การสำรวจองค์ประกอบทางสัมผัสในการออกแบบบรรจุภัณฑ์น้ำหอมและผลกระทบต่อพฤติกรรมการซื้อของผู้บริโภคผู้ชาย

The Exploration of Tactile Elements in Perfume Package Design and Their Impact on Male Consumer Purchasing Behaviors

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บทคัดย่อ

งานวิจัยนี้ศึกษาค้นคว้าถึงความสำคัญในการออกแบบบรรจุภัณฑ์น้ำหอมเกี่ยวกับปัจจัยสำคัญด้านความรู้สึกในการสัมผัสของมนุษย์ โดยมุ่งเน้นไปที่ผู้บริโภคชาย งานวิจัยนี้มีการส่งเสริมเป้าหมายอยู่ 3 ประการ คือ 1) เพื่อศึกษาปัจจัยสำคัญด้านความรู้สึกในการสัมผัสของบรรจุภัณฑ์น้ำหอมว่ามีผลต่อพฤติกรรมการซื้อของผู้บริโภคชายอย่างไร 2) เพื่อค้นหาการออกแบบที่ผสมผสานปัจจัยสำคัญด้านความรู้สึกในการสัมผัสของมนุษย์ 3) เพื่อประเมินโดยใช้วิธีการวัดผลเชิงปริมาณถึงระดับการยอมรับได้ของผู้บริโภคต่อการออกแบบบรรจุภัณฑ์ใหม่ ซึ่งอาศัยวิธีการวิจัยเชิงผสมผสานระหว่างวิจัยเชิงปริมาณและการวิจัยเชิงคุณภาพ โดยใช้กลุ่มผู้ตอบแบบสอบถามที่เข้าร่วมงาน Bangkok Design Week วันที่ 8-12 กุมภาพันธ์ 2566 จำนวน 80 คน วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา ซึ่งผลวิจัยค้นพบว่า ความเหมือนของปัจจัยสำคัญด้านความรู้สึกในการสัมผัสของมนุษย์ที่มีผลลึกซึ้งต่อการออกแบบและผลิตบรรจุภัณฑ์น้ำหอม เพื่อให้ผู้ออกแบบได้นำเสนอทัศนะและความคิดเห็นที่เป็นประโยชน์ งานวิจัยนี้จึงได้นำเอาบรรจุภัณฑ์น้ำหอมชาย ปัจจัยสำคัญด้านความรู้สึกในการสัมผัส และพฤติกรรมการซื้อของผู้บริโภคมาเชื่อมโยงเข้าด้วยกัน ช่วยให้การออกแบบสอดคล้องกับความชอบและความต้องการของผู้บริโภคชาย นอกจากนี้ การศึกษานี้ ช่วยเพิ่มความเข้าใจให้กว้างขึ้นเกี่ยวกับบรรจุภัณฑ์น้ำหอมที่กระตุ้นประสาทสัมผัส และผลกระทบที่มีต่อแนวทางการออกแบบปฏิบัติและพฤติกรรมของผู้บริโภค

คำสำคัญ: บรรจุภัณฑ์น้ำหอม, ส่วนประกอบทางสัมผัส, การออกแบบบรรจุภัณฑ์, พฤติกรรมการซื้อของผู้บริโภคของผู้ชาย

Abstract

This research highlights the underexplored role of tactile elements in perfume package design, focusing on male consumers.

Men often overlook the tactile feel of a package; however, little research exists on how tactile elements of perfume packages influence this group. Furthermore, the relationship between these elements and male purchasing behavior remains largely unexplored. This study aims to achieve three objectives: 1) to explore the impact of tactile elements in perfume package design on male consumers' purchasing behavior, 2) to develop and design perfume packages specifically for men, and 3) to evaluate consumer agreement with the statements in the questionnaire regarding the designed products. Employing a mixed-methods approach, the study integrates qualitative and quantitative techniques, including in-depth interviews and questionnaires. Data from 80 participants were collected at Bangkok Design Week, February 8-12, 2023. Descriptive statistics showed that tactile elements significantly impact male consumer appeal towards perfume packages. Participants strongly concurred (average score: 4.46) on the significance of tactile features, particularly texture (4.38) and material quality (4.26). The results indicate that perfume packages with improved tactile features are well-received, evidenced by an average suitability score of 3.90. These findings provide essential insights for designers, advocating for tactile elements that align with male consumer preferences. This research addresses a gap in the literature on sensory aspects of perfume package design, offering a comprehensive understanding of its role in design and consumer behavior.

Keywords: Perfume Package Design, Tactile Elements, Male Consumers' Purchasing Behavior

Introduction

The sensory experience of how packaging feels to the consumer's touch has been an underexplored area of research, with the majority of studies concentrating on the visual aspects of design (Howes, 2021). In the context of perfume package design, most consumers tend to emphasize visual graphics, often overlooking the tactile experience. Wellmann, Bruder, & Oltersdorf (2003) pointed out that men, when purchasing perfumes, are more influenced by the visual design, particularly the shape of the bottle, rather than by tactile aspects, and they also consider practical factors such as price as key considerations. Tactile experiences, involving the texture and feel of packaging materials, play a crucial role in shaping consumer perceptions, especially in the context of perfume package design. However, the potential of tactile elements in creating a perfume package and influencing purchasing behaviors remains largely undiscovered. Consumers' relative inexperience in perceiving perfume package design may lead to a lack of awareness of these crucial design components. Despite this, this study explores how tactile elements can potentially enrich and significantly enhance the male consumer's experience with perfume package design. The study focuses on the tactile elements of human touch in perfume package design, an area that warrants further strategic exploration.

Research Objectives

The research objectives for this study are as follows:

1. To explore the impact of tactile elements in perfume package design on male consumers' purchasing behavior.

2. To create perfume package designs that incorporate the tactile elements associated with human touch.

3. To evaluate consumer acceptance of these tactile-centric designs, using quantifiable measures to assess agreement levels with the newly designed products.

Expected Benefits

This study offers valuable insights to three key groups in the perfume packaging design industry:

1. Academics: Enhances understanding among students and researchers about tactile elements in perfume packaging.

2. Industry Professionals: Provides practical design guidelines for the perfume packaging sector.

3. Designers: Aids in developing more engaging tactile-focused package designs.

Scope of Research

The theoretical components of the study are divided into two primary sectors: tactile elements of package designs, and consumers' purchasing behaviors. From a design perspective, the investigation centers primarily on perfume package design and experimental exploration of Jesmonite materials. The design practice emphasizes

the creative and investigative processes required to identify and incorporate tactile elements that mimic human touch in perfume packaging. The objective is to integrate these tactile elements into men's perfume package using Jesmonite, aiming to evoke a sense of human touch and, consequently, influence consumers' purchasing behavior. This approach could potentially illuminate new insights into consumer purchasing behaviors.

Definition of Research Terminology

The following definitions elucidate the key terms utilized in this research: tactile, tactile elements, human touch, and packaging design.

Tactile:

The term 'tactile' specifically refers to sensations experienced solely through physical skin interaction. Unlike sensations such as temperature or pain, tactile perceptions belong to a specialized category related to the skin itself (Sonneveld, 2007). Tactile, or haptic, sensations encompass a broad spectrum of experiences, including both passive touch and active manipulation, which are crucial in evaluating the textural aspects of package design (Gallace & Spence, 2011).

Tactile Elements:

Tactile elements in packaging pertain to the perception of touch and materials. They offer captivating sensations through variations in softness and hardness. Shape, texture, and material choices in packaging can evoke emotional responses, thereby enriching the sensory experience and potentially influencing consumer behavior (Tactile Design Elements May Be as Important as Visual Ones, 2020).

Human Touch:

Meng (2010) defines 'human touch' as the emotional connection and human essence that people often experience. Ferreira (2019) suggests that touch, due to the dispersion of sensors throughout the body, differs from other senses. Karangi & Lowe (2021) observe that touch facilitates the examination of a product's intrinsic cues, which are essential, unchangeable characteristics of physical products, an important consideration in package design.

Packaging Design:

Meyer & Gerstman (2005) trace the origins of packaging design to baskets and containers used thousands of years ago. Alervall & Saied (2013) highlight that the purpose of packaging design varies among researchers: while some view it as protective, others see it as influential in shaping individual identity, emotions, and even evoking life memories. Contemporary packaging design also integrates considerations like sustainability and technological innovations.

Research Framework

The research investigates how tactile elements in perfume package design influence male consumers' purchasing behaviors, structured into four stages. Stage 1, 'Definition,' defines the research topic, key problems, objectives, and scope, concentrating on the impact of tactile elements—weight, texture, shape, and material—on male purchasing behaviors. Stage 2, 'Divergence,' entails an extensive literature review to understand these tactile elements and their relationship with consumer purchasing behaviors, including

psychological factors influencing perfume package choices. Stage 3, 'Transformation,' adopts a multifaceted approach through in-depth interviews with design experts and a questionnaire, aiming to develop perfume package prototypes and to assess consumer agreement levels with various design aspects, including texture, shape, materials, and product features, in relation to their purchasing behaviors. The final stage, 'Convergence,' synthesizes the research findings to develop innovative design concepts and prototypes, analyzing the results to specify design elements, particularly shape and texture, that most significantly influence male consumer purchasing behavior. See Figure 1 for the illustration of the research framework.

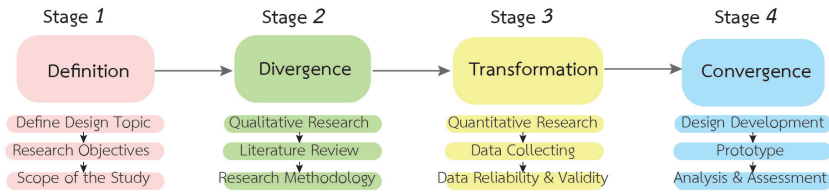

Figure 1 Research Framework

Research Methodology

This research employed a mixed-method approach, including both qualitative and quantitative research methods, to validate findings related to perfume package design. The experimental design was grounded in an extensive literature review that contained books, academic journals, and digital sources. Qualitative insights were gathered through in-depth interviews with design experts, contributing to the development of a perfume package prototype. Subsequently,

a questionnaire was administered to measure consumer receptiveness to the new designs. Descriptive statistical measures, including percentages, mean values, and standard deviations, were utilized to analyze the respondents' levels of agreement with the designs. By synergizing qualitative insights with quantitative statistical evaluations, this methodology provides a solid and comprehensive examination of the subject matter.

Literature Review

1.1 Tactile elements (Weight, Texture, Shape, Materials)

1.1.1 Weight

The tactile characteristics of product packaging, such as weight, texture, firmness, and temperature, significantly influence consumer perceptions. Heavier packaging is often associated with higher quality and preferred by consumers. This concept, known as 'sensation transference', indicates that consumers link packaging design with their tactile experiences (Cheskin, 1957, 1981). Studies by Spence (2019), Chandler, Reinhard, & Schwarz (2012), and others highlight the importance of weight in packaging, suggesting that even minor increases in weight, like in a bottle's cap, can enhance the perception of a product's premium nature. Additionally, Piqueras-Fiszman & Spence (2012) and Barnett, Velasco, & Spence (2016) observe that heavier multisensory packaging and preferences for certain packaging materials, such as glass over cans, lead to greater consumer satisfaction. However, lightweight packaging often falls short of meeting consumer expectations.

1.1.2 Texture

Furthermore, texture plays an essential role in perfume packaging. Chen et al. (2009) and Schifferstein et al. (2013) explored the unique role of texture in packaging, emphasizing how it can be manipulated to trigger specific emotions. Peck & Childers (2003b) noted that the tactile aspects of packaging not only encourage interaction but also significantly impact product sales by improving tactile visibility. Spence (2019) discussed the use of 'soft-touch' resins in plastic perfume packaging, which create a soft sensation that resonates with consumers

1.1.3 Shape

Kermaninejhad (2007) mentions shape as one of the packaging-related variables influencing packaging intention. Lesot, Bouchard, Detyniecki, & Omhover (2010) highlighted the significant role that shape features play in the perception of designed objects. They studied the impact of emotional design on the product's shape, particularly in perfume package.

1.1.4 Materials

Wu et al. (2009) refer to the material, texture, and fabric information of goods as material semantics in packaging design. Different materials can evoke various feelings of quality and experience. Zhang & Zhang (2011) state that common packaging materials include plastic, paper, metal, and glass. Chen, Barnes, Childs, Henson, & Shao (2009) study the roughness, softness, and smoothness of materials to evoke psychological and physical sensations in consumers, such as pleasure, excitement, indulgence, and calmness. The tactile sensations

experienced through touch communicate the desired feeling to consumers. Investigates various natural packaging materials, including leaves, stems, leather, botanical and animal fibers, animal skins, and hair. These materials can be used in their raw state or undergo appropriate processing. Integrating these natural packaging materials infuses the packaging with unique charm and significance, ensuring its originality and distinction. Roy et al. (2020) find that Jesmonite AC 300 is a suitable alternative material for package design. Jesmonite is a water-based, two-component resin system composed of acrylic polymers and minerals, used as an alternative material in this research for creating tactile feelings in perfume package.

1.2 Consumers' purchasing behaviors

Wells et al. (2007) emphasize the vital role of utilizing packaging as a marketing communication tool. Kuvykaite, Dovaliene, and Navickiene (2009) note that in the contemporary marketplace, companies leverage packaging as a promotional tool, directly impacting consumers' purchasing decisions. Gupta, Lehmann, and Stuart (2003) highlight the link between market dynamics and design, stressing the need for designers and retailers to adapt to consumer buying behaviors, focusing on design elements. Shah, Ahmed, and Ahmad (2013) note that individual needs and desires drive purchasing behaviors, guiding consumers to acquire and use products that satisfy these needs. Rosta et al. (1997) emphasize the importance of exploring consumer behavior from a multidimensional perspective, considering both social and psychological characteristics in order to craft effective and appealing packaging designs.

Based on the literature review, this study gains insights into package design, specifically focusing on tactile elements of package design, and consumers' purchasing behaviors. These findings provide valuable data for further prototype package development.

In-depth Interviews

Three in-depth interviews, each lasting 30 minutes, were conducted with design experts to explore the impact of tactile elements on the package of men's perfumes. The first interviewee was Kwanchan Songkakul (Kae), a product designer and co-founder of Not So Virgin Design Studio. The second interviewee was Poyen Chang, a Taiwanese designer specializing in packaging design. The third interviewee was Li-Fang Huang, a Visual Art teacher at Taipei First Girls High School. The interviews covered a range of aspects related to perfume package design. Initially, the focus was on identifying and discussing specific design elements that contribute to the tactile experience of men's perfume packages, including texture, material choice, and the package's overall aesthetic appeal. Then, the interviewees elaborated on how these attributes influence the consumer's tactile interaction with the product and their overall perception of the perfume. The experts concurred on the crucial role of innovative material selection, such as Jesmonite. They also noted how tactile elements, such as texture, contribute to enhancing the sensory experience, thereby creating a memorable and engaging consumer experience, particularly in terms of physical interaction with the perfume package. These insights underscore the significant role that tactile elements play in perfume package design.

Data Collection

A data collection strategy was employed, integrating both qualitative and quantitative methods. In the qualitative phase, in-depth interviews were conducted with three packaging design experts. These experts were carefully selected based on their extensive experience in the field, ensuring a diverse and comprehensive range of perspectives. Additionally, a comprehensive literature review was undertaken, encompassing academic research papers, journals, books, and articles from relevant websites. This review provided a solid foundation for the study and helped contextualize the research within the existing body of knowledge. In the quantitative phase, data were collected through the development and testing of perfume package prototypes with tactile features. The objective was to evaluate consumers' levels of agreement with tactile elements in perfume package design, accomplished through both prototype assessment and a questionnaire. This dual method was selected to balance subjective expert opinions with objective consumer data. The questionnaire, administered to a representative sample of 80 consumers, with 71 responses received, covered diverse demographic profiles. It consisted of 10 questions designed to measure participants' agreement with design aspects, product features, and consumers' purchasing behaviors regarding the perfume packaging prototypes. All data were subsequently analyzed using descriptive statistics to provide a quantifiable measure of consumers' levels of agreement, preferences, and perceptions.

Prototype Development

The prototype development followed a structured design process that consisted of the three stages outlined below.

Stage 1: Initial Sketches

In the first stage, initial sketches were developed to explore potential designs. Drawing on aesthetic principles in packaging design, as acknowledged in the literature and informed by experts' opinions, these sketches served as the foundation for the perfume packaging prototype. The conceptual designs were categorized into two design approaches: 1) the geometric approach, and 2) the organic approach (see Figure 2).

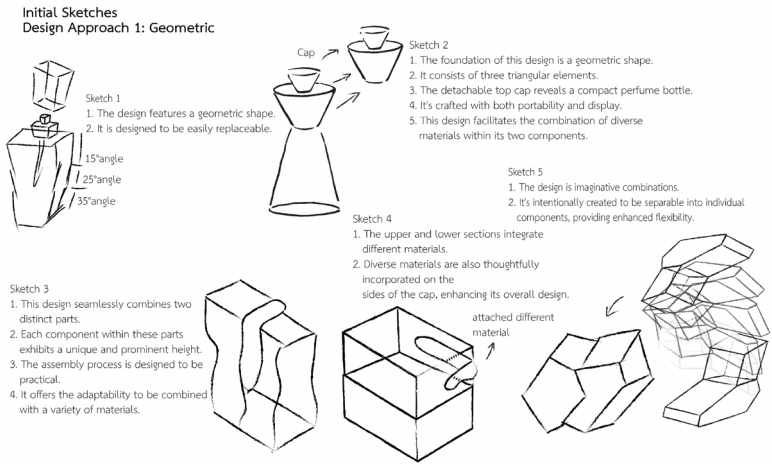

Figure 2 Conceptual Designs

Stage 2: Design Process

The second stage involved the process of developing the perfume packaging (see Figure 3). The following key elements were included:

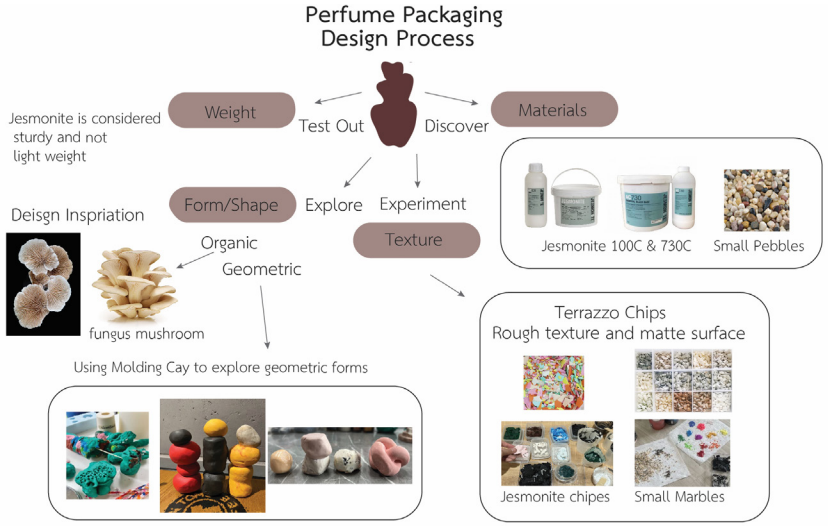

Figure 3 Design Process

Consideration of Weight: According to findings from previous literature reviews, a substantial weight in packaging is often associated with an enhanced perceived value. Consequently, the material Jesmonite was selected for its substantial and robust nature.

Shape and Form: The designs were inspired by natural organic forms, such as mushrooms and fungus, reflecting the organic design approach. Modeling clay was utilized to explore and sculpt the forms.

Texture: Experimentation with various textural effects explored techniques like terrazzo and marble, creating varied tactile sensations upon touch.

Material Selection: Material choices, including Jesmonite AC 100, Jesmonite AC 730, and the combination of small pebbles for their innovative and eco-friendly properties, allowed the researcher to bring a new perspective to perfume package.

Software Tools: Adobe Photoshop and Adobe Illustrator were used to finalize the sketch designs (see Figure 4). These digital renderings assisted in translating the conceptual design into a physical prototype during Stage 3.

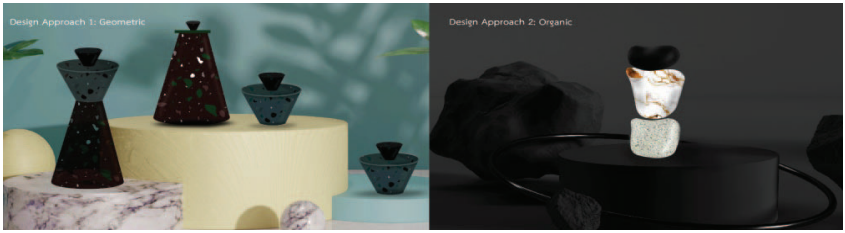

Figure 4 Final Sketch Designs

Stage 3: Prototype

The physical creation of the prototype began with experimentation with Jesmonite to create unique textures (see Figure 5). Next, Adobe Photoshop and Adobe Illustrator were used for the final 2D design (see Figure 6). Then, SketchUp software was employed to create realistic 3D forms (see Figure 7). Additionally, 3D printing with PLA, a biodegradable material, was used to construct the models (see Figure 8). Following that, silicone molds were made and then cast to shape the perfume bottle (see Figure 9). Subsequently, iterative adjustments aimed to achieve a balance between aesthetics and tactile responsiveness (see Figure 10). Finally, the last step was the final production, resulting in the design depicted in Figure 11, showing that tactility and aesthetic appeal could coexist in perfume package.

Figure 5 Experimentation with Jesmonite

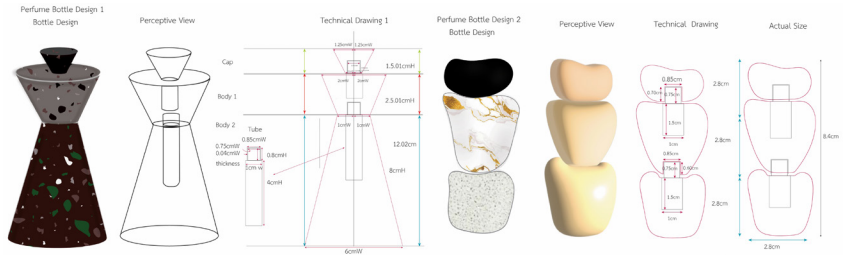

Figure 6 2D Computer Drawing

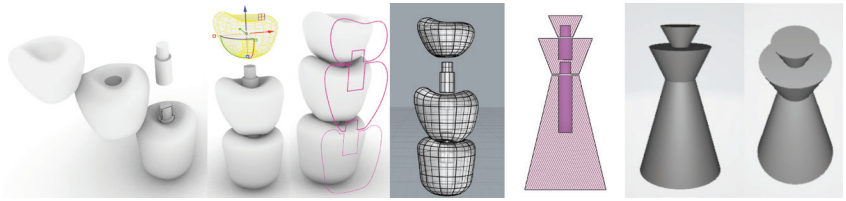

Figure 7 3D Form Generation

Figure 8 Prototyping with 3D Printing

Figure 9 Silicone Mold Creation

Figure 10 Iterative Adjustments

Figure 11 Final Design

Questionnaire

This study conducted an online questionnaire among participants at Bangkok Design Week, held in the Luan Rit Community from February 8th to February 12th, 2023 (see Figure 12), to explore attitudes toward the tactile elements of perfume packaging. Utilizing a 5-point Likert scale—where a score of 5 indicated extremely strong agreement, and a score of 1 signified extremely strong disagreement—the research aimed to collect data on preferences and purchasing behaviors specifically linked to three key aspects: Design Aspect, Product Features, and Consumers' Purchasing Behaviors. The questionnaire, which commenced with data collection, including gathering information on gender, age, and education level, was divided into three parts:

Design Aspect: The first section had respondents evaluate design elements such as the reflection of human touch, the importance of texture, the suitability of shape, and the appropriateness of materials in perfume packaging. This aimed to assess the impact of these design features on consumer perception.

Product Features: The second part concentrated on specific features like the weight and tactile appeal of packaging. The participants measured these features, with particular attention to their role in attracting male consumers and reflecting on the impact of tactile appeal.

Consumers' Purchasing Behaviors: The final section delved into how tactile elements affect purchasing decisions, exploring aspects such as packaging suitability for sale, its relaxation effect, sensual nature, and the ability to attract male consumers through human-touch-like

tactile elements.

The questionnaire was designed to capture a comprehensive range of responses, with a specific focus on distinct aspects of perfume package This approach facilitated the collection of data that is expected to provide insights into how tactile elements in perfume packaging influenced consumer behavior and preferences.

Figure 12 Questionnaire distributed during Bangkok Design Week 2023

The Research Result

Out of 80 responses to the questionnaire, 71 were valid, with incomplete responses being excluded. Utilizing descriptive statistical techniques, the analysis measured the respondents' consensus on different facets of perfume packaging design. A look at the demographic data revealed that males constituted 84% of the respondents, while females accounted for the remaining 16%. In terms of age distribution, the majority fell into the 20-29 age bracket (48%), followed by the 30-39 range (27%), the 40-49 category (11%), and those aged 50 and above (7%). Most of the sample had higher education qualifications, with 64% hold a university degree, 32% possessing education beyond college, and a mere 4% having only completed high school. These demographics emphasized a primarily male sample in the 20-39 age range (75%), and the majority of respondents' educational backgrounds

lay between college and higher degrees. This profile played a key role in understanding and interpreting the findings related to perfume package design (see Figure 13).

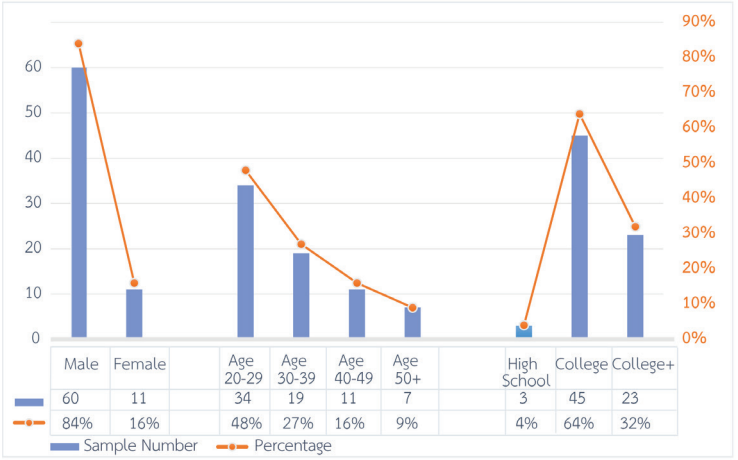

Figure 13 Respondent Demographics (N=71)

Table 1 Frequency, Mean, and Agreement Level Concerning Perfume Package Design through the Exploration of Human Tactile Elements

N=71

Statement	Mean	Agreement level	Standard Deviation
1. Design			
- The tactile elements reflect human touch	4.46	highest	0.69
- The texture of the perfume package is important	4.38	high	0.70
- The shape of perfume package is suitable	3.78	high	0.94
- The materials used are suitable for the consumers	4.26	high	0.95
Total	4.22	high	0.82
2. Product Features			
- The weight of product is an essential feature	3.28	medium	1.34
- The tactile features of perfume package can attract the attention of male consumers	3.77	high	0.89
Total	3.52	high	1.11
3. Consumers' Purchasing's Behaviors			
- The perfume package is suitable for sale	3.77	high	0.89
- The perfume package provides relaxation to consumers	3.94	high	0.99
- The perfume package is considered sensual packaging	3.94	high	0.99
- The tactile elements of human touch in perfume package attracts male consumers purchasing	3.85	high	0.89
Total	3.90	high	0.85

The study examined the agreement levels across various aspects of perfume package design**.** The levels of agreement were divided into five categories as follows**:** Table 1 summarized the respondents' assessment of various attributes related to perfume package design. The analysis showed that tactile elements played a pivotal role, with the highest average score of 4.46 (standard deviation=0.69), highlighting their importance. The utilization of materials in perfume package design received a high average score of 4.26, indicating considerable approval. Texture, represented by a high average score of 4.38, emerged as a key determinant of consumer perceptions.

A deeper analysis revealed strong consistency towards perfume package design elements, with an average score of 4.22. Tactile elements and texture were identified as key in design. By contrast, weight attributes, marked by a medium average score of 3.28 and a standard deviation of 1.34, had the least impact, with respondents holding diverse opinions on its influence in perfume package design. Tactile features garnered a favorable average score of 3.77, while overall product features received a high average score of 3.52. In purchasing behaviors, the study disclosed a strong preference for perfume package design, with an average score of 3.77, indicating their suitability for sale. Sensations of relaxation and sensual feelings associated with perfume package received positive ratings, with average scores of 3.92 and 3.94 respectively. Specific tactile elements, particularly those related to human touch, appealed to male consumers, reflected by an average score of 3.85. Demographically, the respondents were primarily males

(84%) aged 20-39 (75%) with university education, showing a preference for tactile elements in perfume package design before purchase. Even among the 11 female respondents (16%), there is strong agreement that tactile elements played a significant role in men's perfume package design.

Conclusion

This research explored the influence of tactile elements in male perfume packaging, a previously underexamined area with significant implications for design and marketing. Through a comprehensive methodology involving literature reviews, in-depth interviews, design experiments, questionnaires, and data analysis, the study illuminated male consumers' preferences and behaviors related to perfume package. The key findings include the following: The majority of male consumers view tactile elements, such as materials and textures, as vital in the purchasing process, emphasizing the sensory experiences of touch and feeling. There was strong agreement among consumers regarding the design and features of perfume package. These insights contribute to a deeper comprehension of the appeal of tactile elements in perfume package, providing practical guidance to marketers and designers for shaping future products. The research emphasizes the importance of focusing on tactile considerations to better align with male consumer preferences, thereby enhancing potential purchasing interest. In conclusion, the study's results underscore the ability of tactile design elements to amplify the allure of perfume package, particularly for male consumers. This work lays a solid

groundwork for subsequent research in this area, illuminating expansive opportunities for both exploration and innovation in the realm of perfume package design.

Suggestion

This study's findings reveal several new paths for further exploration and application. Future studies might broaden the scope by investigating tactile responses and preferences across diverse gender identities, including LGBTQ. Interdisciplinary collaboration among designers, marketers, and psychologists could foster innovative product design, with an emphasis on not only aesthetics but also multisensory satisfaction. Additionally, exploring other sensory experiences such as visual or olfactory cues, aligning with sustainability practices, and considering implications beyond perfume package present promising opportunities for research. These suggestions not only build upon the existing findings but also pave the way for innovative approaches and insights in the field of perfume package design.

References

Alervall, V. & Saied, J. S. (2013). **Perspectives on the elements of packaging design: A qualitative study on the communication of packaging.**, from https://www.diva-portal.org/smash/get/diva2:830523/FULLTEXT01.pdf

Barnett, A., Velasco, C., & Spence, C. (2016). Bottled vs. canned beer: Do they really taste different?. **Beverages, 2**(4), 1-25.

Chandler, J. J., Reinhard, D., & Schwarz, N. (2012). To judge a book by its weight you need to know its content: Knowledge moderates the use of embodied cues. **Journal of Experimental Social Psychology, 48**(4), 948-952.

Chen, X., Barnes, C. J., Childs, T. H. C., Henson, B., & Shao, F. (2009). Materials' tactile testing and characterization for consumer products' affective packaging design. **Materials & Design, 30**(10), 4299-4310.

Cheskin, L. (1957). **How to predict what people will buy.** New York, NY: Liveright.

Cheskin, L. (1981). Research design and analysis in the testing of symbols. In W. Stern (Ed.). **Handbook of package design research.** (pp. 211–220). New York: Wiley Interscience.

Ferreira, B. M. (2019). Packaging texture influences product taste and consumer satisfaction. **Journal of Sensory Studies, 34**(6), e12532.

Gallace, A., & Spence, C. (2011). Tactile aesthetics: towards a definition of its characteristics and neural correlates. **Social Semiotics, 21**(4), 569-589.

Gupta, S., Lehmann, D. R., & Stuart, J. A. (2003). Valuing customers. **Journal of Marketing Research, 41**, 7-18.

Howes, D. (2021). Hyperesthesia, or, the sensual logic of late capitalism. In **Empire of the Senses.** (pp. 281-303). London : Routledge.

Karangi, S. W., & Lowe, B. (2021). Haptics and brands: The effect of touch on product evaluation of branded products. **Journal of Consumer Behaviour, 20**(6), 1480-1496.

Kermaninejhad, F. (2007). **A look at packaging design, Tehran carbon publishing.** Tehran: Bazargani printing and publishing.

Kuvykaite, R., Dovaliene, A., & Navickiene, L. (2009). Impact of package elements on consumer's purchase decision. **Economics and Management**, (14), 441-447.

Lesot, M. J., Bouchard, C., Detyniecki, M., & Omhover, J. F. (2010, March). **Product shape and emotional design: An application to perfume bottles.**, from https://webia.lip6.fr/~lesot/Lesot-Bouchard DetynieckiOmhoverKEER10.pdf.

Meng, Z. (2010). Detailed analysis of the human-touch in advertisement design. In **2010 IEEE 11th International Conference on Computer-Aided Industrial Design & Conceptual Design 1 Vol. 2.** (pp. 1039-1042). New Jersey: IEEE.

Meyers, H., & Gerstman, R. (2005). Package opportunities and challenges. In H. Meyers , & R. Gerstman. **The visionary package: Using packaging to build effective brands.** (pp. 194-206). London: Palgrave Macmillan.

Piqueras-Fiszman, B., & Spence, C. (2012). The weight of the bottle as a possible extrinsic cue with which to estimate the price (and quality) of the wine? Observed correlations. **Food Quality and Preference, 25**(1), 41-45.

Peck, J., & Childers, T. L. (2003b). To have and to hold: The influence of haptic information on product judgments. **Journal of Marketing, 67**(2), 35–48.

Rosta, A., Venus, D. A., & Abdul, A. (1997). **Marketing Management.** [s.n.].

Roy, J. D., Huysmans, S., Fontaine, L., & Bos, M. V. (2020). From Forgotten Remnant to a New Beginning: Planning the Relocation of the Zadkine Relief from the Cinema Metropole, Brussels. **Studies in Conservation, 65**(Sup1), 67-69.

Schifferstein, H. N., Fenko, A., Desmet, P. M., Labbe, D., & Martin, N. (2013). Influence of package design on the dynamics of multisensory and emotional food experience. **Food Quality and Preference, 27**(1), 18-25.

Shah, S., Ahmed, A., & Ahmad, N. (2013). Role of packaging in consumer buying behavior. ***International Review of Basic and Applied Sciences*, 1**(2), 35-41.

Spence, C. (2019). Tactile/haptic aspects of multisensory packaging design. In **Multisensory Packaging**. (pp. 127-159). Cham : Palgrave Macmillan.

Sonneveld, M. H. (2007). **The aesthetics of tactual experience: about the body language of objects.** Doctor of Philosophy Dissertation in Design Aesthetics, Delft University of Technology.

Tactile design elements may be as important as visual ones. (2020, October 27). Retrieved June 3, 2023, from https://www.iplpackaging.com/tactile-design-elements-may-be-as-important-as-visual-ones.

Wellmann, K., Bruder, R., & Oltersdorf, K. (2003). Gender designs: Aspects of gender as found in the design of perfume bottles. In D. McDonagh, P. Hekkert, J. van Erp, D. Gyi (Eds.). **Design and emotion.** (pp. 96-100). Boca Raton: CRC Press.

Wells, L. E., Farley, H., & Armstrong, G. A. (2007). The importance of packaging design for own-label food brands. **International Journal of Retail & Distribution Management, 35**(9), 677-690.

Wu, P., Bao, Z., Song, W., & Hu, Z. (2009). Research on semantics of packaging design. In **2009 IEEE 10th International Conference on Computer-Aided Industrial Design & Conceptual Design.** (pp. 316-318). New Jersey: IEEE.