



Department of Management

Chair of Marketing at The Bottom of Pyramid

The importance of sensory aspects of food packaging design

Case Study: Gustibus Alimentari S.r.l.

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PREMISE

This thesis investigates the critical role that the design of food packaging plays in shaping consumer choice, emphasizing the influence of sensory elements, including visual, olfactory, and tactile aspects. In today's competitive market landscape, packaging has evolved beyond its traditional containment and protection role, emerging as a strategic tool that influences consumer perceptions and purchasing behaviors. The integration of sensory elements into packaging design is pivotal for creating a memorable and engaging consumption experience, influencing brand perception and loyalty.

The research focuses on the intricate interplay between the importance of packaging design and consumer psychology, examining how visual and tactile elements can evoke emotions, reactions, and guide consumer purchase decisions at the point of sale. The thesis highlights how brands in the Organized Large-Scale Distribution, particularly those in the sauces and ready-made sauces sector, use design to differentiate themselves and connect with consumers on a deeper level. The study aims to provide insights on how packaging can serve as a key differentiator in a crowded market, enhancing brand equity and consumer engagement.

A key component is the case study of Gustibus Alimentari S.r.l., a Sicilian company renowned for its innovative approach to producing and packaging sauces, ready-made sauces, and condiments for both Italian and international organized large-scale distribution. This case study offers a practical examination of how strategic packaging design can be leveraged to improve market positioning and consumer appeal. Gustibus exemplifies how companies can use packaging to effectively communicate brand values and meet evolving consumer expectations.

Through a mixed-methods approach that combines qualitative and quantitative research, this thesis aims to empirically demonstrate how packaging influences consumer decisions. Conducting a survey will gather data on consumer awareness, preferences, and perceptions regarding packaging, providing a comprehensive analysis of the impact of design elements on purchasing behavior.

The findings will provide essential information for industry professionals seeking to refine their packaging strategies and adapt to the changing landscape of consumer preferences. The research will offer an understanding of how sensory elements intersect with consumer behavior, highlighting the potential of packaging to transform interactions with brands and drive market success.

INTRODUCTION

In the complex landscape of contemporary consumer markets, where consumers face an extensive array of product choices, the role of packaging as a determinant of purchasing behavior has become fundamentally important. Packaging transcends its conventional function as a mere container, emerging as a pivotal interface that mediates the relationship between the consumer and the product. The design of food packaging plays a multifaceted role, not only fulfilling essential functions such as protection and preservation but also engaging consumers through its sensory and aesthetic features. It acts as a silent yet powerful communicator of brand values, product quality, corporate know-how, and the overall consumer experience, influencing perceptions and potential choices.

The evolution of food packaging design is a testament to the dynamic interaction that coexists between technological advancements, rapid cultural changes, historical events, and the evolving food preferences of consumers. From its rudimentary origins in ancient civilizations, where natural materials like leaves, shells, and animal skins served as primary packaging solutions, the sector has undergone a series of transformative developments. The advent of industrialization in the 19th century marked a turning point in the food packaging sector, with the introduction of mass-produced packaging materials such as glass, metal, and paper, facilitating the widespread distribution and commercialization of food products. The rise of standardized packaging played a crucial role in ensuring product safety and quality, while simultaneously allowing the growth of global trade networks.

The early 20th century witnessed the rise of branding and visual communication as integral components of packaging design, driven by the burgeoning consumer culture and the advent of modern advertising techniques. This era saw the emergence of iconic designs that utilized elements of color, typography, and imagery to create distinct brand identities and promote consumer loyalty. Brands worldwide began to recognize packaging as a key element of their marketing strategy, capable of conveying narratives and evoking emotional responses. The development of plastic packaging further revolutionized packaging design, offering unprecedented versatility, durability, and cost-effectiveness. These advancements ensured the creation of innovative packaging formats

that met the continually evolving needs for convenience, portability, and environmental sustainability. The sensory dimensions on which packaging design theories are based, including visual, tactile, and olfactory elements, serve as crucial touchpoints for capturing consumer attention and shaping perceptions. These components constitute the initial point of interaction, significantly influencing brand recognition and product appeal. Colors evoke specific emotions and associations, typography communicates the brand's tone and personality, and imagery and graphics serve to attract attention and convey product information quickly and effectively. Tactile qualities contribute to the consumer's tactile experience, providing subtle cues about product quality and influencing perceived value. Consumers often associate the feel of packaging with the intrinsic quality of the product, making the choice of materials used by designers a critical and highly significant phase. Moreover, this is not only valid for tactile elements but also olfactory elements, which have the potential to evoke memories and emotions, enhancing consumer engagement and differentiation in an increasingly competitive market landscape.

Within this thesis, the aim is to explore the complex interaction between the design of food packaging and consumer behavior, investigating how all sensory attributes influence evaluations and ultimately consumer choices. The study seeks to contextualize contemporary practices within a broader historical framework, highlighting key turning points and innovations that have shaped the field. We will see how design trends have evolved in response to changing consumer expectations, technological advances, and environmental considerations. The case study of Gustibus Alimentari S.r.l. provides a practical lens through which to analyze these dynamics, as the company exemplifies the integration of innovative packaging strategies to capture consumer interest and cultivate brand loyalty.

To empirically validate the investigation, this research will utilize a comprehensive survey, designed to clarify consumer preferences, perceptions regarding food packaging, and purchasing intentions. The survey will collect data on consumer awareness of Gustibus as a brand, their opinions on the sensory and functional aspects of its packaging, and their perceptions of the brand's packaging evolution over time. The chosen approach will allow the study to acquire a nuanced understanding of consumer attitudes and behaviors, providing insights into the effectiveness of packaging as a marketing and sales

tool. The survey will include both quantitative and qualitative questions to gather diverse information and allow for an in-depth analysis of consumer preferences, offering a solid foundation for understanding the impact of packaging design on consumer choice. Gustibus Alimentari S.r.l., a Sicilian company specializing in the production of sauces and condiments for large distribution, is a paradigmatic example of how strategic packaging design can improve market positioning. The company's dedication to quality and innovation in packaging design reflects broader industry trends, where sustainability and consumer-focused design have become essential for maintaining a competitive edge. By exploring the brand's history and its approach to packaging design, this thesis aims to reveal how Gustibus has addressed industry challenges and leveraged packaging as a strategic asset to strengthen its market presence.

Integrating theoretical insights from the disciplines of marketing, psychology, and design, this thesis aspires to offer actionable insights for industry professionals aiming to refine their packaging strategies and foster deeper connections with consumers in the dynamic food sector.

The imperative to consider sensory aspects in packaging design supports a holistic approach that not only satisfies functional requirements but also resonates with consumers on an emotional and psychological level. As the food industry continues to evolve, understanding the nuanced interaction between design and consumer behavior will be crucial for driving innovation and sustaining market success. This study seeks to bridge the gap between academic theory and practical application, providing valuable perspectives for companies looking to differentiate themselves in an increasingly competitive landscape.

EVOLUTION OF FOOD PACKAGING DESIGN

EVOLUTION OF FOOD PACKAGING DESIGN THEORIES

Purpose and Function of Food Packaging

Defining the scope of packaging's role across different sectors proves to be a formidable task due to its complex nature. In the food industry, packaging is a critical component that companies invest heavily in. According to industry reports, businesses allocate approximately 10% of their product's retail price to packaging on average, underscoring its significant role in marketing and product protection. This investment reflects the multifaceted functions of packaging which we will explore in detail throughout this thesis.

The paramount function of food packaging is to shield its contents from external elements such as moisture, light, oxygen, and physical damage during transportation, which could otherwise jeopardize both its quality and integrity. This protective role is especially crucial within the food industry, where both consumer safety and satisfaction are intimately connected to the integrity of the product. As Robertson (2012) aptly notes, "The primary role of food packaging is to protect the product from environmental factors and to maintain its freshness and quality throughout the duration of its shelf life" (p. 15). This guiding principle has driven the development of various materials and technologies ranging from traditional glass jars to modern vacuum-sealed bags. Besides protection, food packaging also enhances efficient transport and storage, taking into account factors such as size, shape, and weight, which influence logistics and how products are displayed in retail settings. Yam (2009) emphasizes that "packaging is not solely about ensuring food safety but also about facilitating efficient handling, transportation, and storage" (p. 23), thus highlighting the integral role of packaging in logistics. In sectors such as pasta sauces, the design must find a balance between durability and ease of handling to accommodate both consumers and retailers.

Furthermore, packaging acts as a crucial communication medium between producers and consumers, providing vital information such as ingredients, nutritional content, expiration dates, and usage instructions. In today's informed marketplace, Rundh (2013) states,

"Packaging can be seen as a medium of communication and a method to influence purchasing decisions by offering clear and relevant information to consumers" (p. 42). This communicative function holds as much importance as those of protection and transportation.

Environmental concerns have also propelled the packaging industry toward sustainable solutions aimed at minimizing ecological impact. Lindh et al. (2016) observe that "the demand for environmentally friendly packaging has led to material and design innovations, making sustainability a critical factor within the packaging industry" (p. 110). This shift is manifested in the increased use of biodegradable materials and the reduction of plastic usage in food packaging, as seen in sectors like pasta sauces, where glass jars and recyclable labels are increasingly prevalent.

Lastly, packaging enhances consumer convenience through features such as resealability, ease of opening, and portion control, all designed to enrich the user experience. Silayoi and Speece (2007) contend that "the convenience of packaging design is increasingly affecting consumer preferences as it enhances both the ease of use and the utility of the product" (p. 150). In the pasta sauce category, for instance, innovations like easy-pour spouts, resealable lids, and microwave-safe containers meet modern consumers' demands for both quality and convenience, reflecting the multifunctional roles that packaging plays in augmenting product utility and enhancing consumer experience.

Marketing Role of Food Packaging

Although the functional value of packaging has been elaborated upon in the preceding paragraph, it is pertinent to recognize that packaging also accrues a multitude of symbolic values that substantially influence consumer behavior and decision-making processes. This dual capacity of packaging not only serves utilitarian purposes but also plays a pivotal role in shaping the marketing strategies of products by impacting consumer perceptions and actions.

Packaging significantly functions as a brand ambassador, establishing the first physical contact between the product and the consumer, and plays a crucial role in shaping brand identity and recognition. Underwood and Ozanne (1998) describe packaging as "a direct

reflection of the brand's identity, encapsulating its values, mission, and unique selling propositions in a tangible form" (p. 408). Historic brands like "Ragù" and "Prego" in the United States utilize distinctive elements such as logo placement, color schemes, and typography not only to distinguish themselves from competitors but also to reinforce their brand narratives, with Ragù's red label, for example, being instantly recognizable and indicative of traditional Italian flavors.

Beyond merely serving as a visual identifier, packaging significantly influences consumer purchasing decisions. Research by Ampuero and Vila (2006) underscores that packaging is a major factor in impulse buying, particularly in low-engagement product categories such as food (p. 103). Rettie and Brewer (2000) add that "packaging can effectively capture the consumer's attention and influence decision-making processes in a retail environment" (p. 58). In the competitive market for pasta sauces, design elements like color, imagery, and text help products stand out on the shelf, leading consumers to prefer one brand over another based largely on visual appeal, exemplified by "Classico" sauces which use vivid colors and appetizing images to suggest freshness and quality.

Packaging also plays a pivotal role in communicating the benefits of a product and the values of a brand, whether through explicit information and product claims or more subtly through design choices that convey specific qualities or values. Silayoi and Speece (2007) note that "packaging is a medium through which companies can convey messages about product quality, health benefits, and brand values, all of which can significantly influence consumer perceptions" (p. 150). For instance, "Bertolli" sauces not only provide essential product information but also subtly communicate the brand's commitment to authentic Italian cuisine through traditional patterns and imagery.

The visual appeal of packaging is critical in marketing, as it creates a positive first impression vital to arousing consumer interest and fostering purchase intent. Rundh (2009) highlights, "The visual elements of packaging, such as color, shape, and design, play a significant role in attracting consumers and differentiating products in a crowded market" (p. 988). Brands like "Newman's Own" leverage unique packaging designs to project a premium image and cultivate a loyal customer base.

Furthermore, packaging enhances brand loyalty by creating a consistent and memorable brand experience. Consumers often develop an emotional attachment to packaging, which reflects their lifestyle or values, promoting brand loyalty. Underwood (2003) emphasizes that "packaging that resonates with consumers on an emotional level can create a deeper connection with the brand, leading to increased loyalty and repeat purchases" (p. 62). A notable example is Heinz tomato sauces, which have maintained a consistent packaging design for decades with only minor modernizations, thus reinforcing consumer trust and loyalty over the years.

The intersection of consumer psychology and packaging design represents a critical area of study, particularly in the food industry, where unconscious cues often influence purchasing decisions. Packaging serves as a powerful tool capable of impacting consumer emotions and behaviors through visual elements such as color, shape, and imagery. According to Bloch (1995), "consumers often make quick judgments about products based on their visual appeal, with packaging design playing a crucial role in these hasty decisions" (p. 17). In the highly competitive market for ready-to-eat tomato sauces, such psychological factors are crucial, with large, historic brands shaping market choices.

Color is one of the most immediate and impactful elements of packaging design, evoking emotions, creating associations, and influencing perceptions. For example, red is commonly used in tomato sauce packaging as it is associated with ripeness, flavor, and freshness, qualities that consumers seek in pasta sauce. Labrecque and Milne (2012) explain, "red is not only a color that indicates maturity and sweetness in food products but also stimulates the appetite and attracts the attention of consumers" (p. 713). The physical shape of the packaging also significantly impacts consumer perception and decision-making, with easy-to-handle, pour, and store packaging suggesting convenience. Traditional glass jars with rounded shapes are prevalent in the ready-to-eat tomato sauce category, evoking a sense of familiarity and tradition while offering practical benefits like ease of storage and resealability.

Images and symbolism on packaging typically trigger associations with quality, tradition, and authenticity, stimulating consumer purchase impulses. Consumers rely on visual cues to assess product quality, particularly in categories like pasta sauces, where the visual

appeal of ingredients such as tomatoes, fresh basil, and olive oil can significantly affect perceived quality. This not only differentiates the product from competitors but also taps into consumers' desires for authenticity and tradition in their culinary choices.

Overall, the role of packaging in marketing is comprehensively understood through various theoretical models, notably the AIDA model, which outlines the stages a consumer undergoes from initial awareness to final purchase, with packaging playing a key role throughout the buying process. Packaging design's criticality is evident in its ability to capture attention, generate interest, evoke desire, and prompt action, thus affecting sustainability trends, life cycle approaches, and consumer perceptions of sustainability. These elements collectively underscore the profound influence of packaging on consumer behavior, highlighting its capacity to enhance visibility, perceived value, and ultimately, consumer choice.



Historical Perspective

The study of packaging has gained an increasing value over the centuries, facilitated by industrialization and the various and growing requests that still come from the market, with such sudden speed. Let's try to summarize in a few steps the decisive moments for the development of packaging.

The evolution of food packaging began in the late 19th and early 20th centuries, transitioning from the sale of bulk goods to individually packaged products. This shift

was necessitated by the need to preserve food quality and extend shelf life during a period when transportation and storage conditions posed challenges to hygiene and safety. Initially, materials such as tin and glass were favored for their barrier properties against contamination and deterioration. As Coles, McDowell, and Kirwan (2003) note, these early packaging solutions were pivotal in protecting food, enabling long-distance transportation and storage (p. 25). The era also saw the introduction of standardized packaging formats, which simplified product recognition for consumers and enabled larger production scales for packaging companies, thus reducing management and production costs.

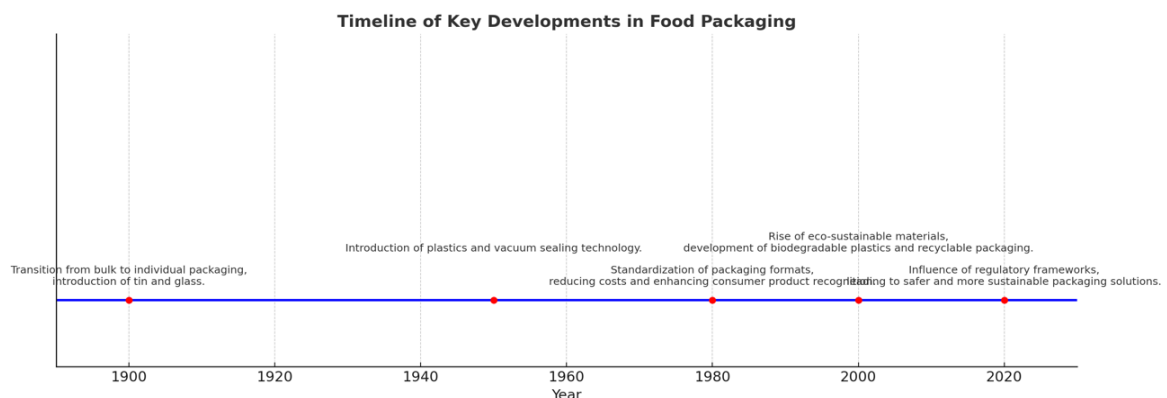
The mid-20th century marked a period of significant innovation that transformed the food packaging landscape. The introduction of plastics provided a lightweight, flexible, and cost-effective alternative to traditional materials like glass and tin. Plastics revolutionized food packaging with the development of hermetic seals crucial for preserving perishable items and the advent of vacuum sealing technology, which enhanced the protection against oxidation and microbial contamination, substantially extending the shelf life of food products.

Despite the rise of plastics, glass has remained a staple in the food packaging industry, especially valued in products like pasta sauces not only for its protective qualities but also for its aesthetic appeal, which brands like Barilla and Bertolli have capitalized on to symbolize premium quality and authenticity. These brands have maintained the classic appeal of glass jars while incorporating modern design elements, making glass a preferred choice for consumers who value both quality and sustainability.

In recent years, there has been a significant shift towards the use of eco-sustainable materials in packaging. This trend, driven by growing environmental awareness, has led to the development of biodegradable plastics and recyclable packaging solutions that aim to reduce material use. As highlighted by Lindh et al. (2016), this move towards sustainability reflects broader consumer preferences for environmentally friendly products (p. 110). The food packaging industry has adapted to these consumer values and regulatory demands by embracing eco-friendly practices.

Regulatory frameworks have also significantly influenced the evolution of food packaging materials and designs throughout the 20th and 21st centuries. With increased health and environmental concerns, regulations have become stricter, advocating for the abandonment of harmful plastics like those containing bisphenol A (BPA) and pushing for clearer labeling, the use of non-toxic materials, and the reduction of packaging waste. These changes have been particularly noticeable in the market for ready-made pasta sauces, where there's been a widespread adoption of recyclable glass jars and a reduction in the use of unnecessary packaging materials, such as shrink films. Brands like "Rao's Homemade" have leveraged these regulatory changes to emphasize the purity and safety of their packaging, appealing to health- and environmentally conscious consumers.

Understanding these historical developments provides valuable insights into the current packaging strategies employed by food industry brands, especially in competitive sectors like pasta sauces, where sophisticated, multifunctional designs are used to balance consumer needs, environmental concerns, and regulatory requirements.



Current Trends in Food Packaging

In recent years, the integration of digital technology into packaging has emerged as a significant trend in the food industry. Applied technologies such as QR codes, augmented reality (AR) and near-field communication (NFC) are increasingly being used to improve consumer engagement, providing additional information about products, creating a more immersive shopping experience for the consumer. According to Karatza and Katsouli

(2020), "The adoption of digital technologies in packaging is transforming the way consumers interact with products, giving brands new ways to communicate and interact with their audiences" (p. 144).

QR codes: Quick Response (QR) codes are now commonly found on food packaging, giving consumers instant access to detailed product information, recipes, promotions, and even brand sustainability efforts. By scanning the QR code with a smartphone, consumers can access a wealth of information that goes beyond what's printed on the packaging, fostering a deeper connection with the brand.



Augmented reality (AR): AR is another technological advancement that is gaining traction in packaging design. It allows consumers to experience a virtual overlay of information or entertainment when they point their smartphones at the product. This can include anything from interactive recipes to brand stories or even virtual tours of the production process. Immersive experience that not only adds value to the product, but also differentiates the brand in a crowded market.

Minimalism

Minimalist packaging typically features clean lines, simple typography, and limited color palettes, focusing on the essentials rather than overwhelming the consumer. This trend aligns with the growing consumer preference for products perceived as natural, organic, and free of unnecessary additives.

Personalization

The trend towards custom packaging is being driven by advances in digital printing technologies, which allow brands to create custom packaging for individual consumers or specific market segments. This trend satisfies the modern consumer's desire to have unique experiences, fostering a more personal connection with their audience.

Current trends in food packaging, including technological advancements, minimalism, and personalization, reflect broader shifts in consumer expectations and behaviors. Such trends not only improve the consumer experience but also align with values such as transparency, sustainability, and individuality.

The evolution of packaging design in the food industry, particularly in the category of ready-to-eat tomato sauces, highlights a dynamic interaction between theoretical advances and practical applications. Packaging has gone from a purely functional element, focused on food protection and preservation, to a sophisticated marketing and consumer engagement tool. This progression reflects broader changes in consumer behavior, technological innovation, and social values, all of which have shaped the way packaging is conceived and executed.

As consumer markets expanded and became competitive, the role of packaging began to evolve, incorporating branding and marketing elements. As Hine (1995) notes, the mid-twentieth century marked a turning point, in which packaging became "a critical component of the marketing mix, essential for product differentiation and brand identity" (p. 112).

Packaging design, in the context of consumer psychology, has become an essential means of influencing purchasing behavior. Theories such as color psychology, shape appeal, and the use of imagery have been applied to enhance the visual appeal of products and evoke specific emotions in consumers. As Bloch (1995) states, "The visual elements of packaging are powerful tools for shaping consumer perceptions and guiding purchasing decisions" (p. 17).

According to Kotler and Keller (2016), packaging design must first capture attention and then sustain interest by conveying relevant information and creating a desire for the product, ultimately leading to a purchase decision (p. 355).

Sustainability has emerged as a crucial consideration in modern packaging design, driven by both consumer demand and regulatory pressures. As Lindh et al. (2016) highlight, "The shift to sustainable packaging reflects broader societal values about environmental responsibility, with consumers increasingly seeking products that align with their ethical beliefs" (p. 110).

We can therefore say that the evolution of packaging design in the food industry has exemplified over the years a continuous adaptation to changing consumer needs, technological advances and social trends. In the evolutionary path of packaging from its initial role in preserving food quality to its status as a marketing tool, packaging has become a multidimensional element that not only protects the product, but also communicates brand values, influences purchasing decisions, and aligns with consumer ethics.

The exploration of the historical and theoretical aspects of packaging design lays the foundations for a more targeted analysis of the specific packaging strategies employed by Gustibus Alimentari. In the following subchapter, we will delve into the evolution of Gustibus' packaging, exploring how the brand has dealt with these trends and what impact these changes have had on its market position.

EVOLUTION OF GUSTIBUS PACKAGING

Gustibus Alimentari S.r.l. was founded in 2009 in Dittaino, a district of the municipality of Assoro (EN), a region historically known for its cereal production and a key agricultural hub in Sicily, alongside the Catania plain, renowned for its citrus orchards and fruit cultivation. The company represents the evolution of a family business led by the Pecorino family, now in its third generation, originally focused exclusively on

agriculture, primarily cultivating tomatoes, peppers, and cereals. This deep-rooted agricultural expertise laid the foundation for what would eventually become a thriving food manufacturing company, specializing in the production of tomato-based sauces and ready-made pasta sauces, characterized using high-quality raw materials drawn from both Italian and Mediterranean culinary traditions.

Dr. Francesco Pecorino, the owner and current CEO, recognized the opportunity to build upon the family's agricultural heritage by entering the highly competitive market for tomato sauces and ready-made pasta sauces. In 2009, leveraging his extensive experience in food brokerage and deep knowledge of agriculture, Dr. Pecorino made the strategic decision to shift from the production of raw tomatoes to packaged food products. This marked the beginning of the company's expansion into both the Italian and international processed food markets, entering a sector already dominated by established brands such as **Barilla** and **Mutti**, both leaders in the production of tomato-based sauces.

Under Dr. Pecorino's leadership, Gustibus experienced rapid growth, setting itself apart by focusing on the authenticity of Mediterranean Italian ingredients and traditional recipes. Through the production of private-label goods for major retailers, Gustibus secured contracts with high-profile clients both in Italy and abroad. In recent years, the company has embarked on a process of diversification, expanding its product line beyond tomato sauces to include pestos, white sauces, and sweet spreadable creams such as pistachio, hazelnut, and almond creams. This flexibility in product development has enabled the company to respond to market demands and consumer trends, further solidifying its reputation as an innovative company.

Gustibus Alimentari has invested heavily in state-of-the-art production facilities, characterized by fully automated processes for manufacturing, jar filling, packaging, and palletizing. This technological advancement has significantly increased the company's operational capacity while ensuring high standards of quality and safety. Today, the company employs over 100 staff members and continues to expand its presence both in Italy and internationally. By participating in leading international food trade fairs, Gustibus Alimentari has successfully expanded its network of partners and clients.

The extraordinary growth journey of Gustibus Alimentari, from a local Sicilian agricultural company to a key player in the international food market, has been driven not

only by the foresight of its leadership and the expansion of its high-quality sauce production but also by a continuous evolution of its commercial, marketing, and packaging strategies.

As the company expanded its product range and diversified its production line, the packaging evolved accordingly, adapting to the challenges of a highly competitive and ever-changing market. Packaging shifted from being a mere functional tool to becoming a strategic marketing asset, capable of reflecting the company's core values: quality, authenticity, and innovation.

This evolution was crucial for strengthening the brand's identity in a crowded marketplace, where product image plays a fundamental role in consumer choices. Packaging not only protects the product but also tells a story, conveying to consumers a message consistent with the sustainability and environmental values that Gustibus is committed to upholding.

In the following section, we will explore how the evolution of Gustibus Alimentari's packaging strategies has transformed over time, balancing cost-effectiveness, functionality, and design to best respond to market demands and increasingly sophisticated consumer expectations.

Design Aesthetics and Visual Impact

The packaging of food products plays a pivotal role in shaping consumer perception and influencing purchasing behavior. Acting as an extension of the product itself, the packaging not only safeguards the product but also serves as a visual and psychological signal, conveying the brand's values, product quality, and market positioning.

The redesign of Gustibus Alimentari's packaging, conducted by *Graphic Designer Arch. Francesco Pettinato of Architeam Studio*, in collaboration with *Mrs. Giada Maria Filippina Casabona, the company's Packaging Manager*, marked a turning point in the company's branding and visual communication strategy. This allowed Gustibus to align its image with contemporary trends and the expectations of the global market. This shift is evident in the evolution of Gustibus Alimentari's packaging from a traditional aesthetic to a modern and minimalist design, reflecting broader trends in consumer behavior and branding strategies.



As we can observe from the provided images, the old packaging of Gustibus Alimentari emphasized tradition and regional heritage, with visual elements such as the map of Sicily and a natural color palette designed to communicate authenticity and connect with consumers seeking products tied to specific geographical origins. According to research on regional branding, consumers often associate geographic indicators such as maps or landscapes with higher quality and authenticity, especially for food products where ingredient provenance is crucial (Papadopoulos, 2015). In this sense, the old packaging effectively leveraged Sicilian heritage to attract a particular segment of consumers.

However, as markets rapidly evolve, consumer preferences also shift. Modern consumers, particularly younger demographics, tend to favor simplicity, clarity of information, elegance, and minimalism in packaging, as these elements are often associated with superior quality and aesthetic sophistication (Ampuero & Vila, 2006). Gustibus' new packaging aligns with this shift, presenting a clean and modern design that employs bold fonts and monochromatic backgrounds to create a contemporary and impactful look.



Minimalist design in packaging is a rapidly growing trend in the food industry, driven by the increasing demand for premium, artisan-like products. A study by Becker et al. (2011) demonstrated that minimalist packaging is often automatically associated with the luxury sector and high quality, as it reduces the cognitive load on consumers by eliminating unnecessary visual elements, allowing them to focus on the essential qualities of the product. Using a monochromatic palette, bold text, and images of primary ingredients, the Gustibus brand capitalizes on this association, signaling to consumers that its products are not only of high quality but also premium offerings in the crowded sauce and ready-to-eat market.

The contrast between bold, dark labels and the vibrant colors of the sauces or ingredients further enhances the visual impact of the packaging, making the product easily identifiable and a standout on the crowded shelves of both Italian and international

supermarkets. As noted by Lee et al. (2018), the use of color contrast is a key element in capturing consumer attention, especially in fast-moving sectors where competition for shelf space is intense. The new Gustibus design succeeds in differentiating itself from competitors by balancing visual simplicity with strong product identification.

Packaging serves the purpose of triggering both cognitive and emotional responses in consumers. Cognitive responses refer to how consumers process the information presented on the packaging: the product name, the brand, and the key features. Emotional responses, on the other hand, are tied to how the visual design interacts with consumers when they encounter the product. Scientific studies have shown that emotional engagement with packaging can significantly influence purchase likelihood, particularly when the design communicates reliability and sophistication (Rettie & Brewer, 2000).

In the case of the Gustibus brand, the newly developed packaging elicits stronger emotional responses thanks to its refined and minimalist visual presentation. The calligraphic font used for the brand name adds a touch of authenticity and warmth, while the dark background evokes trust, security, and modernity. These interconnected elements create a balanced emotional appeal which, according to cognitive dissonance theory, should help reduce consumer hesitation during the decision-making process, fostering a sense of trust and familiarity.

Another fundamental aspect of the packaging design evolution is its ability to maintain brand consistency while simultaneously updating the visual identity to convey freshness and innovation. The modernized packaging of Gustibus, contrary to what one might think, preserves the connection to Italian culinary traditions, particularly using images representing fresh ingredients such as tomatoes and basil, framed in a universal, minimalist, and refined design. This approach allows the brand to appeal to both local consumers, who appreciate the traditional aspects of Italian cuisine and seek regional elements, and international consumers, where modern and refined packaging is associated with global trends for premium food products.

A stronger shelf impact becomes a crucial factor in competitive retail environments. The minimalist aesthetic of the new packaging is designed to draw attention through a combination of color contrast and visual simplicity—elements that prove effective in high-traffic commercial spaces, where consumers are often overwhelmed by the vast

volume of available options. According to Silayoi & Speece (2007), packaging that utilizes minimalist visuals and bold design tends to perform better in terms of consumer recall and brand recognition, especially in sectors where purchasing decisions are made quickly.

It can be stated that the design aesthetics and visual impact of Gustibus Alimentari's packaging reflect a carefully planned strategy aimed at capturing modern consumer preferences while maintaining the brand's connection to Italian culinary tradition. Gustibus' packaging evolution toward minimalist characteristics signals a shift toward a premium positioning, attracting a global audience that is increasingly demanding and influenced by the activities of competing companies.

Impact of Visual Design on Consumer Behavior

Packaging design plays a key role in shaping and often influencing consumer behavior. Numerous studies have shown that visual stimuli, such as color, typography, and imagery, can significantly affect consumers' cognitive and emotional responses, ultimately guiding their purchase decisions (Orth & Malkewitz, 2008). The new Gustibus packaging strategically uses these elements to capture attention, communicate product quality, and shape consumer perceptions, all of which are crucial in influencing consumer behavior within the highly competitive market of tomato-based pasta sauces.

Color is one of the most powerful tools in the hands of packaging design professionals, as it can evoke strong emotional responses and influence consumer perceptions of a brand. According to Singh (2006), up to 90% of quick product decisions can be based solely on color. Gustibus Alimentari's new packaging design capitalizes on bold, dark colors like black and anthracite gray, which are often associated with sophistication, premium quality, and reliability (Labrecque & Milne, 2012). The colors used in the packaging effectively contrast with the vibrant tones of the food products themselves, such as the red of tomatoes or the green of pesto, enhancing visual appeal and ensuring product visibility on shelves. This contrast also signals higher quality, evoking a sense of luxury, which aligns with the growing consumer demand for premium and artisanal products (Pantin-Sohier, 2009).

The emotional impact of color goes beyond mere visual appeal. Dark colors can often trigger feelings of trust and security in consumers, a crucial factor for brands like

Gustibus, which aim to convey sophistication and elegance in premium products. As Hynes (2009) suggests, brands that use bold, dark colors often communicate a message of authority and security, which can positively influence consumer trust, encouraging them to make a purchase.

Typography is another fundamental aspect of visual design that influences consumer behavior. The typeface used in the new Gustibus packaging employs a modern, bold script that projects a mix of tradition and contemporary style. Research shows that typography influences how consumers interpret and interact with a product (Doyle & Bottomley, 2004). Serif fonts are typically associated with tradition and reliability, while sans-serif or script fonts are seen as more modern and accessible. Gustibus' choice of a sans-serif typeface reinforces the brand's commitment to both heritage and innovation, creating a sense of warmth and authenticity while catering to contemporary tastes.

Moreover, large, clear typography improves readability, making key product information easily understandable and ensuring greater consumer focus on the product. This reduction in cognitive effort can lead to faster purchase decisions and increase the likelihood of a sale (Silayoi & Speece, 2007).

Imagery plays a crucial role in communicating the freshness and quality of ingredients. In its products, Gustibus uses clean, high-quality images of key ingredients, such as tomatoes, basil, or pistachios, to emphasize authenticity and quality. According to Underwood and Klein (2002), images on packaging provide consumers with direct cues about ingredients and product benefits, often leading to a more favorable perception of the product itself. These visual signals help consumers form mental associations with the product before even reading the label, facilitating decision-making. When these images are associated with freshness and authenticity, as in the case of Gustibus, they can positively impact purchase intention.

Lastly, the minimalist design ensures that the product is the focal point and the undeniable protagonist. This visual hierarchy directs the consumer's attention to the product's strengths, such as the quality and authenticity of its ingredients. Packaging that creates a focal point through clean images and design is more likely to engage consumers and leave a lasting impression (Wells, Farley, & Armstrong, 2007). According to the theory of bounded rationality, consumers, when faced with an overwhelming number of choices,

tend to rely on simple decision-making strategies where the focal point created by packaging becomes key to success. This can lead to higher conversion rates, especially in markets where consumers seek quick but informed purchase decisions.

It can therefore be concluded that the impact of visual design on consumer behavior is substantial. For Gustibus, the shift toward a more modern and minimalist design strategy taps into consumer preferences for premium, visually appealing products while maintaining the brand's authenticity. By utilizing key elements such as color, typography, and imagery, the Gustibus brand creates a strong visual identity that resonates with both traditional and modern consumers, thereby influencing their engagement and purchase decisions.

Functional Improvements

Functional improvements in packaging design are a crucial aspect for any product, regardless of the sector. In the food industry, packaging serves not only to protect the product but also plays a key role in shaping the overall consumer experience. The new Gustibus packaging is a clear example of how an optimized design can enhance not only the aesthetic appeal of a product but also its functionality, meeting contemporary consumer demands in terms of convenience, preservation, and sustainability.

One of the most significant aspects of the functional improvements introduced is related to ease of use. As highlighted by several studies, modern consumers tend to prefer packaging that is easy to open, resealable, and capable of ensuring optimal preservation of the product once opened (Silayoi & Speece, 2007). Consumers, as noted in a study by Rundh (2016), prefer packaging that facilitates daily interaction with the product, reducing the effort required.

A significant improvement in the Gustibus packaging concerns the optimization of the volume and shape of the containers. In an overcrowded market such as that of ready-made pasta sauces, a product's ability to occupy space efficiently while combining visual design with economic viability becomes essential.

Finally, sustainability is an increasingly important issue in the packaging industry, with growing consumer pressure for environmentally friendly and sustainable solutions. Gustibus has responded to this need by adopting more sustainable and recyclable materials. The study by Lindh et al. (2016) highlights how a consumer's positive perception of a brand can be influenced by the knowledge that the packaging is eco-friendly. The materials used in Gustibus' new packaging, particularly recyclable glass and low-environmental-impact packaging materials, not only guarantee complete product protection according to the required standards but also address consumers' growing concerns about environmental impact. This reflects a substantial evolution, as sustainable packaging becomes a true marketing tool capable of attracting a segment of consumers increasingly attentive to environmental issues.

The functional improvements made to Gustibus packaging demonstrate a clear intent to meet the practical needs of the modern consumer without compromising the brand's aesthetic appeal and identity. Through innovations that combine convenience, ergonomics, sustainability, and space optimization, the new packaging provides an effective response to contemporary market challenges, increasing the brand's competitiveness and enhancing the consumer's user experience.

Evolution of Brand Identity

The evolution of a brand's identity is a crucial factor in maintaining relevance in a continuously shifting market, and Gustibus Alimentari's transformation exemplifies this process. The changes in packaging design reflect not only the company's ambition to modernize and present a refreshed image but also its commitment to preserving its connection to Sicilian traditions. As previously discussed, the brand's initial identity was deeply rooted in its regional origins, conveyed through visual elements such as the map of Sicily, warm tones, and regional symbols. These elements established an emotional connection with consumers, emphasizing authenticity and belonging—key factors in building consumer trust, especially in a market like Italy, where regional identity significantly influences purchasing behavior. However, as Gustibus evolved, the need to modernize and appeal to an international audience emerged, all while maintaining the essence of its roots.

By embracing contemporary design principles, Gustibus successfully balanced tradition and modernity, allowing the brand to retain its authenticity while broadening its appeal to a more global and diverse audience. The packaging shift also signals a broader embrace of innovation, not only in visual terms but also in market positioning.

The integration of sustainability into Gustibus' brand identity represents a significant aspect of the company's evolution. With the growing awareness of environmental issues, brands are increasingly called upon to reflect these values. Through the adoption of recyclable materials and eco-friendly packaging, Gustibus addresses these concerns while reinforcing its modern and premium brand identity. This shift towards sustainability is part of a broader commitment to innovation, demonstrating that Gustibus not only preserves its heritage but also adapts to contemporary consumer values and the demands of global markets.

This evolution goes beyond aesthetic change, signaling a commitment to innovation, sustainability, and competitiveness in the global food industry. As a result, Gustibus has positioned itself as a dynamic brand capable of navigating the challenges of a globalized market while staying true to its origins.

THE IMPORTANCE OF SENSORY ASPECTS OF FOOD PACKAGING DESIGN

Introduction to sensory Aspects in packaging

In the contemporary food industry, as previously noted, packaging has transcended its conventional functional role of containment and protection, evolving into a potent tool in the hands of companies to engage consumers on a multisensory level. These sensory aspects in the field of packaging design study refer to the strategic use of visual, tactile, auditory, olfactory, and even gustatory stimuli to influence consumer perception and behavior. Various studies have shown that sensory engagement through packaging can significantly impact a consumer's emotional response to a product and consequently, their purchasing decisions (Spence & Piqueras-Fiszman, 2012). In an increasingly saturated market, brands are turning to sensory design to create unique, memorable experiences that resonate with consumers on a deeper level.

From this arises the idea of engaging the consumer in a multisensory experience, wherein they can process information using multiple or all senses. When multiple senses are involved, this can lead to strong emotional connections with the product and thus facilitate purchasing decisions. Visual elements such as color, typography, and imagery are often the first stimuli to capture a consumer's attention, but tactile and auditory feedback from packaging materials also plays a significant role in shaping expectations about product quality (Orth & Malkewitz, 2008). By designing packaging that appeals to more than one sense, companies can create more engaging and satisfying experiences for the consumer.

The use of sensory design in packaging development is rooted in consumer behavior psychology, where sensory cues are used to evoke specific emotions, memories, or associations. Emotional responses elicited by the visual or tactile elements of a package can influence how a product is perceived whether as luxurious, artisanal, or mass-market (Krishna, 2012). These emotional cues are often processed subconsciously, making sensory packaging design a critical component in creating lasting impressions of a brand.

Today, companies leverage sensory elements not only to differentiate their products but also to communicate brand identity, enhance the perceived quality of the product, and

ultimately drive purchasing decisions. This shift is particularly pronounced in the food industry, where packaging serves as a direct interface between the consumer and the product.

As the global food industry becomes increasingly competitive and companies crowd the supermarket shelves worldwide, sensory packaging design has emerged as a critical strategy to stand out, communicate values, information, and reach the consumer directly. Research in the field suggests that consumers make purchasing decisions within seconds, often based on the initial sensory impact of the product's packaging (Underwood & Klein, 2002). In such a context, sensory design must create a compelling first impression that captures attention and effectively communicates the brand's value proposition.

Within this chapter, we will explore each of the key sensory elements involved in packaging design—visual, tactile, auditory, olfactory, and gustatory—highlighting how these elements work together synergistically to create a holistic multisensory experience that influences consumer behavior. By examining the theoretical frameworks and empirical studies behind sensory packaging, this chapter aims to provide a comprehensive understanding of the critical role that sensory design plays in shaping consumer perceptions and driving market success.

Visual Sensory Design in Food Packaging

In the field of food packaging design, visual elements represent the primary point of contact between the consumer and the product. They play a crucial role in shaping initial perceptions, influencing emotional responses, and guiding purchasing decisions. Visual sensory design encompasses aspects such as color, typography, imagery, and shape, all contributing to the overall aesthetic appeal of the packaging. Scientific studies suggest that consumers form impressions of a product within just 90 seconds, with up to 90% of these judgments based solely on color (Singh, 2006). This highlights and underscores the fundamental importance of carefully considering visual elements in packaging design, which are essential for creating a favorable first impression and indelibly positioning the product in the consumer's mind.

Color, among the most powerful tools in visual packaging design, is capable of evoking specific emotions, creating associations that influence the choices of consumers who perceive different products. Not all colors are equal; they are often linked to particular qualities: red is frequently associated with maturity, energy, and appetite, making it a popular choice for food packaging, especially in categories such as pasta sauces and snacks (Labrecque & Milne, 2012). Blue, on the other hand, is often used to convey trust and reliability, while green is increasingly associated with health, sustainability, and natural ingredients (Bottomley & Doyle, 2006).

In the context of food packaging, color is often used strategically to communicate product attributes or brand values. A darker color palette, with shades like black or deep burgundy, might evoke a sense of luxury or premium quality, aligning with consumer perceptions of gourmet or artisanal products (Pantin-Sohier, 2009). This is particularly relevant in markets where product differentiation is key to capturing consumer attention on crowded shelves. Brands that decide to invest in the psychological aspects of color more easily create strong connections with their target audiences and enhance brand loyalty.

Typography and imagery, tools no less important than color, serve not only to convey information but also to communicate the tone and values of the brand. Serif fonts, for example, are often associated with tradition and reliability, while sans-serif fonts are viewed as more modern and accessible (Henderson, Giese, & Cote, 2004). The choice of font, size, and placement on the packaging can influence how consumers interpret the product and whether they perceive it as high-end or mass-market. Research indicates that clear, legible typography increases consumer trust, particularly in the presence of ingredient lists and nutritional information, which are increasingly scrutinized by health-conscious and wellness-focused buyers.

Similarly to color and typography, imagery plays a significant role in influencing consumer perceptions of product quality. The depiction on packaging of fresh ingredients, such as ripe tomatoes, herbs, or whole grains, often strengthens or constructs the perception that a product is fresh, natural, and healthy. Images of the product itself or its characteristic ingredients, as in the case of sauces, help create a visual narrative that informs consumers about the origin, quality, and flavor profile of the product.

Another fundamental input for the consumer comes from the shape and size of the packaging, which contributes to consumer perceptions, directs purchasing behavior, and determines new market trends. The shape of the packaging is a non-verbal cue that communicates the product's purpose and value. For instance, slender, elongated bottles are often associated with elegance and premium quality, while compact, robust designs may evoke durability and practicality (Raghubir & Krishna, 1999). Studies show that round shapes tend to be perceived as softer and more accessible, while angular shapes are associated with strength and efficiency (Becker, van Rompay, Schifferstein, & Galetzka, 2011).

The size of the packaging also impacts consumer perceptions of the quantity and value of the product. Research indicates that larger packaging, even when it contains the same volume as smaller options, is often perceived as offering greater value, which can be advantageous in competitive categories where price sensitivity is high (Folkes & Matta, 2004).

Beyond the contribution provided by each visual tool, it is also important to recognize that the visual elements of packaging can vary in effectiveness depending on the cultural contexts in which they are applied. What may be perceived as premium in one market could be seen as too simple or dull in another. Cultural differences in color preferences, for example, are well documented. In Western markets, white often represents cleanliness and simplicity, while in some Asian cultures, it may be associated with mourning or sterility (Kauppinen-Räsänen & Luomala, 2010). As brands expand globally, understanding these nuances becomes critical to ensuring that visual design elements align with local consumer preferences and enhance the product's appeal.

The visual impact of food packaging is closely linked to purchase intent. Visually appealing packaging that evokes emotions is more likely to attract consumers and lead to spontaneous purchases, particularly in low-involvement categories where consumers make decisions quickly. Packaging that clearly communicates the product's benefits through effective use of visual design can lead to higher levels of consumer satisfaction and brand loyalty (Wells, Farley, & Armstrong, 2007).

Thus, the role of visual sensory design in food packaging is indispensable in shaping consumer perceptions and guiding purchase decisions. From the strategic use of color to the careful selection of typography and imagery, every visual element contributes to the overall consumer experience. As markets become more competitive, investing in effective visual design has become a crucial strategy for brands seeking to differentiate themselves and build strong emotional connections with their audience.

Tactile Sensory Design in Food Packaging

The success of packaging is not solely attributed to an appropriate selection of visual elements. Like the elements of visual design, tactile sensory design in food packaging involves the strategic use of materials, textures, and shapes to enable consumers to perceive quality, usability, and value. The tactile experience of packaging plays a critical role in product differentiation, particularly in environments where consumers can physically interact with products before purchasing.

The choice of packaging materials can profoundly impact consumer perceptions of a product. For example, glass is often associated with premium quality and sustainability, while plastic may be perceived as practical but less environmentally friendly (Magnier & Crie, 2015). Each material also provides different tactile experiences: glass feels heavier and cooler, while plastics can range from soft and flexible to hard and rigid, each conveying different quality cues to consumers.

Various materials such as metal, wood, or even composite materials are occasionally used in specialty or luxury products to convey a sense of uniqueness and high value. The tactile impressions these materials provide can evoke perceptions of heritage, craftsmanship, and luxury (Krishna, 2012).

The surface feel of a package can influence consumer decisions. Textured surfaces such as embossing or matte finishes can provide a premium feel, often utilized in luxury products to enhance the sensory experience. Conversely, a smooth, glossy finish might communicate modernity and high-tech quality (Spence, 2015).

Incorporating specific textures into packaging design can also enhance grip and handling, making the package more functional, aesthetically appealing, and easier to use. For instance, a bottle with a textured label or indentation may be easier to hold and pour, especially in products such as olive oil or syrups where grip can affect consumer safety and convenience (Hine, 1995).

Tactile feedback is not limited to passive experiences; the use of interactive elements such as peel-off labels, accordion-style tops, pop-up lids, and other functional components can enhance tactile interaction and make the unboxing process memorable for the consumer. These features can significantly improve consumer engagement, providing practical and emotional rewards that strengthen brand loyalty (Underwood, 2003).

Such interactive tactile experiences can be particularly appealing to younger demographics, who value both the functionality and the playful aspect of packaging design. The addition of tactile surprises can transform a simple action, like opening a package, into a moment of delight, which can be particularly effective in social media marketing where unboxing experiences often become content opportunities.

Tactile design also plays a crucial role in sustainability. As consumers become increasingly environmentally conscious, the feel of recycled or bio-based materials can influence product reception. A study by Orth and Malkewitz (2008) indicated that consumers might perceive products as more or less eco-friendly based on their tactile qualities. For instance, the use of rough, unbleached paper can communicate organic or natural attributes, aligning the tactile experience with environmental values.

The choice of biodegradable or compostable materials can contribute to a brand's sustainable image while also meeting consumer expectations for tactile quality. These materials not only need to function effectively but also need to convey their eco-friendly qualities through touch (Lindh, et al., 2016).

Tactile sensory design in food packaging is a vast field that impacts consumer perception, just as in the case of visual elements. In today's competitive market, tactile elements of packaging design are not merely aesthetic choices but strategic tools that can significantly influence consumer behavior and brand loyalty.

Auditory Elements in Packaging

An often-overlooked aspect in packaging evaluation is the auditory design element, which, contrary to what one might think, can significantly influence consumer perceptions, enhancing brand interaction. Auditory elements in packaging, such as the noise made when opening, resealing, or interacting with a product, contribute to the overall sensory experience and can evoke feelings of satisfaction, freshness, and quality. In a market increasingly oriented towards the sensory appeal of products, understanding and integrating effective auditory cues can provide a competitive advantage.

The sound produced upon opening a package often serves as an indicator of product quality and freshness. For example, the distinctive "pop" of a sauce jar lid when first opened can reassure consumers about the product's integrity and safety. This auditory cue is so significant that it has been extensively studied and engineered to optimize consumer response. Brands like Pringles, with their recognizable canister "pop," utilize these sounds to create a memorable opening experience that consumers associate with freshness and fun (Spence, 2012).

Similarly, resealable packages that emit a sound upon closing can enhance the user experience by providing auditory feedback that the product is securely stored. This feature is crucial for food items that are used multiple times, such as coffee or snacks, where the sound of a zip seal or click indicates that freshness is preserved (Krishna & Morrin, 2008).

Auditory elements can also be implemented and extend to the concept of "sonic branding," where the sounds associated with packaging become part of the brand identity. The crinkle of a high-quality chocolate wrapper or the fizz when opening a carbonated drink can become as iconic as the brand's visual logo or color scheme. These sounds can trigger emotional responses and create strong brand associations in the consumer's mind, enhancing brand recall and loyalty (Kilian, 2009).

Scientific research has shown that the perceived value of a product is enhanced by the sounds associated with its packaging. Products crafted with packaging that makes a pleasant sound are often perceived as more luxurious or of higher quality. For example, the sound of uncorking a wine bottle is universally associated with celebration and

quality, influencing the consumer's perception before the wine is even tasted (Spence, 2015).

Auditory feedback, therefore, is not only about initial interaction but can also contribute to ongoing consumer satisfaction. Packaging that continues to produce satisfying sounds with each use, such as the snap of a high-quality cosmetic lid or the rustle of a gourmet snack bag, can reinforce positive feelings about the product and enhance the user experience (Hultén, 2012).

From an accessibility standpoint, auditory cues in packaging can assist people with visual impairments. By designing packaging with distinctive auditory feedback, companies can help visually impaired consumers identify when a package is opened or closed, or even distinguish between products based on the sounds their packages make (Velasco & Spence, 2014).

Incorporating auditory elements into packaging design represents an opportunity to enrich the consumer experience, differentiate products in a crowded market, and build deeper emotional connections with the brand. As brands continue to explore multisensory marketing, the strategic use of sound in packaging is becoming an essential aspect of product design that can significantly influence consumer perceptions and behaviors.

Olfactory and Gustatory Cues in Food Packaging

The application of olfactory and gustatory elements represents a new frontier in the development of food packaging design, particularly in sensory marketing. These elements can significantly influence consumer perceptions and behaviors by directly appealing to the senses most linked to memory and emotion. In food packaging, these elements can enhance or modify the consumer's expectations and experience of the product.

Olfactory cues involve the integration of scents into the packaging that can evoke certain emotions or memories and align with the intended experience of the product, or directly with characteristics that the specific product should have. The inclusion of a scent in packaging can be a direct stimulant of the product's appeal. For instance, integrating a vanilla scent into the packaging of vanilla cookies can enhance the consumer's perception

of freshness and flavor quality even before they taste the product. This strategy can trigger positive sensory memories and associations, potentially increasing consumer satisfaction and purchase intention.

Scents are generally incorporated within the packaging through microencapsulation, which releases the aroma when the packaging is handled or opened. This technology has garnered particular interest in markets where product freshness is a selling point, such as in packaging for coffee or baked goods. Research by Krishna et al. (2010) shows that scented packaging increases the perceived value of a product and can significantly influence the decision-making process in a retail environment.

Although direct gustatory stimulation through packaging is not feasible without consuming the product, packaging can still influence taste perceptions through visual and textual cues. Packaging can also include flavor labels and descriptions that prepare the consumer's taste expectations. Descriptive labeling, such as "rich basil flavor" or "zesty lemon," can create pre-consumption taste expectations. When the product meets or exceeds these expectations, it can lead to higher levels of satisfaction and repeat purchases. Conversely, if the product does not meet the induced expectations, it might result in consumer disappointment, highlighting the importance of accurate and evocative taste descriptions in packaging design.

Packaging design that successfully incorporates olfactory and gustatory cues must consider consumer expectations and cultural preferences. Certain scents might be more appealing in specific markets due to cultural associations with certain smells or flavors. Companies need to research and test their sensory packaging designs to ensure they resonate well with their target demographic and do not clash with cultural expectations or preferences.

The task of integrating and incorporating olfactory and gustatory cues into food packaging requires a delicate balance between enhancing the consumer experience and managing expectations. When executed effectively, these cues can greatly enrich the consumer's interaction with the product, leading to increased satisfaction and brand loyalty. The complexity of human sensory processing means that these cues must be carefully designed and tested to ensure they achieve the desired effect without

overwhelming or misleading the consumer. The future of sensory marketing in food packaging is promising, with ongoing advancements in technology providing new ways to engage consumers' senses and enhance their eating experiences.

Multisensory Integration in Packaging

The integration of multiple sensory cues into packaging design, such as visual, tactile, auditory, olfactory, and gustatory elements, enhances consumer perception and buying behavior by providing a fully immersive experience. Studies show that congruent sensory cues make a product more attractive and elicit positive emotional responses that influence purchasing decisions. For example, Spence and Gallace (2011) highlight how such cues can strengthen the brand message and improve product evaluation, increasing satisfaction and purchase intent.

The effectiveness of these cues requires a deep understanding of the sensory preferences of the target audience and the context in which the product will be consumed. Each sensory element must be designed to complement the others, aiming to create a unified brand experience that communicates the unique attributes of the product. For instance, the texture of packaging might evoke the product's contents, such as an orange juice carton with a surface that resembles orange peel, enhancing both authenticity and the overall sensory experience (Krishna, 2012).

Beyond psychological aspects, multisensory packaging has practical implications for product differentiation and shelf impact, especially in sectors like food and beverages where sensory appeal is crucial. Products that effectively engage multiple senses are more likely to capture attention and be remembered, enhancing brand strength and consumer loyalty (Lindstrom, 2005).

By tailoring sensory elements to consumer preferences and lifestyle trends, brands create increasingly personalized and emotionally engaging experiences, strengthening the connection with the consumer and enhancing trust in the brand.

Multisensory integration in packaging is thus an advanced strategy that leverages the interplay of sensory cues to transform packaging from a mere container into a dynamic

tool that significantly affects consumer perceptions and behaviors. This approach requires meticulous planning and a profound understanding of sensory science and consumer psychology to achieve the desired effect without overwhelming or misleading. The future of sensory marketing in food packaging is promising, with new technologies providing innovative ways to engage the senses and enhance eating experiences.

Sustainability and Sensory Design

Sustainability in packaging design, especially when combined with sensory elements, represents a crucial area of innovation that aligns environmental responsibility with consumer engagement. The use of sustainable materials such as recycled plastics, biodegradable compounds, and plant-based inks not only addresses environmental concerns but also enhances consumer perception of the brand as responsible and cutting-edge. These materials provide tactile and visual cues that attract eco-conscious consumers, with their texture, color, and overall feel conveying quality and care for the environment, significantly influencing consumer choices.

Sustainable packaging often features minimalist designs that reduce material usage without compromising the sensory appeal of the packaging. This can be achieved through strategic use of colors, shapes, and textures that communicate simplicity and purity. Brands that successfully integrate these aspects are often perceived as innovators and leaders in sustainability, which can greatly increase consumer loyalty and attract a broader market segment.

Research indicates that consumers are increasingly likely to base their purchasing decisions on a company's environmental credentials (Lindh et al., 2016). Packaging that utilizes sensory design to highlight these credentials can make a product more attractive and stand out in a crowded market. For example, the use of clear labeling, natural color palettes, and tactile materials can enhance the sensory experience while simultaneously conveying the product's sustainability story.

Sense	Packaging Elements	Impact on Consumer	Associated Studies
Visual	Colors, Shapes, Design	Communicates simplicity and purity, enhances attractiveness	Lindstrom (2005), “Broad sensory branding”, Journal of Product & Brand Management
Tactile	Textures, Material Choice	Conveys quality and environmental care, improves interaction	Krishna (2012), Journal of Consumer Psychology
Auditory	Sounds of Opening/Closing	Enhances product experience, associated with freshness and fun	Spence, C., & Gallace, A. (2011) Multisensory design: Reaching out to touch the consumer
Olfactory	Scent, microencapsulation	Triggers positive emotional responses, increases product appeal	Krishna et al (2010), Journal of Consumer Research
Gustatory	Flavor Labeling and description	Sets taste expectations influences taste perception before consumption	Lindh et al (2016) Journal of Cleaner Production

In the next chapter, moving forward with a quantitative survey on Gustibus Alimentari's packaging, it is essential to examine how the packaging elements, influence consumer choices. This study will compare reactions to the old and new packaging designs, offering insights into their impact on consumer preferences and the effectiveness of incorporating sustainability into sensory packaging design. The findings will inform a deeper analysis of consumer data and trends, providing actionable insights to refine packaging strategies in line with consumer expectations and environmental responsibility.

CASE STUDY: GUSTIBUS ALIMENTARI S.R.L

Referring to the fundamentals expressed in the previous chapters about the evolution of theories on packaging design and its influence on consumer behavior at the point of purchase, in this final chapter, we will delve deeper into the specific application of these fundamentals through a detailed research study on the Gustibus brand, of the eponymous Gustibus Alimentari. As a renowned Italian manufacturer of sauces, ready-made pasta sauces, pesto, and sweet spreadable creams, Gustibus Alimentari represents a pertinent example of how strategic packaging redesign can play a crucial role in consumer decision-making processes. The research aims to statistically and scientifically evaluate the impact of Gustibus Alimentari's packaging on consumer choice at the point of sale. The focus is specifically on understanding how the transition from old to new packaging affects consumer perceptions and, consequently, their purchasing decisions.

This analysis is particularly relevant since the company places significant emphasis on the aesthetic and strategic appeal of its packaging, reflecting food industry trends and integrating more sensory elements that can enhance the consumer's positive perception. Applying a quantitative research methodology, specifically two distinct surveys targeting two different representations of the packaging, old and new, this study aims to provide empirical insights on the effectiveness of packaging elements such as visual design, tactile appeal, ideal pricing, and overall brand presentation in fostering a connection with the consumer.

These insights intend not only to evaluate the effects of these changes but also to provide actionable recommendations that can drive the brand towards greater market penetration and increased consumer loyalty. This chapter serves to make a crucial connection between theoretical exploration and practical application, offering a comprehensive analysis of how sensory marketing through packaging design can be effectively exploited in the competitive context of the Italian food industry.

Research Methodology

The methodology adopted for this study aims to deeply examine and comprehensively analyze the impact of packaging changes on consumer behavior for Gustibus Alimentari.

The chosen quantitative research utilized a dual-survey approach, aimed at gathering data while providing insights and reflections on the differences in consumer perceptions triggered by the old and new packaging designs.

The study sampled 50 individuals per survey, totaling 100 participants. The sample included a diverse demographic mix to ensure that the results were representative of Gustibus Alimentari's broad customer base. Participants were randomly selected to minimize bias, with efforts made to include both frequent and occasional consumers of the brand. To conduct this research, two distinct survey forms were created, specifically the first form displayed the old packaging of Gustibus products, and the second showcased the new packaging.

Each form was designed to assess the same set of KPIs, dependent variables, within the context of the different packaging designs identified by group 1 and group 2, our independent variables. The survey questions focused on several aspects, such as aesthetic appeal, perceived quality, ease of identification, prior brand knowledge, pricing, and overall brand alignment. The surveys were shared with users entirely digitally. Responses were collected in spreadsheets linked to each survey, to make them available for subsequent analysis, while maintaining anonymity to encourage honest feedback.

The research objectives are to: evaluate whether changes in packaging influence consumer perceptions of value and pricing; assess the impact of aesthetic changes on attractiveness and purchase intent; understand how the new design influences visibility and standout features on the shelf; measure how packaging affects recognition and familiarity with the Gustibus brand.

The described methodology ensures a structured approach to capturing and analyzing how visual and structural redesigns of packaging can influence consumer behavior and preferences. The dual-survey technique provides a comparative view that is critical in understanding the specific attributes of packaging that most significantly influence consumer decisions.

RESULTS

Initially, to better understand the demographic variety within the participant sample of the two surveys, a descriptive analysis was conducted that represented the demographics and included a detailed analysis of the samples considered as independent variables. This analysis revealed participation in the two questionnaires from a wide age distribution, with a predominant group between 25-34 years, and a balanced gender representation, distributed entirely across the Italian territory and predominantly from Sicily, indicating that regional influences on consumer behavior might be present.

The sample also showed a strong preference for renowned brands over retailer brands, with notable familiarity with the Gustibus brand. To facilitate the correct visualization of the data, we report them below in the related infographic:

Age Group Distribution

- 25-34 years: 55 people
- 18-24 years: 20 people
- 35-44 years: 10 people
- 45-54 years: 6 people
- <18 years: 5 people
- 55-64 years: 3 people
- 65+ years: 1 person

Gender Distribution

- Female: 58 people
- Male: 41 people
- Non-Binary: 1 person

Regional Distribution

- Sicily: 71 people
- Lazio: 10 people

- Other regions (less than 5 people each)

Brand Preferences

- Renowned Brands: 54 people
- No Preference: 30 people
- Retailer Brands: 16 people

Familiarity with Gustibus Brand

- Familiar: 68 people
- Not familiar: 32 people

Importance of Packaging

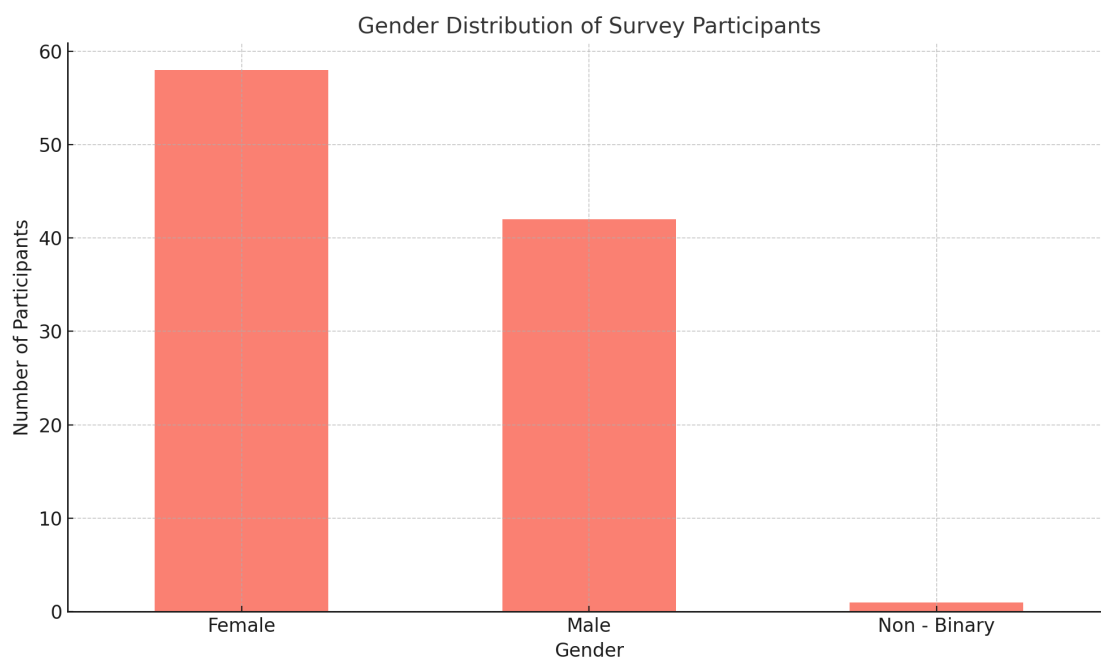
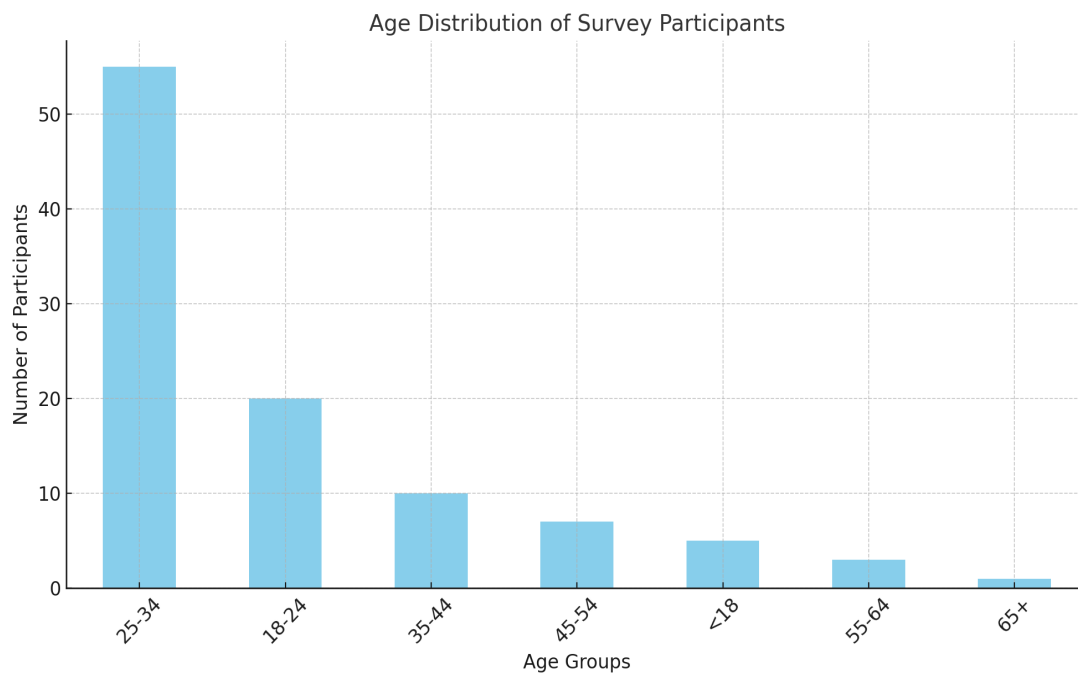
- Very Important (5): 37 people
- Important (4): 37 people
- Neutral (3): 19 people
- Slightly Important (2): 6 people
- Not Important (1): 1 people

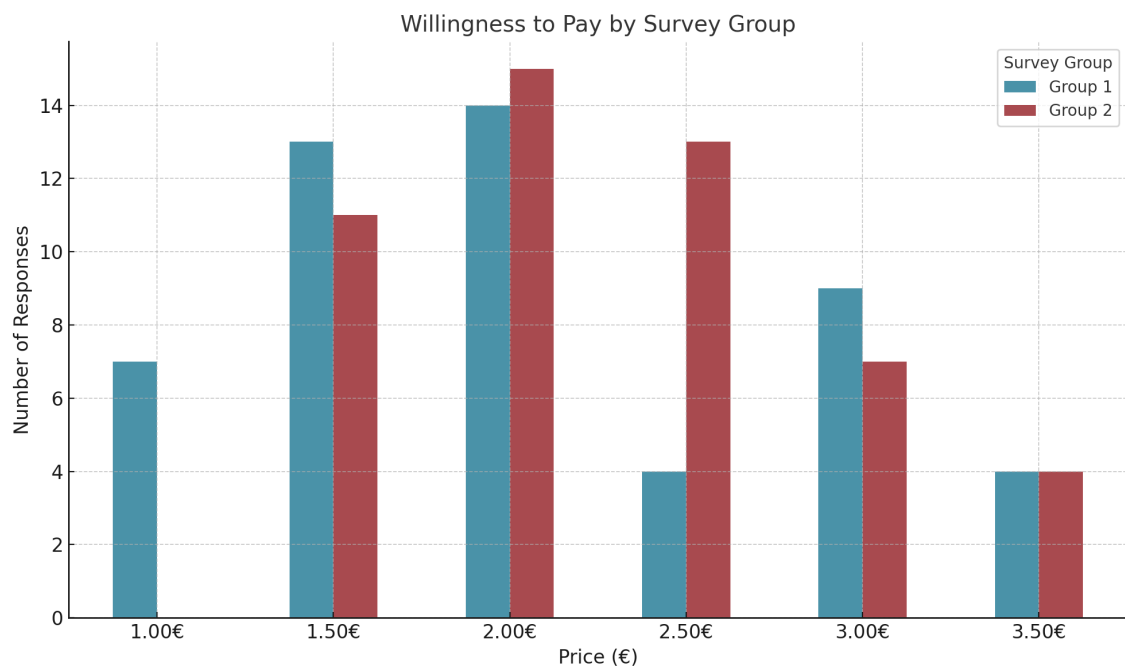
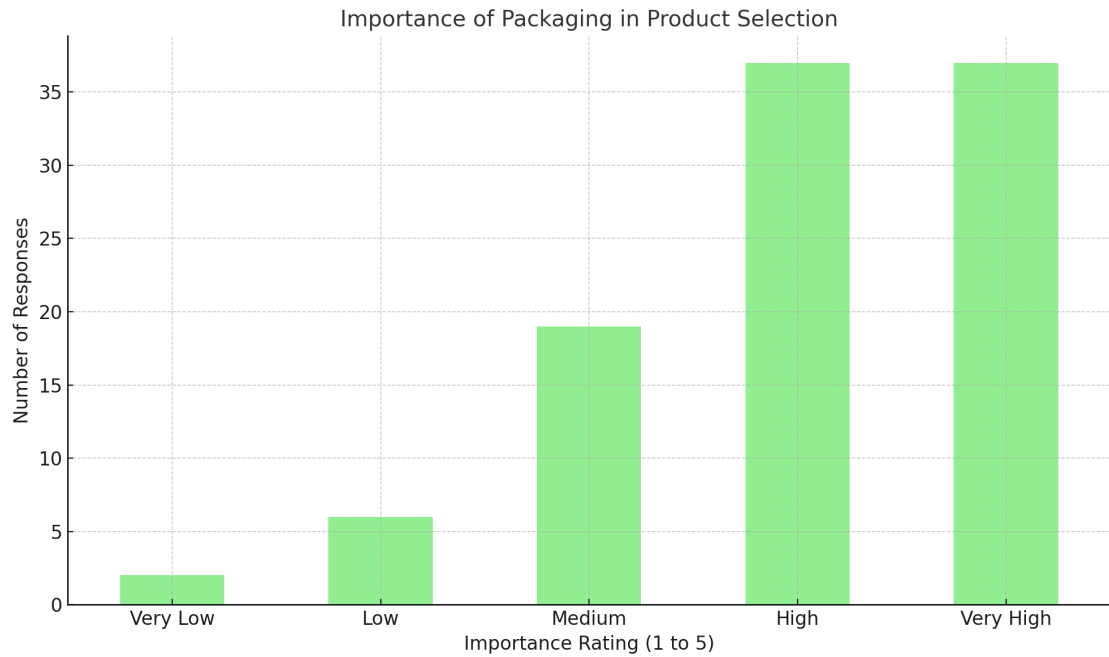
Awareness of Recent Changes in Packaging

- No: 51 people
- Yes: 49 people

Purchasing Decisions Influenced by Packaging

- No: 80 people
- Yes: 20 people





In a second phase, to quantitatively assess the impact of the Gustibus packaging redesign on consumer choices at the shelf, a single-factor ANOVA test was conducted, focused on the perceived importance of packaging in product choice between two groups exposed to two different packagings (old vs. new).

The conducted **ANOVA test** produced the following results:

- **F-statistic: 0.040**
- **P-value: 0.842**

The results indicate that, statistically, there are no significant differences between the two groups regarding the importance of packaging in product choice (P-value = 0.842). This result suggests that perceptions of packaging importance are similar among groups exposed to old or new packaging designs, but there isn't a clear prevalence. The lack of significant differences in the importance of packaging could be since, although packaging aesthetics are relevant in the analysis, other factors such as brand loyalty, product quality, and price might play more substantial roles in the decision-making process for Gustibus products. Therefore, the outcome highlights the complexity of consumer behavior, suggesting that packaging, when isolated from other dependent variables such as price, age, gender, and brand loyalty, may not be a decisive factor but part of a broader set of influences.

Given the outcome of the analysis, Gustibus Alimentari might consider a dual approach in creating its marketing strategy, focusing not only on the packaging element as a driving factor but also on enhancing brand perception, positioning, and product visibility. Further research could explore other elements such as environmental concerns, which have been indicated by the regional distribution of the sample and preferences for renowned brands, often aligned with perceived quality and trust.

Certainly, the obtained results lay the groundwork for multi-variable marketing strategies and product development plans that align more closely with established consumer preferences and the regional market characteristics observed in the study. To extend our understanding of the overall effects that packaging has on consumer behavior at the point of sale, it is both possible and essential to continue our analysis by exploring the statistical relationship that exists between the sampled groups and other dependent variables. The initial ANOVA analysis provided a basic statistical insight into how the perception of the importance of shelf packaging might not differ significantly between the old and new designs. However, this result only forms the basis for a more in-depth investigation into

other dimensions of consumer behavior that may be influenced by packaging changes. Expanding the scope of our analysis involves conducting additional ANOVA tests and a Chi-Square analysis on several key dependent variables that have direct relevance to consumer interaction and brand perception of Gustibus. These variables include brand awareness, design appeal, consumption frequency, and price sensitivity. By conducting an in-depth analysis of these variables, we can obtain a more holistic view of the impact of packaging, offering a richer narrative on how visual and structural changes resonate with or influence the consumer decision-making process. This extended analysis will not only corroborate our initial findings but will also provide a layered understanding of the strategic impacts of the packaging redesign. Each of the dimensions we will analyze contributes uniquely to the overall market performance of a product. Through these analyses, we can build a comprehensive picture of the multifaceted role of packaging in consumer behavior.

ANOVA: Would you buy the product proposed in the image seen above?

The first dependent variable we will analyze is “Would you buy the product proposed in the image seen above?”, structured as a numerical rating scale from 1 to 5, where:

- **1 (Definitely Not) indicates a definitive negative response**
- **5 (Definitely Yes) indicates a definitive positive response**
- **2, 3, and 4 represent varying degrees of purchase inclination**

The fact that the rating scale is structured in the previously expressed manner allows us to perform an ANOVA analysis to compare the means of this variable between the two groups sampled for the survey.

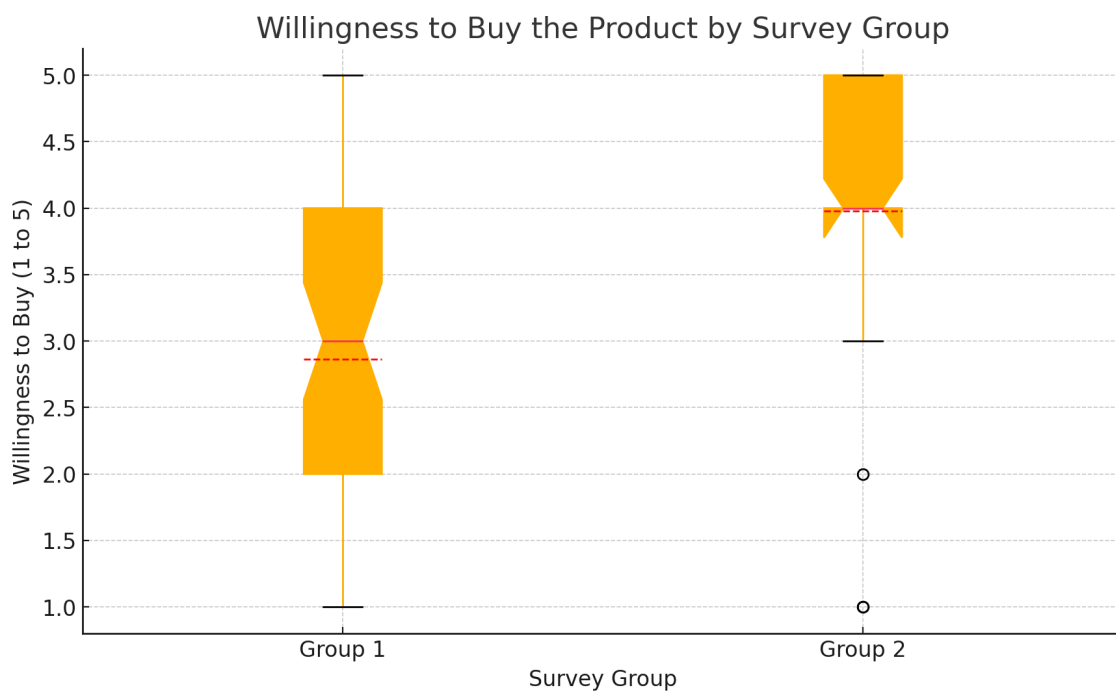
The result of this **ANOVA** is as follows:

- **F-statistic: 26.66**
- **P-value: 0.00000125**

The results indicate that there is a statistically significant difference in the propensity to purchase the product between the two sampled groups. The very low p-value suggests that the difference is unlikely to be due to chance. There would thus be less than one in a million probability that the difference in purchase intentions is due to chance. The analysis

conducted on the price variable, therefore, suggests that something significantly distinguishes the two groups when it comes to their willingness to buy the proposed Gustibus product. These differences could vary:

- **Differences in Packaging**
- **Product Characteristics**
- **Participants' Background (demography, personal preferences)**



As we can see from the graph, the horizontal lines within the boxes indicate the so-called **medians**, which provide an idea of the central tendency of the responses. The boundaries of the boxes represent the **first and third quartiles**, which give an idea of the data dispersion around the median. The **whiskers**, which extend from the upper and lower quartiles to the maximum and minimum values not considered outliers, indicate the total range of responses. Finally, the **outliers**, points that fall outside of the whiskers, are considered outliers and are represented as isolated points. They indicate responses that deviate from the norm, showing responses that are extremely high or low.

ANOVA: Please rate how functional do you think this packaging is

The variable "Please rate how functional do you think this packaging is" is structured as a rating scale from 1 to 5, where "1 (not very functional)" indicates the lowest level of functionality and "5 (very functional)" indicates the highest level. Analyzing this variable helps us statistically understand whether there is a relationship between the packaging and its functionality in influencing consumer behavior.

The survey generated the following responses:

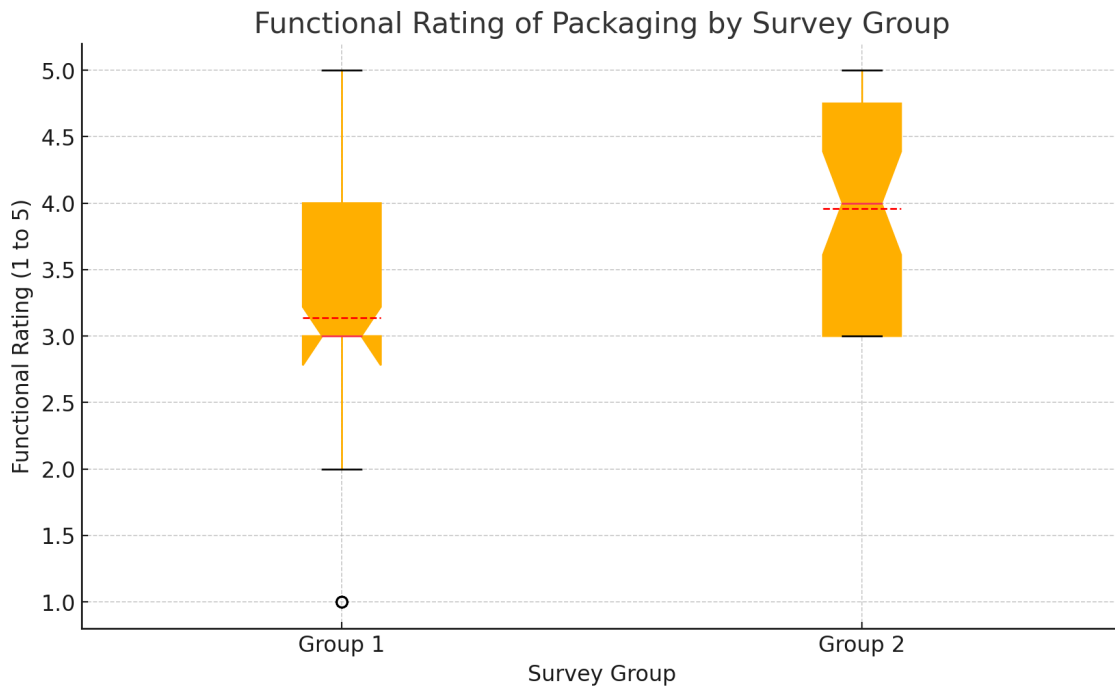
- **1 (not very functional): 6 responses**
- **2: 5 responses**
- **3: 35 responses**
- **4: 37 responses**
- **5 (very functional): 17 responses**

Conducting the ANOVA analysis, the results we obtain are as follows:

- **F-statistic: 19.24**
- **P-value: 0.0000289**

The outcome unequivocally indicates that there is a statistically significant difference in the perception of packaging functionality between the two groups in the "SURVEY" column. The very low p-value emphasizes the existence of differences between groups that are unlikely due to chance; they indeed reflect a true discrepancy in functionality perceptions. The result from the analysis could generate important practical implications, as if one group perceives the packaging as significantly more functional than the other, it might be necessary to further investigate the reasons. Indeed, it could be that design elements are more aligned with the needs and preferences of one group compared to another.

The functionality variable of the packaging may include aspects such as ease of opening, content protection, or reusability. The ANOVA has detected significant differences between the groups, which could be reflective of the diverse experiences based on the context of the survey participants.



The chart above displays the distribution of ratings on the functionality of packaging for the two survey groups. The medians in this specific case represent the **medians** of functionality ratings for each group. The **quartiles**, first and third, show the point where most of the ratings are positioned; the **whiskers** display the full range of ratings, extending from the quartiles to the maximum and minimum values not considered outliers; finally, we have the **outliers** which appear as isolated circles outside the whiskers, indicating ratings that significantly deviate from most responses.

CHI-SQUARE: Do you consider this packaging eco-sustainable?

The last variable we will analyze is the dependent variable related to the importance and impact of the sustainability element in the choice of Gustibus products on the shelf.

Unlike previous analyses, we will use the chi-square test to determine if there is a significant association between the categories of two variables, in this specific case, referring to the survey group and the responses about the sustainability of the packaging proposed by Gustibus.

The variable "Do you consider this packaging eco-sustainable?" has two response categories: "Yes" and "No". The survey conducted generated the following outcomes:

- **Yes: 73 responses**
- **No: 27 responses**

This non-numeric distribution is appropriate for a **chi-square analysis**, as it helps us determine if there is a significant difference in the perceptions of packaging sustainability between the two groups.

The **Chi-Square** analysis yielded the following results:

- **Chi-Square Statistic: 13.82**
- **P-value: 0.00020**
- **Degrees of Freedom: 1**
- **Expected Frequency Tables:**
 - Group 1: No (14.14), Yes (36.86)
 - Group 2: No (13.86), Yes (36.14)

From the analysis conducted, **the very low p-value (0.00020)** indicates that we can reject the hypothesis that there are no differences between the groups regarding the perception of packaging sustainability. This is an indication that there is a statistically significant difference, in the perceptions of packaging sustainability between the survey groups. The expected frequencies show us what the responses would be like if there were no differences between the groups, based on the overall sizes of the groups and the overall distribution of the responses.

The result obtained suggests that marketing strategies that emphasize or enhance sustainability might be perceived differently by the different demographic groups represented in the survey groups.

Investigations conducted on consumer perceptions regarding various aspects of the proposed Gustibus Alimentari products, specifically, the impact of packaging, functionality and sustainability of the packaging, as well as purchase inclination, have revealed statistically significant discrepancies between the survey groups. These discrepancies were highlighted through ANOVA analysis and Chi-Square tests,

suggesting a divergence in evaluations based on the specific expectations and contexts of the consumers.

1. **Packaging Personalization:** Personalizing packaging represents a crucial strategic imperative. The design and functional features of the packaging should be calibrated to align with the specific expectations of different market segments. Special attention should be given to environmentally conscious consumers, for whom innovative packaging that favors recyclable materials and low-impact manufacturing processes might represent a decisive factor in purchasing. Implementing these changes would not only increase the product's appeal but could also strengthen the brand's perception as a leader in sustainable innovation.
2. **Strategic Communication:** It is essential to develop a narrative that emphasizes the most significant attributes of the packaging, particularly its functionality and sustainability. Effective communication should utilize diversified channels to reach specific demographic groups, highlighting how the packaging features directly respond to their needs and preferences. Marketing campaigns that clearly illustrate the ecological and functional benefits can not only improve product perception but also stimulate ongoing dialogue with consumers, thus increasing their trust and loyalty to the brand.
3. **In-depth Surveys:** To fully understand the underlying motivations behind different consumer perceptions, it is essential to engage in ongoing qualitative research. Adopting methodologies such as focus groups, and structured interviews will allow for a more detailed exploration of consumer opinions and expectations. These investigations should be designed to identify not only current preferences but also to anticipate future trends, ensuring that Gustibus Alimentari's product and marketing strategies remain proactive and aligned with market evolution.

By adopting these recommendations, Gustibus Alimentari could not only strengthen its position in the market but also contribute to greater environmental awareness, aligning its business objectives with a positive social impact. This approach will not only ensure customer satisfaction and loyalty but will position the brand as a leader in responsible innovation in the food industry.

CONCLUSIONS

This academic research has meticulously explored the nuanced relationship between consumer perceptions of packaging and their purchasing decisions, aiming to bridge the gap between theoretical understandings and practical applications within the realm of marketing and product design. By dissecting the elements that constitute effective packaging, this study extends beyond conventional marketing theories to offer a fresh perspective on how packaging can influence consumer behavior.

Theoretical Contributions

This thesis has significantly enriched the theoretical landscape surrounding consumer behavior and packaging by innovatively synthesizing existing research into a novel, integrated model that captures the complexities of modern consumer decisions. Drawing from foundational studies such as those by Smith and Andrews (2017), which delve into consumer eco-consciousness, and Johnson's (2015) analysis on the functional impacts of packaging on purchase intent, this work introduces the Dual-Pathway Influence Model. This advanced model proposes that consumer purchase decisions are influenced concurrently by their environmental awareness and the functional attributes of packaging, offering a richer, more textured perspective than previously provided by traditional theories that tended to treat these factors in isolation.

The Dual-Pathway Influence Model is a significant advancement in the academic field, articulating the interplay between a consumer's environmental values and their practical evaluations of packaging. This model not only substantiates but also extends the insights into consumer values provided by Thompson and Coskuner-Balli (2007) by linking these often-abstract preferences directly to tangible packaging attributes. This crucial linkage serves to illustrate the direct impact of consumer values on tangible consumer behaviors, providing a detailed understanding of how personal beliefs and practical considerations are intertwined and collectively shape purchasing decisions.

Moreover, this thesis challenges and refines traditional consumer behavior models by incorporating contemporary trends towards sustainability. It posits that modern consumers evaluate product packaging not solely for its functional utility but also for its

ecological footprint, thus broadening the scope of factors considered in the consumer decision-making process. This expanded model directly addresses the growing importance of sustainability in the consumer goods industries, offering a contemporary lens through which to view the dynamics of consumer behavior.

This theoretical contribution is significant as it updates and broadens existing models to include a wider range of consumer considerations, making these models more applicable to today's market where environmental awareness and functionality are increasingly paramount. The integration of these dual aspects eco-consciousness and functionality into a cohesive framework provides a valuable tool for academics and marketers alike to better understand and predict consumer behavior in relation to packaging design.

For Gustibus Alimentari, a company entrenched in the production and distribution of sauces and pasta sauces, the implications of this model are particularly pertinent. By implementing strategies that reflect the Dual-Pathway Influence Model, Gustibus can significantly enhance its product offerings. For instance, integrating sustainable practices with functional packaging designs such as using biodegradable materials that do not compromise the product's quality or ease of use—can elevate the brand's appeal. Moreover, effective communication strategies that highlight these dual benefits can help educate consumers and build a deeper connection with the brand.

In practice, Gustibus Alimentari can leverage this model to develop packaging that appeals to both eco-conscious consumers and those prioritizing practical utility, ensuring that packaging designs are both fully recyclable and highly functional. This approach ensures that the products cater to a broad consumer base, enhancing user experience while maintaining environmental responsibility. Strategic marketing campaigns that simultaneously emphasize the sustainability and functional benefits of the packaging can further reinforce consumer perceptions and drive purchase decisions.

In sum, this thesis not only contributes a novel theoretical framework to the academic discourse on consumer behavior and packaging design but also provides practical frameworks that companies like Gustibus Alimentari can implement to align more closely with modern consumer expectations. By embracing innovative and sustainable packaging

solutions and communicating these efforts transparently, businesses can foster greater consumer trust and loyalty, thereby enhancing their competitive edge in the marketplace.

Practical Contribution

The Dual-Pathway Influence Model, as elaborated in this thesis, significantly enriches our understanding of consumer behavior within the context of the food industry, specifically in the production and distribution of sauces and pasta sauces by Gustibus Alimentari. This model merges insights into environmental consciousness and packaging functionality to craft strategies that resonate deeply with both local and international markets. By integrating sustainable materials like PLA into packaging, Gustibus Alimentari can maintain product freshness and integrity while enhancing environmental friendliness. Additionally, the design of resealable and easy-to-dispense packaging ensures consumer convenience, making the product appealing for its usability.

Strategically, Gustibus Alimentari can capitalize on localized marketing strategies that embrace traditional and artisanal qualities in the Italian market while promoting the authentic Italian heritage and sustainable practices internationally. By employing dual messaging in their campaigns, the company can emphasize both the eco-friendly attributes and the functional advantages of their packaging, aligning with global sustainability trends.

Educational campaigns play a crucial role in informing consumers about the ecological impact of the packaging choices made by Gustibus Alimentari, enhancing transparency and fostering trust. Initiatives like QR codes on packaging can provide consumers with a digital insight into the product's journey from farm to table, embedding an understanding of the sustainable practices involved.

Feedback mechanisms are essential for continuous innovation, allowing Gustibus Alimentari to adapt and refine their packaging based on consumer insights and market testing. This proactive approach ensures that the packaging not only meets but exceeds consumer expectations for sustainability and functionality. Strategic collaborations with environmental organizations and suppliers also enhance the brand's credibility and ensure a commitment to environmental stewardship is maintained.

By adopting the insights from the Dual-Pathway Influence Model, Gustibus Alimentari can predict and adapt to market trends, ensuring their products meet the evolving preferences for sustainability and practical utility. This model not only helps in understanding current consumer behavior but also serves as a predictive tool, allowing businesses to anticipate market shifts and align product development, marketing strategies, and supply chain adjustments with future consumer expectations. This comprehensive approach empowers Gustibus Alimentari to enhance its market appeal and establish itself as a leader in sustainable and consumer-centric innovation within the sauce and pasta sauce market.

The Dual-Pathway Influence Model provides a multifaceted framework that can significantly guide product design by integrating environmental consciousness with functional utility, ensuring that products meet contemporary consumer demands. Here's how this model can influence and guide product design, particularly for a company like Gustibus Alimentari, which specializes in sauces and pasta sauces:

Integrating Sustainability and Functionality

The model stresses the importance of concurrently considering both sustainability and functionality from the outset of product design. For Gustibus Alimentari, this means:

- **Material Selection:** Choosing packaging materials that are both environmentally friendly and capable of preserving the quality and shelf-life of sauces. For example, biodegradable plastics or recyclable glass that doesn't interact chemically with the sauce contents.
- **Design Features:** Incorporating design elements that enhance the user experience, such as resealable closures or easy-pour spouts, which not only improve functionality but also help in maintaining the freshness of the product after opening.

Responsive Design to Consumer Insights

The Dual-Pathway Influence Model advocates for designs that respond to the evolving preferences of consumers, who increasingly value products that align with their environmental ethos without compromising practical needs:

- **Consumer-Centric Innovations:** Developing packaging that reflects consumer feedback on usability and environmental impact. For instance, if feedback indicates a preference for less packaging waste, Gustibus might consider minimalist designs that reduce materials while ensuring the sauces are still well-protected and presentable.
- **Modular Packaging:** Creating packaging solutions that can be adapted or scaled based on consumer usage patterns, such as offering different sizes or multi-pack options that cater to varying needs and reduce waste.

Holistic Product Development

By using the Dual-Pathway Influence Model, product development becomes a holistic process that aligns with broader business strategies and consumer expectations:

- **Lifecycle Analysis:** Conducting a comprehensive analysis of the product's lifecycle to identify areas where sustainability can be enhanced without sacrificing functionality. This could involve innovations in the supply chain, like sourcing ingredients and materials that are both sustainably produced and capable of delivering high-quality results.
- **Technology Integration:** Exploring advanced technologies that can add value to the packaging, such as smart labels that provide consumers with information about the product's origin, suggested uses, or recycling instructions, thereby enhancing the functional utility and sustainability of the product.

Market Differentiation

The model provides a platform for differentiation in a competitive market, allowing businesses like Gustibus Alimentari to stand out by offering products that directly reflect dual consumer priorities:

- **Targeted Branding and Marketing:** Designing product labels and packaging that clearly communicate the dual benefits of sustainability and functionality. This could be highlighted through certifications or eco-labels alongside icons or instructions that demonstrate the product's ease of use and convenience features.
- **Innovation Showcasing:** Using the product design as a tool to showcase innovation in combining eco-friendly materials with consumer-friendly features, thereby not only meeting market standards but setting new ones.

By applying the Dual-Pathway Influence Model in product design, Gustibus Alimentari can ensure its offerings are not only attuned to the current market demands for sustainability and functionality but are also positioned as leaders in innovative, consumer-focused product solutions. This approach not only satisfies the consumers' immediate needs but also builds long-term brand loyalty and market share growth in the increasingly conscientious consumer environment.

Limitations of the Study and Future Research Directions

The Dual-Pathway Influence Model introduced in this thesis presents a sophisticated framework for dissecting the interaction between consumer environmental consciousness and functional packaging assessment. Despite its comprehensive approach, the study encounters several limitations that merit further scrutiny:

1. **Reliance on Self-Reported Data:** The foundation of this research heavily depends on data self-reported by consumers, which, despite stringent methodological oversight, is vulnerable to biases such as social desirability and memory recall errors. These biases may distort the actual influence of packaging attributes on consumer behavior, calling into question the authenticity of the observed effects.
2. **Limited Geographic and Demographic Scope:** The majority of the data originates from a predominantly European, specifically Italian, consumer base. This narrow demographic focus may not accurately reflect the broader, global market dynamics and cultural diversities, potentially limiting the applicability of the findings across different regions with varied consumer values and perceptions.

3. **Short-Term Study Duration:** The temporal scope of the study does not extend to long-term behavioral observations, which restricts insights into how ongoing interactions with innovative packaging solutions impact consumer behavior over time.

To enhance the understanding of packaging's role in consumer behavior, particularly within the dynamic context of the sauce and pasta sauce markets, the following future research directions are proposed:

1. **Expanded Data Collection:** Future research should broaden its scope to include a more diverse array of participants from various global contexts. This expansion would not only improve the external validity of the study's outcomes but also deepen the understanding of cultural influences on packaging preferences.
2. **Longitudinal Research:** Adopting longitudinal research methodologies could yield invaluable insights into the enduring effects of packaging changes on consumer attitudes and behaviors, facilitating observations of shifts in consumer dynamics in response to environmental and technological advancements in packaging.
3. **Experimental Research Approaches:** To mitigate the shortcomings of self-reported data, incorporating experimental designs such as eye-tracking or virtual reality simulations could offer objective insights into how consumers interact with different packaging formats, providing a more accurate measure of their impact on purchase behaviors.
4. **Exploration of Technological Innovations:** Investigating the potential of emerging technologies, such as smart labels or augmented reality features within packaging, could revolutionize consumer engagement and perceptions, enhancing both the functionality and environmental sustainability of packaging.
5. **Regulatory Impact Studies:** With environmental regulations increasingly influencing packaging standards, it's crucial to explore how these regulations are reshaping manufacturer practices and consumer perceptions, providing essential feedback for policymakers and assisting businesses in adapting to these changes.

By addressing these areas, future research can build upon the groundwork laid by this thesis, propelling the field towards a deeper comprehension of how innovative packaging solutions can effectively satisfy evolving consumer demands and contribute to sustainable practices in the global food industry. This ambitious research agenda not only tackles immediate academic and practical challenges but also aligns with the strategic goals of Gustibus Alimentari, enhancing its market presence and consumer satisfaction.

In summary, this thesis transcends conventional research boundaries, integrating environmental sustainability with functional innovation in packaging to unravel a complex consumer behavior landscape. By introducing the Dual-Pathway Influence Model, it provides a visionary framework that enables companies like Gustibus Alimentari to navigate the evolving market adeptly, aligning product development with the sophisticated preferences of contemporary consumers. As global trends increasingly favor sustainable practices, this research serves as a guiding light for industry leaders, charting a course toward a future where consumer satisfaction and environmental responsibility are inextricably linked.

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