

CHAMPAGNE PACKAGING DESIGN WITH BRAND AWARENESS AND USER-CENTRIC CRITERIA: A CASE STUDY

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Abstract: A holistic approach to product design is a design mindset that creates desirable products but also fulfills stakeholders' needs and considers production limitations. Design is more than aesthetic results and takes into consideration a great number of topics such as the sustainability of the product by using the best practices in material resources, examining the parameters of the industrial production and the re-usability of the product. Additionally, the strategy of holistic design aims to extend the product's life cycle beyond its initial use, making it self-promoting and attractive to customers, while enhancing the company's brand image to gain a competitive edge. Ultimately, each experience associated with a product, whether it's a tangible item or a service, is deliberately crafted with the user in mind. The proposed paper uses a holistic design approach for luxury secondary metallic champagne packaging, highlights the importance of the correct data gathering and analysis from research, and then translates to parameters and limitations that they will embed into the design decisions delivering the final product. In conclusion, the paper presents various methodologies and cutting-edge tools to generate rendered representations of the product, ensuring effective communication with all relevant stakeholders.

Keywords: Holistic product design, user experience, sustainability, re-use, product life cycle, CAD, metallic packages, packaging, branding

1. INTRODUCTION

Packaging design is not only an aesthetic approach of a container but also a product to attract consumer's attention and call them to purchase the product (Dobras, Manavis & Kyratsis, 2021). Nowadays, packaging design principles enhance brand awareness and create a communication channel between the customer and the company (Manavis & Kyratsis, 2021). Historically, wine packaging has taken on various forms and materials according to the technological techniques and tools of each time period (Moutafsi & Kyratsis, 2016). Despite the numerous challenges that can packaging faces from oxidation caused by wine, as well as the dominant market presence of materials like glass and plastic, metal continues to undergo ongoing research aimed at enhancing its use in wine packaging (Versari et al., 2023). The main purpose of the secondary packaging is to protect the primary bottle and contribute to brand awareness and brand loyalty. Furthermore, customers are looking for a holistic experience with a brand and their loyalty to the latter depends heavily on the experience quality a company offers (Lukehart, 2022). Moreover, matters such as sustainability and recycling have gained a lot in recent years due to climate change awareness. Customers are looking for more sustainable products with a smaller CO₂ footprint and are open to products that can have further use after their primary scope is fulfilled. Metal is an ideal material and successfully serves this purpose as it is lightweight, offers good protection, can be shaped in many forms, can be coloured or have its natural colour, has longevity, and can be easily recycled (Mousli et al., 2009). Finally, to develop a product that delivers an exceptional user experience, we categorize all constraints and information as design data, which we then synthesize using various tools and methodologies (Manavis, 2022). This approach transforms the gathered data into opportunities for generating innovative design ideas through a comprehensive design strategy that emphasizes brand awareness, rather than viewing them as limitations or challenges. For the implementation, digital sketching tools and a pen display were utilized to create the required sketches, while CAD software and 3D rendering software were essential for 3D modelling and rendering.

2. LITERATURE SURVEY

Nowadays, a great number of studies are held regarding consumers' perception of the product, as packaged food products cannot be, usually, tasted before purchase. The findings suggest that a buyer will take under consideration both material and immaterial characteristics of the packaging to form a decision

regarding the quality of the wine. Additionally, inquiries are presented about what consumers notice in packaging at first glance, the key elements to focus on for comparison with other products, and the features that prompt consumers to choose a particular item for purchase.

2.1 Consumers' perception

Rocchi & Stefani (2016) record that consumers consider numerous factors when evaluating rose wines, including the packaging colour, perceived quality, transparency, and opacity. Additionally, they pay attention to the physical attributes of the packaging, such as its size and thickness. Many consumers associate the quality of the packaging with the quality of the wine itself. Descriptive terms like "important," "polished," and "refined" are frequently used to characterize the product (Rocchi & Stefani, 2016). Moreover, the same research suggests that attention is paid by customers, to the quality of the printing, the coherence, and the proper use of graphical elements. Vilnai-Yavetz & Koren (2013) supports that the psychological part and the influence it has on consumers' purchase intention by using aesthetics and symbolism to analyze and interpret packaging design and use it as a powerful marketing tool and not only as a transportation means (Vilnai-Yavetz & Koren, 2013).

2.2 Packaging image

Packaging serves as the initial point of interaction between the consumer and the product. At this early stage, the consumer engages with the packaging through sight and touch before actually consuming the product. During this period, the product exists as an image in the consumer's mind, with all pertinent information being conveyed through the packaging's visual and tactile elements. In that direction, Orłowski et al. (2022) suggest that a non-traditional design could be precepted as more unique and innovative, capturing the consumers' attention, backed up by uniqueness theory which supports that individuals try to differentiate themselves from others and novel products provide a solution to that need with minimal social exposure (Orłowski, Lefebvre & Back, 2022).

2.3 Sustainability

Malea et al. (2020) support that consumers are already ecologically alert, and the product's environmental footprint is high on every company's agenda. Deshwal & Panjagari (2020) record that the material of metal is an excellent choice for primary and secondary packaging, as it is lightweight, can be easily processed, provides safe transportation of the product, can be easily printed or elaborated, is highly recyclable, and can offer a long life-cycle through reuse, compensating for the high cost of CO₂ emission from the metal industry. It is crucial to note that, the orientation of the design to sustainable and eco-friendly packaging can be achieved without any discounts on the luxury and uniqueness of the packaging as an item.

2.4 Brand identity

The packaging is an ideal tool for a great user experience to be achieved and build a loyal customer base for the brand (Kouveli, Tzetzis & Kyratsis, 2017). The wine market is competitive, with consumers spending just a few minutes on product selection in stores. Packaging is vital, not only for protecting the wine but also for attracting buyers and influencing purchase decisions. Effective design serves as a communication tool, impacting perceptions of brand quality, often based only on typography and graphics. Moutafsi et al. (2016) report that a study found 66% of consumers recognize the significance of packaging for their purchased products, noting its role in both product protection and the quality of materials used. Additionally, most respondents made a direct connection between the packaging and the enclosed product (Moutafsi & Kyratsis, 2016).

Furthermore, Hurley et al. (2017) propose a study utilizing eye-tracking technology to assess customer reactions to products in a controlled setting. Their findings indicate that customers require 5 to 7 seconds to concentrate on four key design elements: a) brand identity, b) graphic design, c) description (when applicable), and d) a claim. The aforementioned study concludes that customer engagement with packaging needs to be both immediate and effective, and designers should strive to achieve this goal (Hurley et al., 2017).

3. DESIGN METHODOLOGY

Gathering and organizing all relevant design data, while translating restrictions into usable design data, is a complex challenge. To address these challenges, creativity tools have been introduced through design thinking—a creative and empathetic, user-centred approach—and the design process, which focuses on data and business-driven methods, for generating innovative ideas. Specifically, a systemic design protocol is introduced as a guideline for all data to be recorded and advise through the project by the design team. (Manavis, 2020). The main core of the proposed case study concerns a design of a metallic secondary, self-promoting, and brand-oriented champagne packaging with sustainability, extended life cycle, ergonomics and user-centric criteria. To address this scope, a systematic design protocol was implemented to develop a spreadsheet that encompasses all research elements, serving as a reference point for the design team.

3.1 Design target and data

The design protocol (Figure 1) was a guideline for the team to register all restrictions and translate them into design opportunities. In this case study, the approach to design viewed restrictions as opportunities. The process began with establishing a main target, followed by secondary market and design goals. Market considerations included packaging aesthetics, usage occasions, quality messaging, and consumer communication.

Design goals focused on shape, material techniques, and visual graphics. This breakdown clarified needs and constraints, aiding subsequent research. The data collection phase was not linear, allowing for iterations and adjustments as new insights emerged, continually refining the design protocol.

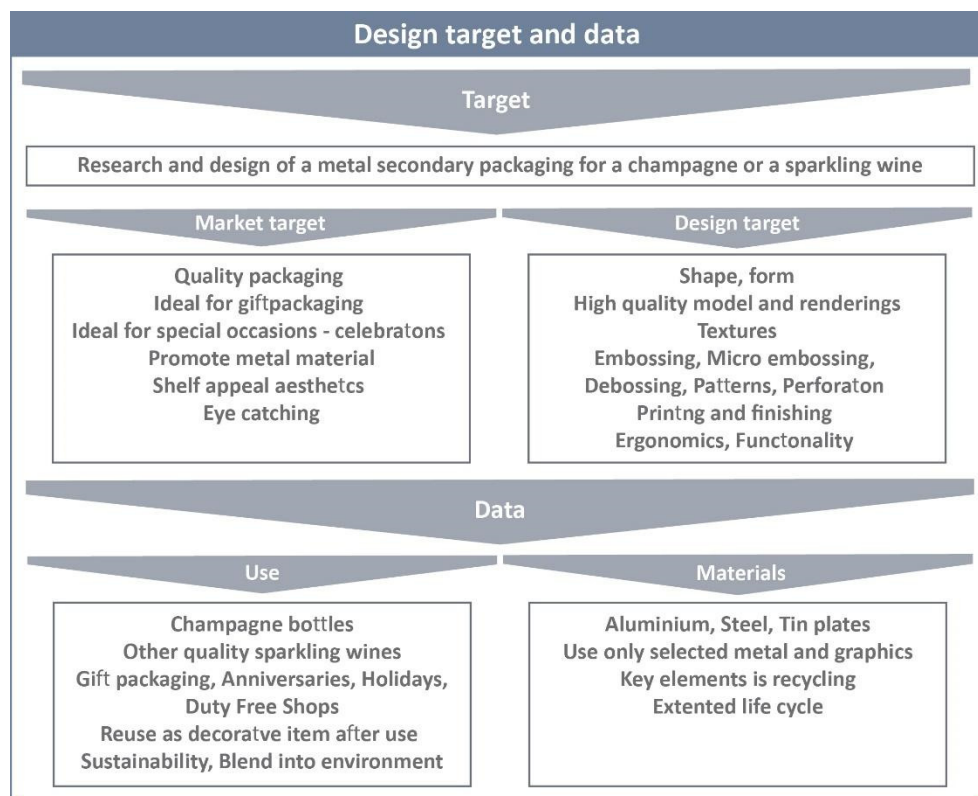


Figure 1: Design target and data

3.2 Mind-map and Mood-board

Mind-map is used to explore possible design directions more freely and abstractly (Figure 2). During this stage, it is important not to be restricted while exploring and to try to open as much as possible the way of thinking, while the main target is placed in the middle. Specifically, words from the design protocol (Figure 1) are used, either as exploration directions or as keywords, leading to further concept analysis. The selected words that are used as inspiration in the following step of ideation, are marked with a different colour.

These words are key elements that together with the mood board are translated into ideas. On the other hand, mood-board is the visual research of early forms and directions related to selected keywords from mind-map and is the second tool used during the early design research (Figure 3). Additionally, mood-board offered an optical translation of the data input and it helped start building image-based information to be used during Ideation.

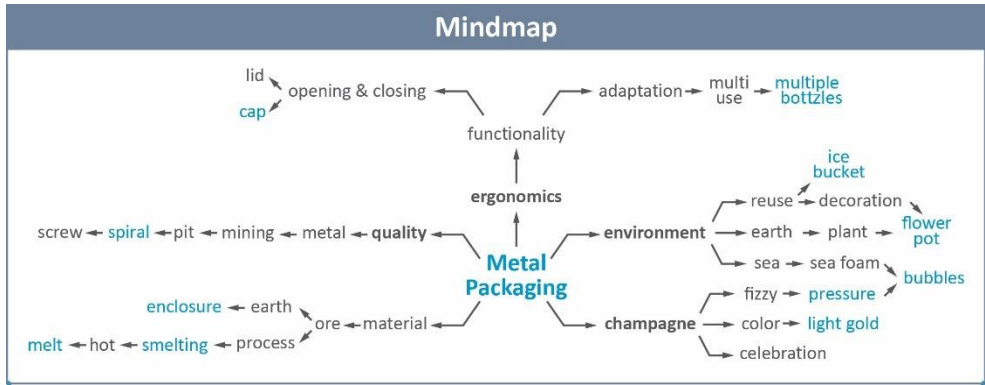


Figure 2: Mind- map

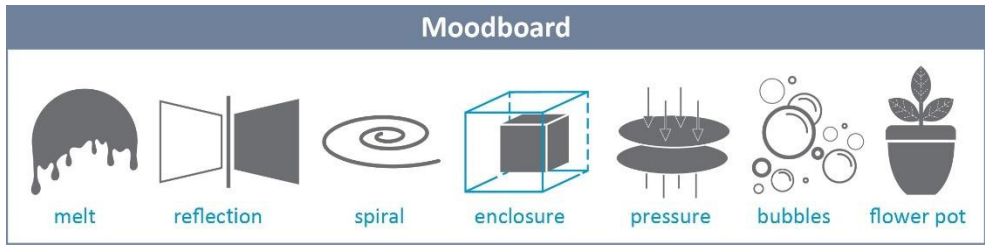


Figure 3: Mood-board

3.3 Ideation

In the ideation stage, a free-hand drawing strategy is embraced, emphasizing the importance of unrestricted thinking to generate a wide array of ideas at this phase (Figure 4). Ideation is focused in two main principles of packaging: a) the shape/form and b) the ergonomics. Specifically, more organic forms are drawn, to offer a more decorative aspect, whereas bubbles, a key element of champagne, are taken into consideration. Furthermore, an approach of different use of the packaging is explored, to offer an extended life cycle of the product and create a better and longer user experience.

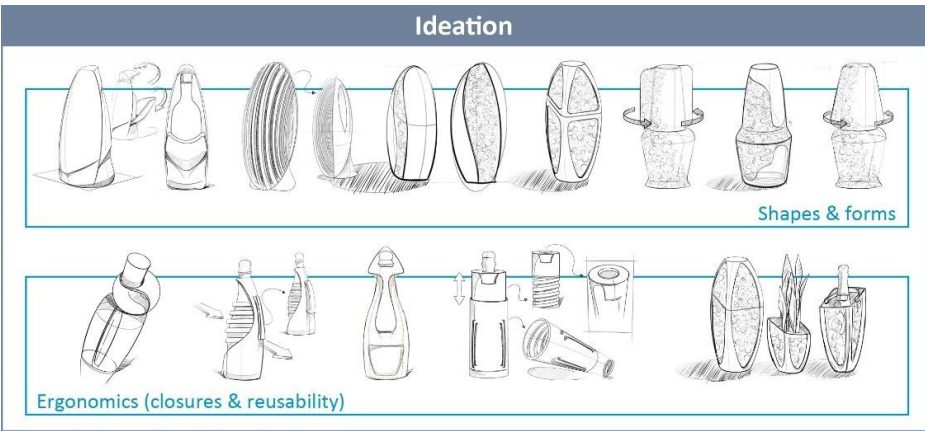


Figure 4: Ideation

3.4 The proposed design solution

By using the designs from ideation, the decision on the final packaging is made. In this stage all the data is considered, design protocol is extensively consulted during the whole process, and designs are evaluated, corrected, and brainstormed again in a repetitive manner. The final decision is made with a packaging that will reflect the form of the champagne bottle, following the literature survey that more consumers in the wine market are keen to more traditional shaped packaging. Furthermore, a more innovative concept is adopted regarding the optical part of the packaging, attempting to provide elevated brand awareness and the option for the packaging to self-distinguish from other products on the shelf.

For that scope, a metal-melting area is created by embossing, on the top and bottom of the packaging, creating an enclosure (i.e. mind-map, mood-board). In contrast, a metallic champagne colour area with bubble printing in the middle is created. In this way, the message of champagne wine enclosed in a metal container is communicated, referring to the product directly and offering product awareness without further explanations. The closing is also decided, a system that opens the packaging in two parts, upper and lower, and by screwing in, it can adjust to bottles of different heights, rendering the packaging very versatile. The final solution is rendered with digital sketching and an explanatory storyboard and usage designs are made to easily communicate the design decisions to the stakeholders, before proceeding with time-expensive 3D modelling and renderings (Figure 5).

3.5 3D C.A.D. modelling & rendering

After the final solution is approved, the Autodesk Inventor™ software is utilized to create the product in real scale. Design corrections are made to address topology issues, highlighting the importance of resolving any problems at this stage to ensure a flawless product for production. A preliminary rendering is created in neutral colours to assess the form and dimensions. This is followed by a high-resolution rendering using KEYSHOT™ software, showcasing metallic textures, colours, bubble printing, and the product's alternative use as a flowerpot, ensuring both aesthetics and functionality are met (Figure 5).

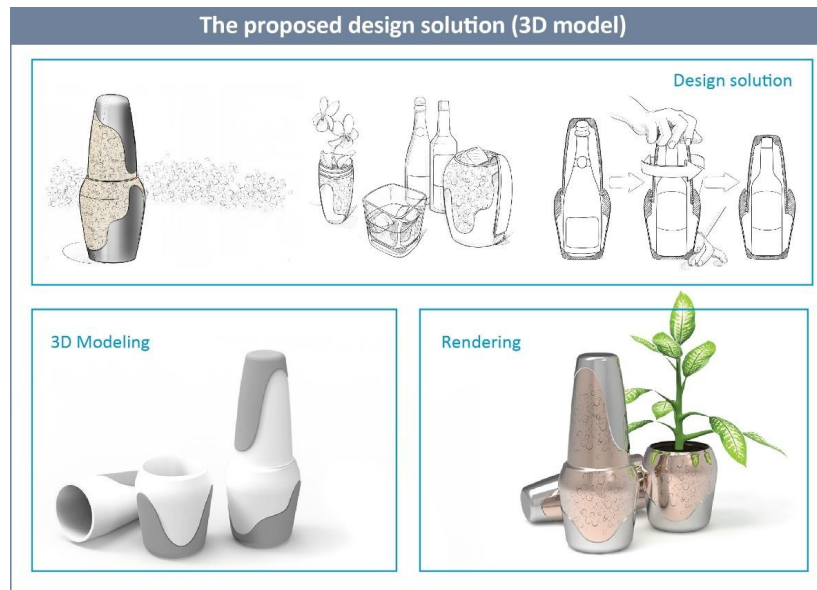


Figure 5: The proposed design solution for package

3.6 An early evaluation approach

An early evaluation of the proposed design, by using Likert scale questionnaire of five specific inquiries, was conducted, to evaluate design expectations with potential consumers' opinion. For this scope a sample of 45 individuals was used, aged 30–50-year-old, divided by gender diversity, and by different income background. The evaluation was focused on a) product awareness (score 4.1), b) attractiveness (score 4.2), c) intuitivity (score 3.7), d) usability (score 4.5), e) ergonomics (3.9) and purchase intention (3.9). In future work, the effectiveness of the design prototype (physical item) will be evaluated based on the results of the questionnaire.

4. CONCLUSIONS

The proposed paper uses a holistic design approach for luxury secondary metallic champagne packaging, highlights the importance of the correct data gathering and analysis from research, and then translates to parameters and limitations that they will embed into the design decisions delivering the final product. Furthermore, this paper proposed the importance of research in a preliminary stage, long before the designer is engaged in the standard design procedure, and the necessity to register various restrictions as early as possible, and how to translate them as design parameters. In this way, the designer is aware of several issues that might occur during the design process and production to follow. Furthermore, user and business needs are taken into consideration by focusing on ergonomics and branding standards respectively. The importance of business and user research and how to amalgamate it with aesthetics is highlighted, and the methodology on how to achieve this scope, by taking data-driven design decisions and communicating them to all the interested parties is presented.

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