduce variability into the complete form.

CONCLUSION

This study focuses on the exploration of high-price perceptions about glass perfume bottles. Based on interviews with expert industrial designers, design features were extracted and cross-compared to identify and generalize the common elements extracted by experts. The goal is to establish correlations between the form characteristics and perceived pricing.

The key design features related to high perceived price in each part of the perfume bottle are summarized below:

1. Body Outline: Symmetrical forms in the main body contour evoke a sense of harmony and balance. The simulated diamond-cut facets effectively refract light, drawing associations with diamonds—a symbol of luxury and sophistication. The main body contour inspired by a voluminous skirt

is often associated with images of aristocratic extravagance. Furthermore, a design characterized by simplicity and purity can also convey a sense of luxury to consumers.

2. Proportion: Concerning the overall form, proportions close to 16:9, with the bottle cap occupying approximately 1/3 of the entire form and the bottle cap width constituting 1/3 of the overall width, have been employed. Adhering to the golden ratio and incorporating thicker glass in the lower part contribute to a visually stable impression. The use of the golden ratio, representing historical harmony and beauty, along with thicker glass in the lower section, creates a perception of stability. Crafting proportions that evoke both harmony and stability is a potential source of high perceived price.
3. Connection between the Bottle Cap and Bottle Body: The study identifies two types of connections between the bottle cap and body, contributing to a sense of high perceived price. Firstly, a clean horizontal cut, employing conflicting geometric shapes, prevents ambiguity and effectively communicates the method of opening the perfume bottle. Secondly, a smooth and continuous integration of the bottle cap with the body, as exemplified by the C01 sample, provides consumers with a seamless and natural impression.
4. Local Line: Regarding local lines, the C04 sample features a seamlessly integrated neck line connecting the bottle cap and body, enhancing overall fluidity. The clean and repeated lines of the C05 sample introduce depth, while the slightly outward protruding lines at the top of the bottle cap and on the sides of the C06 sample contribute to overall consistency. All these design elements serve to create characteristics that convey a sense of high perceived price.
5. Details: Decorative elements and post-processing were identified. Exquisite embellishments enhance visual sophistication, while elements like sturdy, thick transparent materials for bottle caps can evoke a sense of solemnity. Although there are different opinions on visual weight, the application of a matte finish should be considered, especially in the upper part of the design. In conclusion, these findings could provide valuable insights for product designers and researchers to make informed decisions in morphological design. By changing form, designers might be able to create products that exceed expectations and are perceived by consumers as having a premium price tag.

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