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Why do Brands Matter for Cork?

Evidence on the Role of Brand in Cork Stoppers' Consideration, Trust, and Purchase in the Wine Industry

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Dissertation written under the supervision of Professor
Pedro Miguel Torres Tavares

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Abstract

This thesis investigates the valuation and perception of cork stoppers across the wine industry's value chain, focusing on stakeholders including wine producers, retailers, and consumers. Adopting a mixed-methods strategy, the research integrates qualitative interviews and focus groups with quantitative surveys and analysis. The descriptive research employed aims to discern which stakeholders recognize the importance of cork stoppers, the attributes they consider essential, and how these insights could inform the development of a brand targeting wine producers within the cork industry. The findings reveal that while wine producers place significant value on cork stoppers, retailers and consumers are less influenced by them. The study identifies crucial attributes that wine producers prioritize and the challenges they encounter, particularly regarding TCA (2,4,6-trichloroanisole) contamination, which undermines their confidence in cork stoppers. The results suggest that cork stopper manufacturers can capitalize on these insights to craft a brand narrative that emphasizes the identified attributes, potentially overcoming industry-wide issues such as TCA contamination. By fostering trust and reliability and focusing on the qualities valued by wine producers, the research outlines a strategy for branding in the B2B market's commoditized landscape. This approach underscores the potential for targeted branding efforts to redefine competitive edges within the cork industry, thereby strengthening the connection with the wine sector and reinforcing cork's legacy.

Keywords: cork stoppers, wine industry, brand strategy, b2b branding

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Resumo

Esta tese investiga a valorização e perceção das rolhas de cortiça na cadeia de valor da indústria vinícola, em particular nos produtores de vinho, retalhistas e consumidores. Utilizando uma abordagem metodológica mista, conjuga-se a análise qualitativa e exploratória da nossa investigação, com entrevistas individuais e de grupo, com a análise quantitativa, através da construção e análise de três questionários. Procura-se compreender os elementos da cadeia de valor da indústria vinícola que reconhecem a importância das rolhas de cortiça, bem como os atributos considerados fundamentais. Os resultados indicam que, embora os produtores de vinho atribuam elevada importância à rolha de cortiça, retalhistas e consumidores não lhe reconhecem a mesma relevância. A investigação permitiu identificar atributos valorizados pelos produtores e desafios como a contaminação por TCA (2,4,6-trichloroanisole), que diminui a sua confiança nas rolhas. Os fabricantes de rolhas de cortiça têm a oportunidade de estabelecer uma narrativa de marca centrada nos atributos identificados, superando os desafios do setor. A nossa investigação propõe uma estratégia de marca, num mercado caracterizado pela comoditização dos seus produtos e de natureza comercial de empresa para empresa (B2B), focada na construção de confiança e nas qualidades valorizadas pelos produtores de vinho. Esta abordagem realça o potencial em termos de marca para reconfigurar as vantagens competitivas dentro da indústria da cortiça, fortalecendo a ligação com o setor vinícola e reforçando o legado da cortiça.

Palavras-chave: rolhas de cortiça, indústria vinícola, estratégia de marca, estratégia de marca em b2b

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1 Introduction

The opening of a wine bottle, marked by the sound of a cork's gentle release, symbolizes more than the beginning of a tasting journey. It heralds tradition, quality, and sustainability, intricately weaving the ancient with the modern (Silva et al., 2005). While cork serves a functional purpose, it also extends its role as a symbol of tradition and quality, especially within the sphere of wines.

Portugal, with its lush cork oak forests and esteemed craftsmanship, stands as a beacon in the global cork narrative. Contributing approximately 55% of global cork production, its position is a testament to its rich heritage and unmatched expertise (Aroso et al., 2017). This leadership signifies more than an economic triumph; it embodies Portugal's commitment to preserving the environment through sustainable and renewable practices.

However, delving into the complexities of the cork industry reveals a unique challenge. Despite its esteemed heritage and significance, cork is often viewed merely as an undifferentiated commodity, placing it in a category similar to other raw materials, where distinctions among competitors appear minimal (Beverland et al., 2007).

A major driving force behind the cork industry's success is the thriving wine sector. The symbiotic relationship between wine and cork is evident, with the wine industry serving as a primary market for cork exports. Remarkably, 74% of Portugal's cork exports are destined for the wine industry (Centro de Estudos de Gestão e Economia Aplicada & Universidade Católica Portuguesa, 2023). This connection underscores the profound interdependence and the imperative for the cork industry to align with the evolving needs and perceptions of the wine domain.

As the wine industry thrives, a pressing concern emerges: What is the significance of branding within the cork industry, and how does it influence consideration, trust, and purchasing behaviors related to cork stoppers in the wine market? On the surface, this might appear as a niche issue, but in a broader business-to-business (B2B) context, the role of branding becomes critical. A strong brand can offer industrial suppliers strategic benefits, from brand expansion opportunities to the ability to command premium prices, and fortifying buyer-supplier relationships (Leek & Christodoulides, 2011).

Cork stoppers, established in association with premium wines and their esteemed aging processes,

play a central role in wine consumption (Sørensen et al., 2021). However, the intricacies of the branding domain, which extend beyond simple logos or labels, remain somewhat elusive. Deciphering these dynamics is crucial, given the varied audience that cork stoppers cater to in the evolving landscape of branding (Ward et al., 1999).

To navigate the nuanced intersection of wine and cork, we defined the following research question:

Research Question 1: *What is the perceived value of cork as a product feature in the wine industry's value chain, and how does this perception vary among different stakeholders?*

a. *Which stakeholders in the wine industry's value chain recognize cork as a valuable element in their operations or decision-making?*
b. *For stakeholders who value cork, which specific attributes of cork stoppers do they consider most important?*
c. *How can these valued attributes be effectively integrated into a branding strategy for cork stoppers in the B2B market?*

Addressing these questions is more than a mere academic endeavor; it implies applying findings to a real-world context and provides a profound understanding of the symbiotic relationship between wine and cork.

The remainder of this thesis is organized as follows: Section 2 presents the literature review; Section 3 explains the methodology adopted in our research; Section 4 presents the exploratory research findings and derived hypotheses; Section 5 presents the main results and conclusions from our conclusive research; Section 6 presents the general discussion of our study; and Section 7 concludes.

2 Literature Review

2.1 The Value Chain of the Cork Industry

Globally, the annual cork harvest amounts to approximately 200,000 tons, with Portugal being a major contributor, accounting for about 55% of this quantity. Additionally, Portugal dominates the international cork export market, representing 61.4% of global exports. In terms of utilization, the wine industry is the primary market for cork, where the production of natural cork stoppers and other cork stopper varieties collectively comprise roughly 74% of the total cork use (Centro de Estudos de Gestão e Economia Aplicada & Universidade Católica Portuguesa, 2020). The cork value chain is depicted in Figure 1.

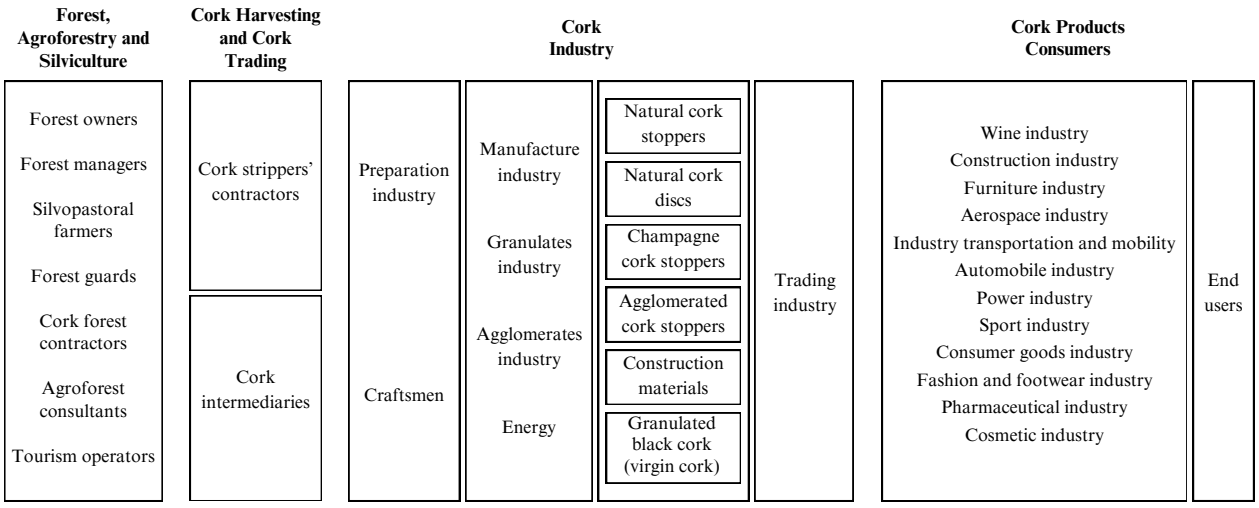

Figure 1: Representation of the Cork Value Chain

Note: The graph displays the cork value chain as defined by Anton Brenko et al. (2019).

Despite the diversification of its products and the emergence of new applications for cork in sectors such as automotive, textiles, and sports, the industry remains significantly focused on the production of cork stoppers (Associação Portuguesa da Cortiça & Deloitte, 2019). This context emphasizes that the impact of direct consumer demand on industry sales is relatively modest. Cork often serves as a component within more complex products, where it may not be the most visible element, like in wine bottle seals. As a result, the demand for cork products is primarily a derivative of the demand for these composite goods. Understanding this interplay is crucial, especially considering that the future direction of the cork industry is closely intertwined with the trends in downstream markets, notably the wine packaging market (Centro de Estudos de Gestão e Economia Aplicada &

Universidade Católica Portuguesa, 2020).

From the 1980s, the competitive landscape for cork stoppers became more challenging, largely due to concerns about wine contamination from *TCA (2,4,6-trichloroanisole)*[1]. The early 21st century witnessed a notable decrease in cork stopper usage, with a shift towards alternative sealing options. Nonetheless, efforts by the cork industry to mitigate TCA-related issues, coupled with the recognition of drawbacks in alternative solutions, have led to some changes in this trend. Cork stoppers carry a sense of prestige and tradition unmatched by their counterparts, contributing to their dominant market share in the higher-priced wine segments. Recent estimates indicate that cork is used to seal about half of all wine bottles globally (Centro de Estudos de Gestão e Economia Aplicada & Universidade Católica Portuguesa, 2020).

2.2 The Value Chain of the Wine Industry

Wine has its origins dating back over 7,000 years, and the method of crafting it has mostly stayed the same throughout its history (McGovern et al., 2017). The wine value chain is a network of stakeholders engaged in the cultivation, processing, and distribution of wine, encompassing the entire journey from vineyard to consumer table—or 'vine to dine' (Anatoliy G. Goncharuk, 2017). The various stages of the wine value chain are delineated in Figure 2.

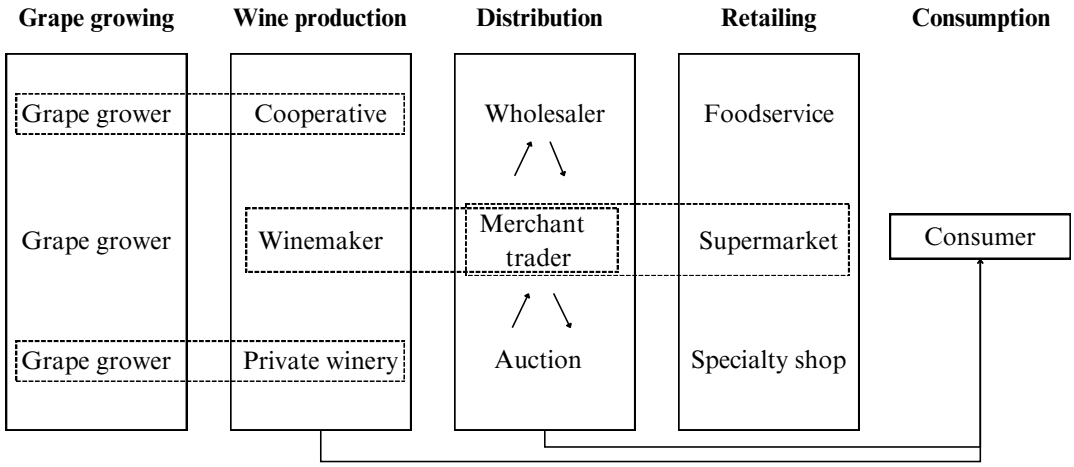

Figure 2: Representation of the Wine Value Chain

Note: The graph displays the wine value chain as defined by Anatoliy G. Goncharuk (2017).

In his analysis of the wine industry's value chain, Anatoliy G. Goncharuk (2017) breaks down the

[1] TCA, or 2,4,6-trichloroanisole, is a compound responsible for the 'corked' aroma in wines, imparting an undesirable musty odor and flavor even at low concentrations (Buser et al., 1982).

process into five main segments:

1. **Grape growing** - Vineyards often operate their own wineries for sales, while smaller growers join cooperatives or sell to larger companies for competitiveness.
2. **Wine production** - Involves transforming grapes into wine through processes like stemming, crushing, fermentation, and aging. Key players include independent winemakers, cooperatives, and private wineries.
3. **Distribution** - Wine is distributed locally or internationally, with large estates handling their own distribution and smaller wineries employing specialized distributors.
4. **Retailing** - Wine is sold to consumers via restaurants, cafes, stores, and supermarkets. Retail strategies depend on market trends, consumer preferences, and wine positioning.
5. **Consumption** - Consumer preferences and choices drive industry trends, influencing everything from grape cultivation to retail.

2.3 The Risk of Purchase in B2B Contexts

2.3.1 Variations and Implications of Purchase Risks in B2B Contexts

Purchase risk in B2B contexts varies from minimal to substantial. Johnston and Bonoma (1981) classify influencing factors into company, product, and individual categories, shaping buying center decisions. These factors include the novelty and complexity of the purchase, with its significance being a key determinant. Swait et al. (1993) note the high risk in buyer's industrial market transactions, often due to their large scale (Lynch & de Chernatony, 2007). Uncertainty in needs or technical aspects elevates branding's role in reducing perceived risks (S. M. Mudambi et al., 1997). Bengtsson and Servais (2005) affirm that as risk increases, reliance on branding as a protective measure grows for organizations and individuals.

2.3.2 Risk Perception and Decision Making in Buying Centers

Risk perception, as defined by Dowling and Staelin (1994) as anticipating uncertain and adverse outcomes from purchases, significantly impacts decision-making in buying centers. S. Mudambi (2002) highlight purchasing from reputable brands as a risk management strategy. In uncertain environments, trust becomes crucial, reducing perceived vulnerability (Doney & Cannon, 1997; Moorman et al., 1992). Brand trust, based on credibility, assures B2B consumers in their transactions, influencing their choices (Erdem & Swait, 2004; Goldberg & Hartwick, 1990). Corporate credibility, the confidence in a firm's ability to meet customer needs, serves as a key heuristic for risk reduction among B2B buyers (Erdem & Swait, 2004).

2.4 Characteristics of Industrial Purchases and Brand Influence

In industrial markets, purchasing impacts organizational productivity and profitability. McQuiston (1989) highlight how purchase alignment with organizational objectives influences brand perception, a strategic issue where product fit with buyer needs determines its value and the manufacturer's reputation. Decision-making is complex, influenced by evolving product complexity and novelty. Humphreys and Carpenter (2018) discuss the challenge of maintaining expertise, leading to brand reputation reliance as a decision-making shortcut. Trusted brands are often preferred for perceived quality.

S. Mudambi (2002) offer a framework (see Figure 3) connecting purchase need recognition to choice, influenced by buyer and purchase characteristics, and product attribute significance. Branding is crucial, particularly when product knowledge is scarce. Bendixen et al. (2004) observe that brand equity's emotional aspects are significant. Emotional brand attachments can sway buyer preferences and their willingness to pay more, extending trust across the brand portfolio, even for standardized products.

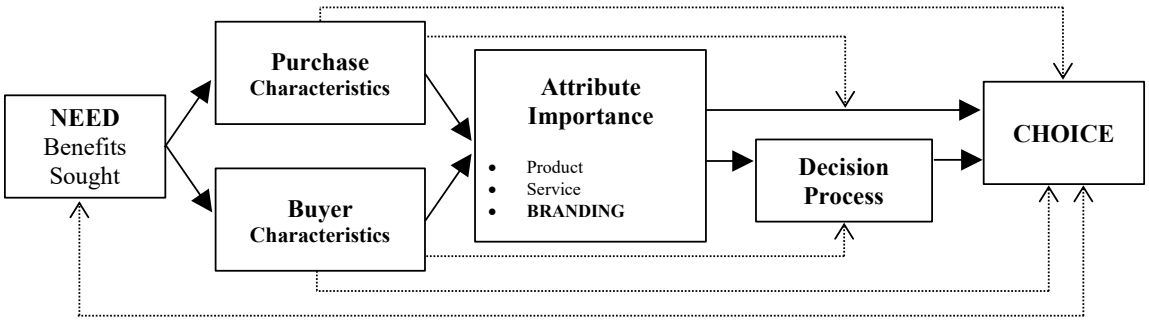

Figure 3: A Model of B2B Branding

Note: The diagram illustrates a model of B2B branding, adapted from S. Mudambi (2002).

2.5 Product Attributes and Quality in Industrial Buying

2.5.1 Complexity and Consumer Perception

Humphreys and Carpenter (2018) underscore the complexity of products with numerous interrelated attributes, which can obscure consumer understanding. This complexity opens avenues for firms to shape consumer preferences through expertise or social influence. Complementing this, Randall et al. (1998) introduce the concept of vertical and horizontal product differentiation. They stress the

significance of directly observable attributes, such as features, style, and color, and the integral role of brand value, which encompasses brand associations with difficult-to-observe attributes, brand prestige, and brand image (see Figure 4). This intertwining of product complexity and brand equity underlines the multifaceted nature of consumer perception in industrial buying.

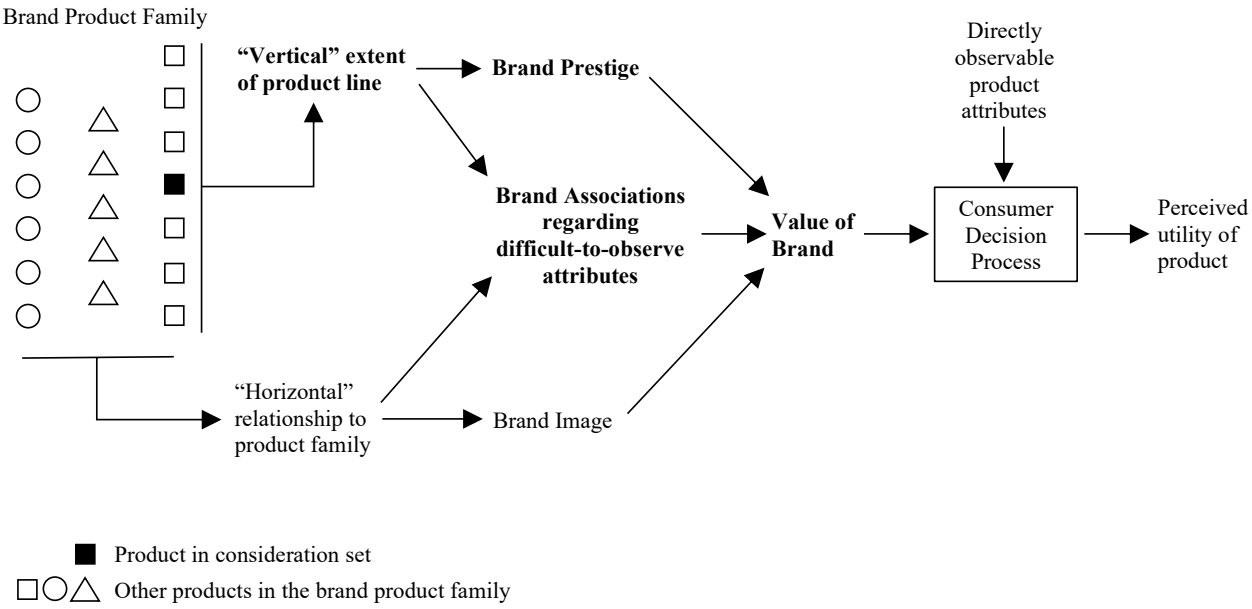

Figure 4: The Role of Brands in the Consumer Buying Process

Note: The diagram illustrates the role of brands in the consumer buying process, adapted from Randall et al. (1998).

2.5.2 Brand Equity and Attribute Evaluation

Expanding on the notion of brand equity, Keller (1993) differentiates between product-related and non-product-related attributes. This distinction is pivotal as it impacts how consumers perceive and evaluate a product's quality. Product-related attributes are those directly linked to performance, while non-product-related attributes include price, packaging, user, and usage imagery. Mackenzie (1986) further elucidates the connection between attribute importance and consumer evaluation, suggesting that consumers are more likely to favorably evaluate attributes they deem important. This evaluation directly influences brand positioning, with brands aiming to create a unique selling proposition based on these attributes.

2.5.3 Quality and Buyer Preference in Industrial Markets

Focusing on industrial markets, Aaker (1991), Abratt (1986), and Bendixen et al. (2004) highlight quality as a leading criterion for buyers. This emphasis on quality reflects the critical role it plays in buyer preferences and decision-making processes. S. Mudambi (2002) and S. M. Mudambi et al. (1997) further explore this by categorizing buyer emphasis into three bundles: product attributes, augmented services, and branding. Each of these categories, encompassing elements from pricing to brand reputation, shapes the buyer's perception of quality and utility in industrial buying decisions.

2.6 The Multifaceted Role of Branding in Business Markets

2.6.1 Fundamentals of Branding

Branding, as conceptualized by Kotler and Keller (2012), is not just a unique identifier for an organization's products, but also a key factor in maintaining market presence, symbolizing assurance and reliability to consumers. Randall et al. (1998) emphasize that brands convey prestige and influence consumer behavior. Kotler (1994) highlights the importance of elements like names and logos in brand recognition and recall, acting as representations of the company's values.

Aaker (1991) and S. M. Mudambi et al. (1997) discuss the functional aspects of branding in industrial markets, where it is essential for differentiating products and building a narrative of trust and quality. This is complemented by Starr and Rubinson (1978) and Keller (1993), who illustrate how strong branding enables companies to command premium prices and withstand market fluctuations. Dowling (1986) and Wallis (1987) show that in B2B contexts, corporate and product brands significantly enhance corporate credibility and demonstrate technical expertise.

Furthermore, Merz et al. (2009) and Vargo and Lusch (2004) present branding as a dynamic value proposition, evolving to meet customer needs and expectations. Finally, Leek and Christodoulides (2011) trace the evolution of branding from consumer goods to its significant role in B2B markets, emphasizing the need for a nuanced approach tailored to the specific realities of different market segments.

2.6.2 Branding in B2B Contexts

The traditional underestimation of branding in B2B markets is evolving, as Michell et al. (2001) note. Herbst and Merz (2011) and Bendixen et al. (2004) stress that branding in B2B is a strategic

necessity, not merely a marketing tool. It is vital for crafting credible narratives, reducing perceived risks in transactions, and establishing lasting relationships and competitive advantage. Brand credibility is essential in the complex B2B environment.

Leek and Christodoulides (2011) propose a shift to holistic corporate branding, more suited to the complexity of B2B decisions. Corporate branding assists in early decision-making stages, aiding in supplier qualification and instilling confidence. Keller and Lehmann (2006) supports this, stating corporate brands foster trust and positive associations in B2B customers' minds. This trust translates into tangible outcomes, with buyers willing to pay more for trusted brands, underscoring the value and return on investment of effective B2B branding (Bendixen et al., 2004).

2.6.3 Role of Branding in Commoditized Markets

In commoditized markets, where products are often similar with minimal tangible differences, branding stands out as a crucial differentiator. Saunders and Watt (1979) emphasize the effectiveness of using corporate names in branding to enhance recognition and infuse products with the company's values and reputation, lifting them above commodity status.

Madden et al. (2006) explore the intangible value strong brands add in these markets. They argue that when tangible differences are minimal, the emotional and psychological aspects of a brand are essential in swaying consumer preference and loyalty. S. Mudambi (2002) stresses the importance of differentiating through service quality, corporate branding, and product-specific strategies, creating a unique brand identity beyond product features.

The significance of corporate credibility in these markets is examined by Goldberg and Hartwick (1990) and Erdem and Swait (2004). They highlight how corporate credibility acts as a key heuristic in B2B purchases, reducing risk and boosting buyer confidence, especially in high-tech and industrial markets. In such contexts, Abratt (1986) and Sinclair and Seward (1988) note that a brand's value can be more influential than price. The brand represents quality and reliability, crucial in industrial purchasing decisions.

2.6.4 Corporate Branding in Industrial Settings

Industrial branding, viewed more through corporate identity than individual product traits, is pivotal in industrial market perceptions and decisions. Venable et al. (2005) and Webb et al. (2000) highlight the role of industrial brand associations as cognitive shortcuts in buying centers' decision-

making, forming a foundation for trust and expectations. S. M. Mudambi et al. (1997) emphasizes the increasing influence of brand value in industrial buyers' choices, marking a shift in branding's role from a mere marketing tool to a strategic element in B2B marketing.

Qualls and Puto (1989) and Schmitz (1995) point out the effectiveness of industrial branding in reducing perceived risks. Strong industrial brands, symbolizing trust and reliability, help alleviate uncertainties in industrial purchasing. This trust-building is vital in high-stakes markets with long-term decision impacts. Herbst and Merz (2011) explore self-expressive brand associations, underlining their importance in industrial buying. Given the varied expectations and experience levels in buying centers, these associations are not just indicators of product quality or corporate trustworthiness, but also reflect the buyer's professional judgment and foresight in choosing partners and suppliers.

2.7 Brand Equity and Knowledge Dynamics

2.7.1 Brand Equity

In marketing, brand equity is central, shaped by consumer perceptions and reactions to a brand. Keller (2003) explains that positive customer-based brand equity (CBBE) arises when consumers prefer a brand's marketing over an unbranded equivalent. This view is supported by Aaker (1991) and Simon and Sullivan (1993), who recognize brand equity's impact in enabling price premiums, greater market share, and lower costs in launching new products.

Keller (1993) argues that building CBBE involves crafting a familiar, positively associated, strong, and distinct brand, through strategic use of elements such as names and logos within marketing. Keller and Lehmann (2006) stress the importance of these elements' memorability, meaningfulness, and aesthetic appeal. From a financial perspective, Ailawadi et al. (2003) describe brand equity as the extra value a product gains from its brand name compared to a similar non-branded product, highlighting the tangible benefits of a brand name.

2.7.2 Brand Knowledge

Brand knowledge, as conceptualized by Keller (1993), is a firm's most valuable asset in enhancing marketing productivity (see Figure 5). It comprises two core components: brand awareness and brand image. Brand awareness relates to the consumer's ability to recall and recognize the brand, while brand image refers to the set of associations linked to the brand in consumer memory. Keller (2003) expands on this by highlighting various dimensions of brand knowledge, including attributes,

benefits, images, thoughts, feelings, attitudes, and experiences. These dimensions underscore the multifaceted nature of brand knowledge and its pivotal role in shaping consumer perceptions and responses.

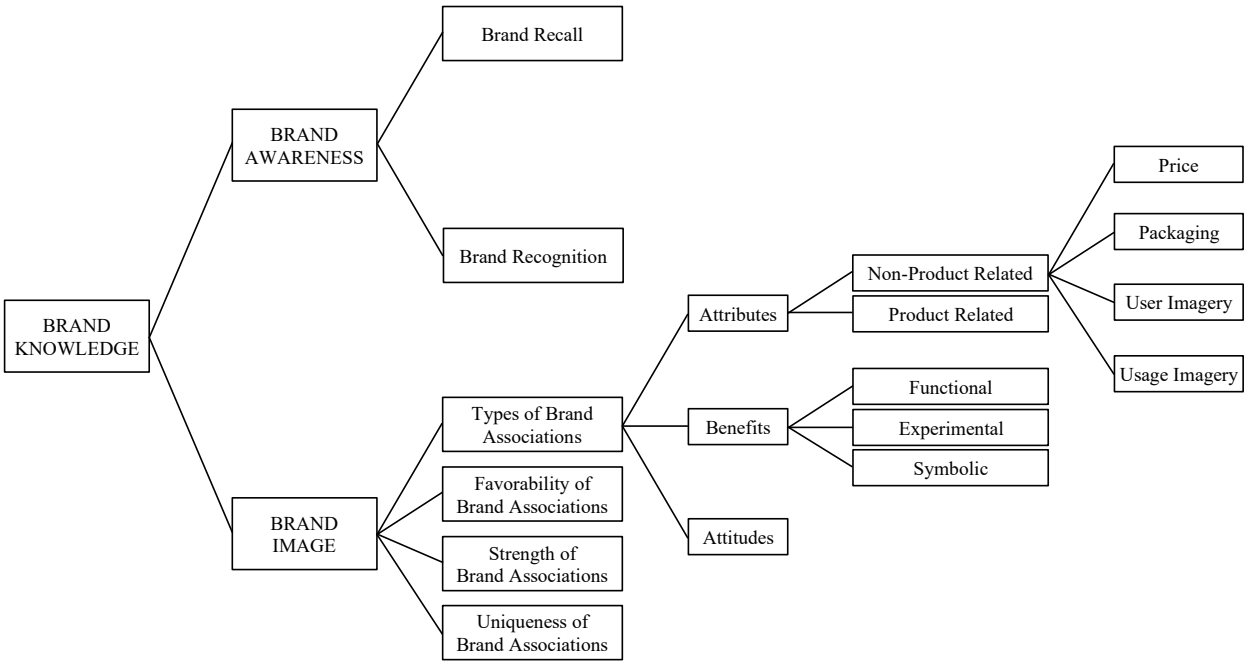

Figure 5: Brand Knowledge Framework

Note: The diagram illustrates the brand knowledge framework as adapted from Keller (1993).

2.7.3 Brand Awareness

Brand awareness, essential in brand knowledge, relates to the brand's memory strength (Keller, 1993). Rossiter and Percy (1997) define it as the consumer's ability to recognize the brand in various situations. Keller (1993) notes that strong brand awareness and positive image greatly impact the brand's pricing, distribution, and promotional strategies. The process of fostering brand awareness among potential customers is complex. Bendixen et al. (2004) underscore the role of technical consultants and sales representatives in this process. They point out exhibitions as a key method for buyers to gain brand awareness, stressing the significance of direct interaction in establishing brand familiarity.

2.7.4 Brand Image

Brand image, as defined by Keller (1993), is about the perceptions consumers have of a brand, as reflected by the brand associations in consumer memory. These associations, encompassing

attributes and benefits, play a crucial role in forming brand equity, especially in high involvement decision settings. Solomon (1983) points out that prestige is just one possible manifestation of brand image, with many other symbolic benefits available to consumers. The impact of product quality on brand image is significant. Randall et al. (1998) observe that brands associated with high-quality products tend to command higher brand premiums. Conversely, brands linked to lower quality products might face reduced premiums, underlining the importance of quality in shaping brand image.

2.7.5 Brand Associations

Brand associations, as per Randall et al. (1998), are influenced by the vertical structure of a product line, impacting brand prestige and associations. High-end models in a product line can enhance the brand's prestige, while low-end models might diminish it. Keller (1993) categorizes brand associations into attributes, benefits, and attitudes, each varying in their level of abstraction and favorability. In B2B contexts, brand associations predominantly revolve around product performance features, as noted by Leek and Christodoulides (2011). Herbst and Merz (2011) highlight the critical role of performance and credibility as essential brand associations in industrial sectors. This focus underscores the strategic importance of brand associations in shaping consumer decisions and preferences in various market contexts.

3 Methodology

3.1 Stakeholder Categorization

Prior to detailing the methodology of our study, it is crucial to clarify the adjustments made to stakeholder categorizations, consistently applied throughout our research. This restructuring is based on our literature review of the wine value chain (see section 2.2) and insights from interviews with stakeholders in the industry (see section 4.1), leading to a refined classification of the industry's stakeholders.

We noted an overlap between the stages of grape growing and wine production. Consequently, these stages have been integrated into a single category, from now on called Wine Producers. This integration reflects the deeply intertwined nature of grape growing and wine production processes. Within this merged category, we identify and classify distinct entities, including wine producers, wine bottlers, and wine makers, based on their primary roles within the industry.

Similarly, we re-evaluated the distribution stage. Recognizing that a distributor's role is predominantly logistical, lacking influence in areas such as wine selection or cork stopper selection, we determined it to be less relevant to our study. Thus, the distribution category has been omitted from our study. This decision highlights the distributor's role as primarily focused on transporting wine from producers to retail outlets, with limited involvement in decisions about product specifics.

Therefore, our study focuses on three main stakeholder categories: Wine Producers, Retail, and Final Consumers. These categories are integral to our research framework and are referenced consistently throughout our study.

3.2 Research Design Overview

The methodology of our study unfolds through a two-phase research design, with each phase serving a distinct purpose in addressing our research question. The initial phase, grounded in *Exploratory Research*, aims to gather initial insights from a range of stakeholders in the wine industry through qualitative exploration. This phase was critical for understanding the context and nuances of the industry, which informed the development of our research hypotheses.

Following this, the study progresses into the *Conclusive Research* phase, employing a *single cross-sectional design* within the framework of *Descriptive Research*. This phase is structured to test the hypotheses formulated during the exploratory stage, aiming to capture a comprehensive picture of the current perceptions and attitudes within the wine industry.

The two phases of the methodology employed in our study are elaborated upon in the sections that follow. This includes detailed clarity on the specific approaches, tools, and processes utilized in each phase.

3.3 Exploratory Research

The Exploratory Research phase was foundational to our research, employing qualitative methods to investigate the diverse perspectives on cork stoppers within the wine industry. This phase aimed to capture the collective voice of wine producers, retailers, and consumers. To guide our Exploratory Research, we defined the following Exploratory Research Questions:

Wine Producers

Exploratory Research Question 1: *What are wine producers' general perceptions and attitudes toward cork stoppers?*
Exploratory Research Question 2: *What problems or challenges do wine producers identify with using cork stoppers?*
Exploratory Research Question 3: *How open are wine producers to innovation and alternatives to traditional cork stoppers?*
Exploratory Research Question 4: *What is the perceived impact of cork stoppers on the price setting and brand strategy of wine producers?*

Retail

Exploratory Research Question 5: *What are the general perceptions of retailers about cork stoppers?*
Exploratory Research Question 6: *How do cork stoppers influence the wine selection and buying process in retail settings?*
Exploratory Research Question 7: *What importance do retailers assign to a brand mark on cork stoppers?*

Final Consumers

Exploratory Research Question 8: *What are consumers' general perceptions of cork stoppers in wine bottles?*

Exploratory Research Question 9: *Which aspects of preservation and maturation of wine do consumers associate with cork stoppers?*

Exploratory Research Question 10: *How important are cork stoppers in consumers' wine buying process?*

Exploratory Research Question 11: *Do consumers perceive a brand mark on cork stoppers as an important factor, and what does it signify to them?*

We conducted in-depth, one-on-one interviews with wine producers to discuss their perceptions and valorisation of cork stoppers, the challenges they encounter, their pursuit of innovation and alternatives to cork, and the impact of these factors on their pricing and brand strategies. The retail perspective was gathered from a broad spectrum of representatives, including owners and key personnel from both high-end and low-end restaurants, as well as convenience stores. Interviews were also conducted with staff responsible for wine procurement in supermarkets and hypermarkets. These discussions centred on their perceptions of cork stoppers, their role in enhancing the wine-buying experience, and the significance of cork stopper branding. Insights from consumers were collected through four focus groups, providing a platform for discussing general attitudes towards cork stoppers and their perceived impact on wine preservation, maturation, and the purchasing process. An overview of the interviews and focus groups conducted is presented in Appendix A.

3.4 Conclusive Research

In the second research stage, we implemented a survey-based method for quantitative evaluation of the hypotheses formulated during the exploratory stage. This stage involved a single cross-sectional design, a form of descriptive research aimed at obtaining a current overview of the prevailing perceptions and attitudes in the wine industry. We developed three distinct questionnaires, each tailored to a specific group of stakeholders: wine producers, retailers, and end consumers (see Appendix B, Appendix C, and Appendix D, respectively).

The pretesting of the three questionnaires was conducted through online monitored sessions. During these sessions, participants were asked to complete the questionnaires and subsequently provide feedback. This approach was aimed at gathering insights into their overall user experience and identifying any potential improvements.

Wine Producers

We used publicly available databases to gather responses from a diverse group of wine producers in Portugal. After cleaning the data, we ended with a sample size of 148 respondents (for more detail, see Table 4). Our participant pool predominantly consisted of wine producers (67.6%), along with wine bottlers (8.1%) and winemakers (24.3%). It should be highlighted that the entire sample was exclusively composed of Portuguese wine producers. This was primarily due to the lack of publicly accessible databases for wine producers from other targeted countries.

The businesses surveyed varied in size, mainly falling within the categories of 1 to 9 employees (67.6%) and 10 to 19 employees (18.2%). A significant proportion of these enterprises have been operating for over 20 years in the industry, accounting for 39.2% of the sample. Geographically, the responses covered most regions of Portugal (islands included). Notably, a large segment of respondents were located in the North of Portugal, representing 44.59% of the total.

Financially, the annual turnovers of the companies varied. The most common turnover brackets were between €50,000 and €199,999 (31.8%), and €200,000 to €999,999 (16.9%). The distribution of the questionnaire was facilitated through the Qualtrics distribution tool, targeting the list of email contacts we built from the referred sources.

Retail

For the dissemination of the Retail questionnaire, we adopted a methodology distinct from that used for Wine Producers. We chose to use the OnStrategy [2] panel for distributing the questionnaire. This panel was specifically chosen for its comprehensive representation of the target demographic. It encompassed a broad spectrum of retail sectors, including cafes, bars, restaurants, convenience stores, supermarkets, and hypermarkets. This ensured a diverse and relevant sample from all the countries of interest (see Appendix E for more detail).

The geographical scope of the data collection was extensive, covering key countries of interest across Europe and North America. These countries included Portugal, Spain, France, Italy, UK, and USA. This wide geographical range was instrumental in providing a holistic view of the subject matter, encompassing varied market dynamics and consumer behaviors across different regions.

[2] OnStrategy is a multidisciplinary consulting firm focused on the creation, construction, and optimization of business and brand value in economic and financial terms. The firm, with Professor Pedro Tavares as its Managing Partner, complies with ISO10668 and ISO20671 standards. Throughout its years of operation, OnStrategy has audited over 1000 brands. Further details are available on their website: OnStrategy's website.

The survey distribution method was structured to encompass a broad demographic. We dispatched the questionnaire to the entire OnStrategy panel of Retail, which included contacts from the specified countries. This method was implemented without any preliminary selection or filtering to maximize the range of participants within the limits of the data accessible to us.

The primary descriptive statistics of our sample demographics are presented in Appendix F.

Final Consumers

For Final Consumers, we employed a procedure similar to the one used for Retail. In this case, we distributed the questionnaire to a broad panel of consumers (refer to Table 12 for more details). The criteria for selecting relevant respondents were that each participant must be both a wine drinker and a wine buyer. We utilized two screening questions, and the questionnaire was terminated if the participant did not meet these criteria.

Through the panel of OnStrategy, it was possible to obtain a large sample size for each country of interest (Portugal, Spain, France, Italy, Belgium, Germany, UK, and EUA). Due to the unreliability of data regarding wine drinkers in each of the refered countries (i.e. the impossibility to determine precisely the population of interest for each country), we opted to maintain the questionnaires open until sample sizes achieved a number greater or equal than 1000 responses [3].

The primary descriptive statistics of our sample demographics are presented in Appendix G.

[3] This was only possible due to the large sampling frames of the OnStrategy's panel. In Portugal, the country of interest with the smallest population, it is estimated that 60% of the population consumes wine, according to SICAD. With a population of approximately 10.44 million (PORDATA), and assuming a population proportion of 60%, a confidence level of 99%, and a sample size of 1,000, our margin of error is approximately 4%. Similarly, for the United States (EUA), the country of interest with a larger population, it is estimated that 63% of individuals aged 18 and older consume wine (GALLUP). Therefore, for an adult population of approximately 258.34 million (United States Census Bureau), and assuming a population proportion of 63%, a confidence level of 99%, and a sample size of 1,000, our margin of error is approximately 3.94%. Consequently, we have decided to maintain a target sample size of 1,000 for each country, due to the perceived quality of data obtained with such a sample size.

4 Exploratory Research Findings and Hypotheses

4.1 Introductory Note

This section summarizes key insights from our extensive exploratory research on the attitudes and practices of wine producers, retailers, and consumers towards cork stoppers. We highlight the most relevant findings to inform our research hypotheses and guide future study phases.

4.2 Wine Producers

Exploratory Research Question 1: *What are the general perceptions and attitudes of wine producers toward cork stoppers?*

Insights from Exploratory Research: Wine producers regard cork stoppers as crucial for wine preservation, believing that they significantly contribute to maintaining the wine's quality. They view cork stoppers as a key factor in the maturation process, interacting continuously with the wine. Recognized for their proven performance and traditional value, cork stoppers are highly valued by wine producers who strive to use high-quality corks in their products. Producers appreciate the controlled micro-oxygenation facilitated by cork stoppers, which helps preserve the integrity of the wine's aromas. Moreover, cork is seen as a natural and ecological material, aligning well with sustainable practices.

Hypothesis A1: *Wine producers consider cork stoppers to be essential for the preservation of wine.*

Hypothesis A2: *Wine producers believe that cork stoppers significantly contribute to the overall quality of the wine.*
Hypothesis A3: *Wine producers place more value on the quality of cork stoppers than on their cost.*
Hypothesis A4: *Wine producers highly value the ability of cork stoppers to enable controlled micro-oxygenation, appreciating the porosity of the corks.*

Exploratory Research Question 2: *What problems or challenges do wine producers identify with using cork stoppers?*

Insights from Exploratory Research: Wine producers have universally experienced issues with

TCA in cork stoppers. Despite these incidents, they consider them to be infrequent occurrences. Even with the potential for TCA contamination, wine producers maintain their trust in cork stoppers for sealing their wines. They implement control measures to mitigate TCA issues, underscoring their ongoing confidence in the use of cork stoppers.

Hypothesis A5: *While wine producers occasionally encounter TCA-related problems in their wines, they generally perceive these issues as rare occurrences.*
Hypothesis A6: *Despite TCA-related challenges, wine producers continue to trust in the efficacy of cork stoppers.*

Exploratory Research Question 3: *How open are wine producers to innovation and alternatives to traditional cork stoppers?*

Insights from Exploratory Research: For certain wines, it is understood that cork stoppers are irreplaceable with alternative stoppers. However, some wine producers are open to exploring the use of synthetic and/or screw stoppers. One producer has already experimented with synthetic stoppers for their current wine selection. There is a cautious approach among wine producers regarding the balance between tradition and innovation in wine stoppering.

Hypothesis A7: *Wine producers prefer cork stoppers for certain wines but are open to using synthetic or screw stoppers for others.*
Hypothesis A8: *Wine producers show limited interest in adopting alternative stoppers, favoring traditional cork.*

Exploratory Research Question 4: *What is the perceived impact of cork stoppers on the price setting and brand strategy of wine producers?*

Insights from Exploratory Research: Wine producers acknowledge the influence of cork stoppers on the pricing of wine, yet do not view it as the sole decisive factor. They recognize that while cork stoppers can affect the wine's price, they also enhance its perceived value. Producers believe cork stoppers are valued by consumers and associate them with a commitment to quality rather than just cost. Despite cork stoppers constituting a significant portion of costs, producers view them as an investment, essential for maintaining the wine's character, and are not inclined to compromise on their features for cost reduction.

Hypothesis A9: *For wine producers, cork stoppers have no influence in the selling price of wine.*
Hypothesis A10: *Wine producers regard cork stoppers as an investment in enhancing customer satisfaction.*
Hypothesis A11: *Wine producers are unwilling to compromise on the features of cork stoppers for the sake of price reduction.*

4.3 Retail

Exploratory Research Question 5: *What are the general perceptions of retailers about cork stoppers?*

Insights from Exploratory Research: Retailers appreciate cork stoppers, particularly for higher-end wines, associating them with tradition and valuing their technical properties. They believe that cork stoppers positively impact the presentation and perception of wine, especially in the premium segment, and consider them a symbol of sustainability. Retailers also view cork stoppers as a signal of the wine's authenticity and quality.

Hypothesis B1: *Retailers believe that the presence of a cork stopper gives higher-end wines a sense of tradition and authenticity, which is an important differentiating factor in their presentation and market perception.*

Exploratory Research Question 6: *How do cork stoppers influence the wine selection and buying process in retail settings?*

Insights from Exploratory Research: Retailers do not perceive cork stoppers as a significant factor in decision-making regarding wine purchases. They prioritize attributes such as the intrinsic quality and price of the wine over the type of stopper. While valuing the properties of cork, retailers do not consider it a critical factor in purchasing decisions. They are open to offering wines with synthetic or screw stoppers if requested by customers.

Hypothesis B2: *Retailers do not prioritize the type of stopper when selecting wines for their establishments.*

Hypothesis B3: *Retailers are open to modifying their wine selections based on customer preferences regarding the type of stopper.*

Exploratory Research Question 7: *What importance do retailers assign to a brand mark on cork stoppers?*

Insights from Exploratory Research: Retailers generally do not regard the brand mark on cork stoppers as significant. They acknowledge that cork marks might be associated with higher-end wines due to the additional attention to detail in production. However, brand marks on cork stoppers are not a consideration in their wine purchasing decisions.

Hypothesis B4: *The presence of a brand on cork stoppers is not a significant factor for retailers when purchasing wine.*

Based on the insights from our exploratory research with various retailers, it was observed that cork stoppers are not a crucial consideration in their wine purchasing decisions or are deemed of minimal importance. This perception was consistent across all types of retailers interviewed.

4.4 Final Consumers

Exploratory Research Question 8: *What are consumers' general perceptions of cork stoppers in wine bottles?*

Insights from Exploratory Research: Consumers perceive cork stoppers as symbols of traditional winemaking, linking them to a winemaker's dedication to quality and seeing them as essential for the wine's identity and its maturation during storage. The ecological and sustainable aspects of cork stoppers are also highly valued. Moreover, cork stoppers are often considered an integral part of the experience during special occasions.

Hypothesis C1: *Consumers associate cork stoppers with the traditional aspects of winemaking, reflecting a perception that correlates cork usage with a winemaker's commitment to quality.*

Hypothesis C2: *Consumers regard the ecological and sustainable attributes of cork stoppers as valuable, and recognize the importance of cork in enhancing the experience of wine during special*

occasions.

Exploratory Research Question 9: *Which aspects of preservation and maturation of wine do consumers associate with cork stoppers?*

Insights from Exploratory Research: Consumers recognize the role of cork stoppers in the preservation and maturation of wine. They associate cork with better preservation qualities, believing that it contributes to the wine's longevity and maturation process.

Hypothesis C3: *Consumers believe that cork stoppers play a significant role in the preservation and maturation of wine.*

Exploratory Research Question 10: *How important are cork stoppers in consumers' wine buying process?*

Insights from Exploratory Research: While consumers appreciate the traditional and qualitative aspects of cork stoppers, their presence is not a decisive factor in the wine-buying process. Consumers consider other factors, such as the wine's origin, price, and brand, more crucial in their purchasing decisions.

Hypothesis C4: *The presence of cork stoppers is not the primary factor influencing consumers' wine purchasing decisions.*

Exploratory Research Question 11: *Do consumers perceive a brand mark on cork stoppers as an important factor, and what does it signify to them?*

Insights from Exploratory Research: Consumers generally do not consider the brand mark on cork stoppers as a crucial factor in their purchasing decision. However, they recognize that a brand mark signifies attention to detail and professionalism on the part of the wine producer, and some appreciate it as a part of their overall wine experience.

Hypothesis C5: *While not a critical factor, consumers view the brand mark on cork stoppers as*

indicative of a producer's attention to detail and professionalism.

Based on the insights gathered from our exploratory research with a diverse range of final consumers, it has been noted that while consumers respect the traditional value of cork stoppers and associate them with a commitment to quality, these factors do not strongly dictate their buying behavior. The choice to purchase wine seems to be influenced by a variety of factors, with the type of stopper playing a secondary role. This trend appears consistent regardless of the demographic profiles of the consumers interviewed.

4.5 Main Insight from the Exploratory Research

Based on our exploratory research, including interviews and focus groups, we have discerned that cork stoppers, while not pivotal for Retailers or Final Consumers, are of paramount importance to Wine Producers. This insight guides our empirical investigation of research hypotheses for these stakeholders. Specifically, for Retailers and Final Consumers, our aim is to validate and deepen our understanding of their indifference towards cork stoppers. Conversely, the research will predominantly focus on Wine Producers in the conclusive phase, aiming to thoroughly comprehend their values and preferences regarding cork stoppers.

5 Analyses and Results

5.1 Wine Producers

5.1.1 Research Hypothesis A1

Addressing Hypothesis A1, we observed a high mean value ($M = 8.213, SD = 1.129$) across all wine producer groups—grape growers, bottlers, and winemakers—suggesting consensus on the importance of cork stoppers (see Table 30). A one-way ANOVA was conducted with *Role* as the independent variable and *Cork Importance* as the dependent variable. The analysis yielded no significant differences at the .05 alpha level ($F(2, 145) = 2.712, p = .070$), implying consistent mean importance ratings across groups (Table 31). However, the Welch test indicated a near-significant trend ($p = .055$), and the LSD post hoc test identified a significant difference between Wine Producers and Winemakers ($p = .021$), with the latter assigning greater importance to cork stoppers.

Our data reveals high mean values across all wine industry groups, supporting Hypothesis A1 and indicating a shared recognition of cork's importance in wine preservation. This is in line with the nonsignificant ANOVA results, suggesting a uniform appreciation of cork among wine producers. Despite some statistical significance between Wine Producers and Winemakers, which may reflect minor differences in perspectives, the consistently high mean values emphasize cork's vital role as a standard in the industry.

5.1.2 Research Hypothesis A2

Following the approach of Hypothesis A1, a one-way ANOVA was conducted for Hypothesis A2, examining whether wine producers view cork stoppers as crucial to wine quality with *Role* as the independent variable and *Cork Overall Quality* as the dependent variable. The analysis revealed high means across all roles—Wine Producer ($M = 7.58$), Wine Bottler ($M = 8.04$), and Winemaker ($M = 8.13$)—indicative of a shared belief in cork's importance, as detailed in Table 32. The ANOVA results did not show a significant difference at the .05 alpha level ($F(2, 145) = 2.282, p = .106$), suggesting a uniform belief across the industry, which can be seen in Table 33.

Levene's test confirmed homogeneity of variances ($p > .05$), strengthening the validity of the ANOVA results. Although the Welch test approached significance ($p = .089$), it did not challenge the overall trend of agreement. The high means across all groups underscore a shared recognition of the integral role of cork stoppers in maintaining wine quality, supporting Hypothesis A2 and highlighting the cohesive industry perspective on cork stoppers' value.

5.1.3 Research Hypothesis A3

To address Hypothesis A3 we employed the Wilcoxon Signed-Rank Test [4], utilizing the paired variables *Cost* and *Quality*. The data revealed a notable discrepancy in the importance ratings, with cost having a lower mean value ($M = 3.318, SD = 2.264$) compared to the significantly higher mean for quality ($M = 7.270, SD = 1.491$).

In Table 34, our analysis shows the majority (123 out of 148) prioritized quality over cost, reflected in positive ranks. A minority (7 out of 148) valued cost more, as negative ranks indicate. There were 18 ties, suggesting for some, quality and cost are equally important. The sum of ranks notably favors quality ($Sum = 8383.00$) against cost ($Sum = 132.00$). The statistical significance of this preference is further underscored by the Z value obtained from the Wilcoxon Signed-Rank Test. The significant Z value ($Z = -9.606$) with a p-value of less than .001, as detailed in Table 35, provides robust evidence supporting our Hypothesis A3.

5.1.4 Research Hypothesis A4

In our analysis of Hypothesis A4, we applied a Repeated Measures ANOVA to *Cork Characteristics* [5]. Mauchly's Test indicated that the assumption of sphericity was violated ($p < .001$). Consequently, the degrees of freedom for the within-subjects effects were corrected using the Greenhouse-Geisser estimate ($\varepsilon = .677$). The corrected tests of within-subjects effects revealed a significant effect of the characteristics factor on the ratings ($F(8.122, 1193.963) = 37.125, p < .001, partial\ \eta^2 = .202$), indicating significant differences in the importance placed on various cork stopper characteristics (see Table 36).

Density ($M = 8.153$), *Porosity* ($M = 8.075$), and *Degree of compression* ($M = 8.009$) received the highest mean ratings, underscoring their critical importance, which supports our Hypothesis A4. In contrast, *Provenance* ($M = 6.081$) and *Toast degree* ($M = 6.159$) were considered less essential. This pattern of preferences emphasizes the significance that wine producers place on the material properties of corks, which are vital for wine preservation and quality (refer to Table 37 and Figure 6).

[4] Due to the non-normal distribution of our data, we selected the Wilcoxon Signed-Rank Test, which is robust to normality deviations, for analyzing the paired variables.

[5] The Repeated Measures ANOVA is particularly used when the same subjects are measured multiple times on the same dependent variable across different time points. In our case, it is still applicable because we have a design with 13 dependent variables (attributes), and each attribute is measured only once per subject. However, the subjects are providing responses across multiple attributes, which justifies the use of this analytical approach.

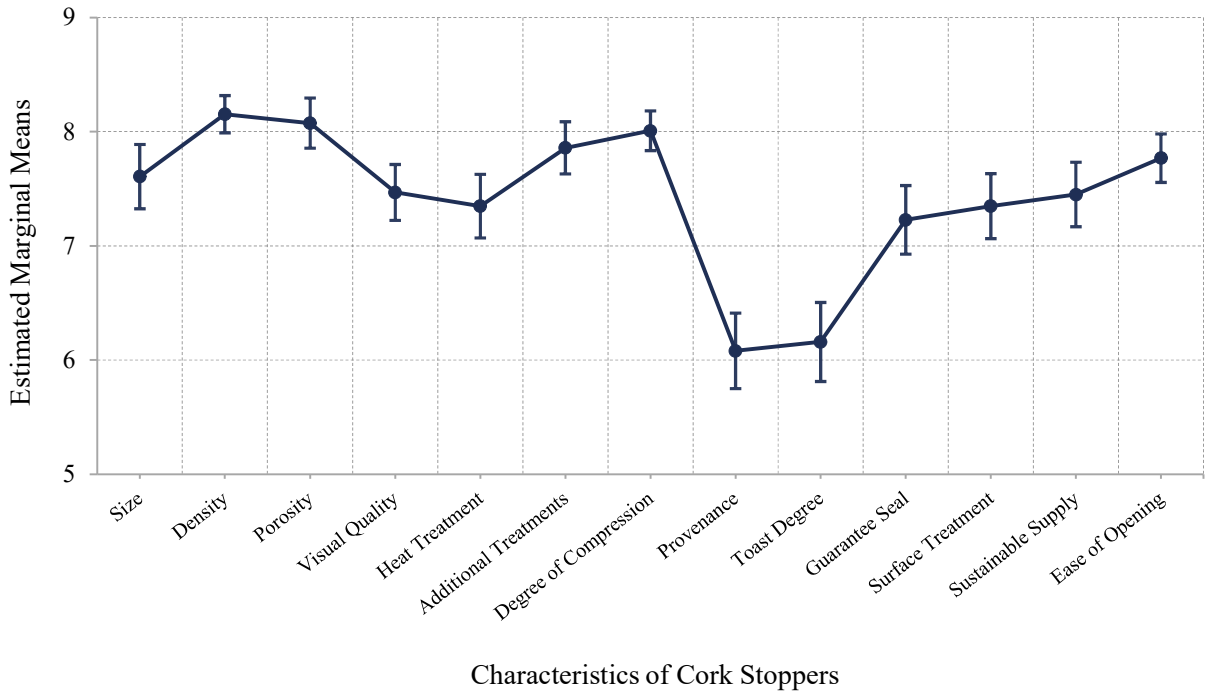

Figure 6: Estimated Marginal Means of Cork Characteristics

5.1.5 Research Hypothesis A5

Contrary to Hypothesis A5, which posited that TCA-related problems in wines are perceived as rare occurrences by wine producers, our findings (based on the variable *TCA Incidence*) reveal a different reality. Among 148 respondents, a significant majority, 122 (82.4%), reported experiencing 'corked taste' due to TCA.

Within this group, the *TCA Frequency* varied: 27% encountered it rarely (on average, less than once a year), 43.4% occasionally (1 to 3 times per year), and 22.1% frequently (more than 3 times a year) (see Table 38 for detailed information on how opinions varied among the three groups of wine producers). Particularly striking was the comment from one respondent, who lamented, *"Unfortunately, I face problems with TCA almost on a monthly basis."* This testimony, coupled with the overall data, reveals a higher frequency of TCA-related issues than anticipated, contradicting Hypothesis A5 and indicating a notable concern in the wine industry.

5.1.6 Research Hypothesis A6

Hypothesis A6 was formulated to assess the impact of TCA incidents on the confidence of wine producers in cork stoppers. We employed a one-way ANOVA to investigate if confidence levels

varied among different categories of wine producers. The analysis revealed a non-significant result ($F(2, 119) = .537, p = .586$), suggesting no substantial difference in confidence levels across the categories (refer to Table 39). Descriptive statistics indicated an average score ($M = 5.714, SD = 2.633$), which is above the neutral midpoint ($M = 5$) [6].

To further validate our hypothesis, a one-sample t-test was conducted with the collective data from wine producers. This test demonstrated that the mean score significantly exceeds the neutral midpoint ($t(122) = 2.995, p = .003, CI(95\%) = [0.242, 1.198]$). This finding suggests a tendency towards reduced confidence, which contradicts our hypothesis. Additionally, we explored the relationship between TCA incident frequency (categorized as Rarely, Occasionally, Frequently) and the extent of confidence reduction. Another one-way ANOVA indicated no significant statistical correlation ($F(2, 119) = 1.656, p = .180$), implying that the frequency of TCA incidents does not notably influence wine producers' confidence levels. Hence, the findings do not support Hypothesis A6, as the data indicates that TCA incidents indeed influence wine producers' confidence in cork stoppers.

5.1.7 Research Hypothesis A7

In testing Hypothesis A7, we discern a distinct preference pattern for stoppers among wine producers, contingent on wine type and quality segment. This pattern is evidenced through the analysis of *Stoppers Wine Type* and *Stoppers Wine Segment* variables. Our data, as depicted in Table 42 and illustrated in Figure 7, reveal a robust predilection for cork stoppers in premium wine categories such as Reserve ($\chi^2 = 220.383, p < .001$) and DOP wines ($\chi^2 = 112.311, p < .001$), which are traditionally associated with aging and presumed higher quality.

The significant p-values ($p < .001$) for the majority of categories, as indicated by the Chi-Square Goodness-of-Fit Test (Table 43), underscore a deliberate selection influenced by the wine's market position and perceived value. The Current/Table Wine category, which approached significance ($\chi^2 = 2.707, p = .258$), indicates a pragmatic preference for synthetic/screw stoppers, driven by economic and functional considerations for wines intended for immediate consumption. These findings collectively support Hypothesis A7, suggesting a strategic differentiation in stopper preference based on the type and segment of wine.

[6] It is noteworthy that, according to our variable definition in *TCA Confidence*, a lower score indicates that TCA incidents do not significantly reduce confidence in cork stoppers, whereas a higher score implies a reduction in confidence.

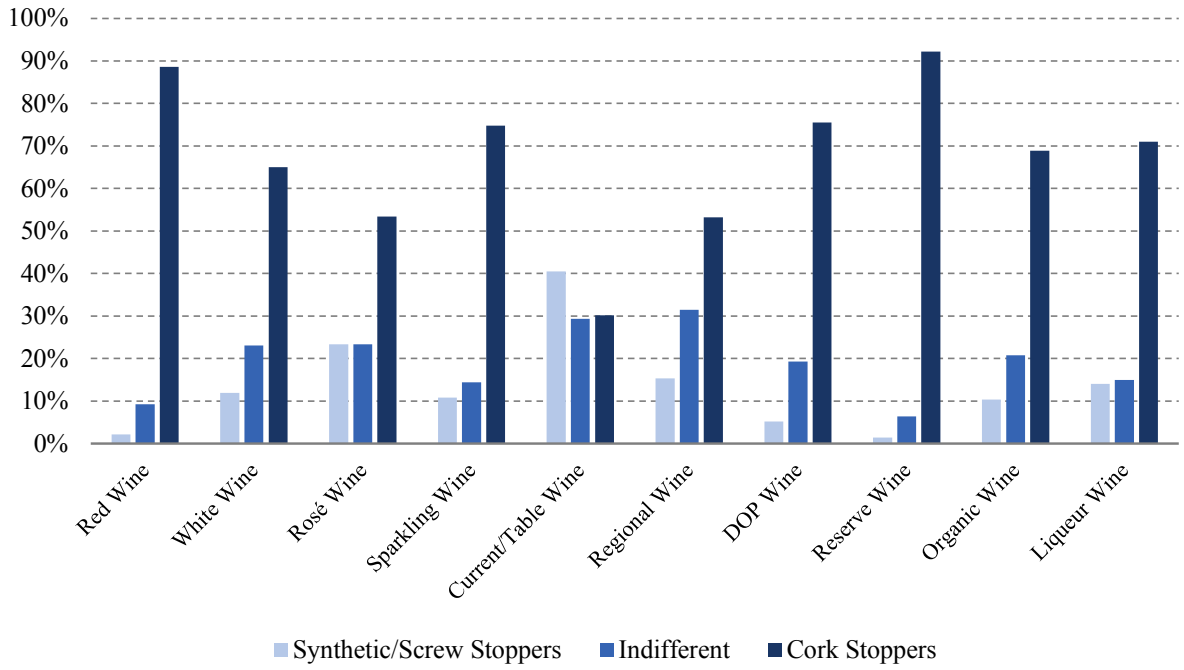

Figure 7: Wine Producers Preferences for Wine Stopper Types by Wine Category

5.1.8 Research Hypothesis A8

In examining Hypothesis A8, we proposed that wine producers demonstrate a limited interest in adopting alternative stoppers, favoring traditional cork instead. This hypothesis was evaluated by assessing responses to *Open to Alternatives* which asked producers to rate their openness to alternative corks. The one-sample t-test was employed to analyze this inclination against the neutral midpoint of the scale (Test Value = 5).

The analysis (Table 44) revealed a mean score ($M = 4.31, SD = 2.816$) which significantly deviated from the neutral point ($t(147) = -2.977, p = .003$), indicating a tendency towards the traditional cork preference. The 95% confidence interval of the mean difference from the neutral point ranged from -1.15 to $-.23$, further confirming that the sample mean is statistically lower than the neutral midpoint.

This finding coherently aligns with the results of Hypothesis A7, where a strong predilection for cork stoppers was identified, particularly in premium wine categories such as Reserve and DOP wines. The consistency between the limited openness to alternatives (Hypothesis A8) and the strong preference for cork stoppers (Hypothesis A7) suggests a prevalent traditionalist approach among

wine producers when it comes to stopper type selection.

5.1.9 Research Hypothesis A9

Addressing Hypothesis A9, we investigated the perceived influence of cork stoppers on the selling price of wine among wine producers. A one-sample t-test was conducted to compare the level of agreement to a neutral test value of 5 on the *Cork Influence On Price*. The analysis (see Table 45) revealed a mean agreement level ($M = 6.38, SD = 2.554$), which significantly deviated from the neutral midpoint (Test Value = 5), with a t-value of 6.566 and a p-value of less than $.001$ (two-sided). The 95% confidence interval of the mean difference ranged from 0.96 to 1.79, indicating a statistically significant and substantial departure from neutrality.

The findings suggest that wine producers believe cork stoppers do affect the selling price of their wines, which means Hypothesis A9 is not supported. The positive mean difference indicates that the cork stopper is considered to enhance the selling price beyond a neutral impact.

5.1.10 Research Hypothesis A10

To study Hypothesis A10 we analyzed responses concerning *Cork Choice in Pricing Strategy*, aiming to identify the key factors influencing pricing decisions. Our findings, detailed in Table 46 and represented in Figure 8, reveal a significant variation in the prioritization of different factors. Notably, 'Investment in customer satisfaction' was selected by only 29.1% of respondents, the lowest frequency compared to all other aspects. This is in stark contrast to other dominant factors such as 'Reflection of the total quality of the wine' at 66.2%, 'Valuing tradition' at 50.7% and 'Cost component' at 44.6%, contradicting our initial assumption with Hypothesis A10.

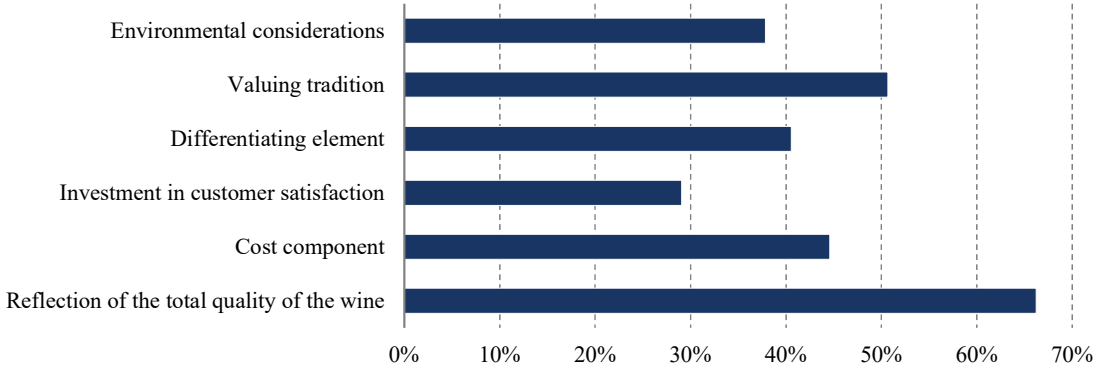

Figure 8: Wine Producers' Ratings on Factors Influencing Pricing Strategy

5.1.11 Research Hypothesis A11

Hypothesis A11 was examined using a one-sample t-test to determine if *Willingness to Compromise on Cork* significantly differed from the test value (Test Value = 5). Results showed a mean value $(M = 3.673, SD = 2.336)$ significantly below the test value $(t(147) = -6.913, p < .001)$, indicating partial support for our hypothesis [7]. A subsequent one-way ANOVA revealed no significant difference in the perceptions across three categories of wine producers $(F(2, 145) = 1.989, p = .141)$, corroborated by the Welch test $(p = .224)$.

To further discern which cork characteristics wine producers prioritize, we analyzed *Trade-Off Features for Price*. The data (see Table 47), depicted in Figure 9, suggest a greater willingness to compromise on 'Size' (49.3%), 'Provenance' (43.2%), 'Toast Degree' (34.5%), and 'Visual Quality' (31.1%). Conversely, features critical to wine quality like 'Degree of Compression' (6.1%), 'Porosity' (8.8%), and 'Density' (9.5%) were less likely to be compromised. These findings illustrate a discernible preference among wine producers for preserving cork attributes essential to maintaining or enhancing wine quality.

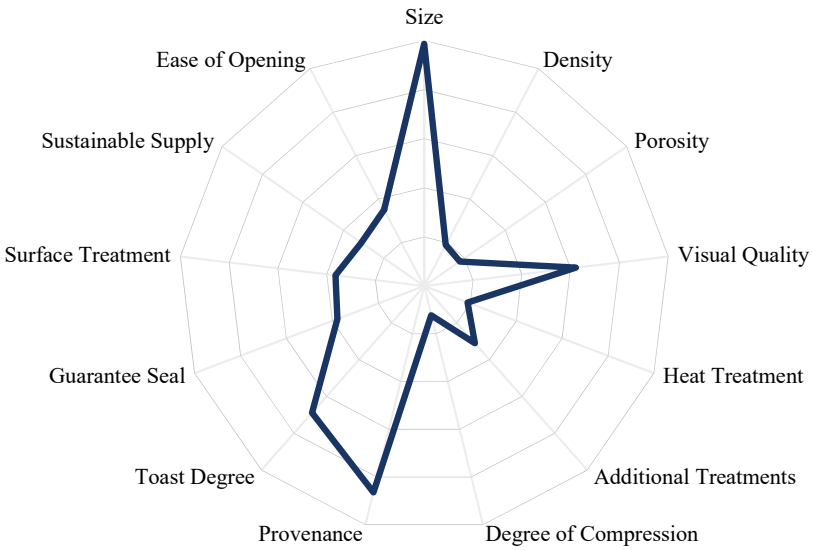

Figure 9: Wine Producers' Willingness to Compromise on Cork Features for Competitive Pricing

[7] The support would be stronger if the results were also significant for a test value of 3; however, they were not $(t(147) = 3.504, p < .001)$. Nonetheless, the mean difference from 5 $(MD = -1.327, CI(95\%) = [-1.707, -.948])$ leans towards supporting the hypothesis.

5.2 Retail

5.2.1 Research Hypothesis B1

To study Hypothesis B1, we began by conducting a one-sample t-test for the variables *Tradition and Authenticity Perception* and *High-End Differentiation* to determine whether the mean values for these two variables surpassed the threshold (Test Value = 7) defined to test our hypothesis. Indeed, for both variables, the values were significant $(t(14689) = 23.716, p < .001)$ and $(t(14689) = 28.925, p < .001)$, respectively, lending support to our hypothesis (see Table 48). Considering our extensive dataset, we further explored whether these perceptions varied across different establishments and countries.

We conducted a 6 (Countries) $\times$ 7 (Establishment Types) factorial Analysis of Variance (ANOVA) on the respondents' perception scores. For the first dependent variable, *Tradition and Authenticity Perception*, we found significant main effects for both Country $(F(5, 14648) = 11232.530, p < .001, partial\ \eta^2 = .793)$ and Establishment $(F(6, 14648) = 28875.305, p < .001, partial\ \eta^2 = .922)$. These results suggest that perceptions of tradition and authenticity are strongly influenced by both the country of the establishment and the type of establishment. Additionally, there was a significant interaction effect between *Country* and *Establishment* $(F(30, 14648) = 1260.135, p < .001, partial\ \eta^2 = .721)$, indicating that the effect of Establishment Type on perceptions of cork stoppers varies by Country (see Figure 10).

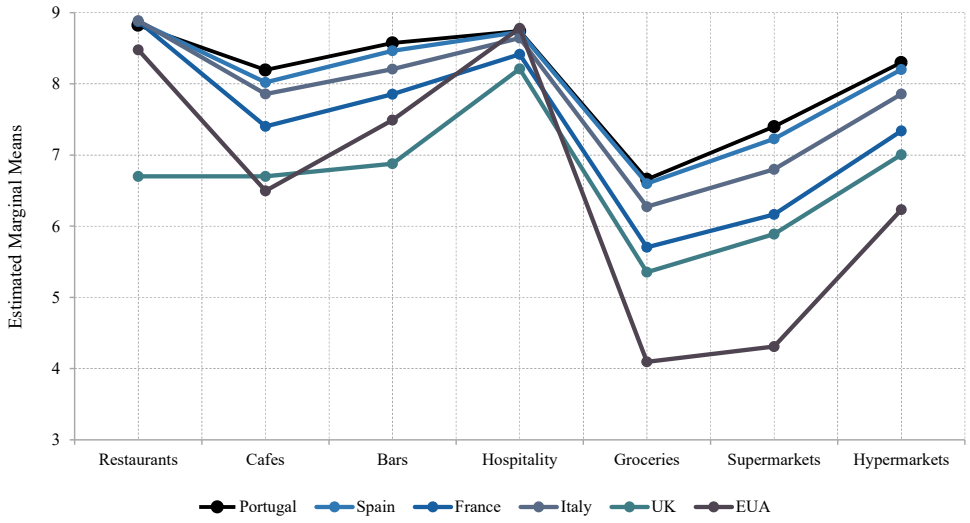

Figure 10: Cross-Country Comparison of Tradition and Authenticity Perception in Retail Establishments

For the second dependent variable, *High-End Differentiation*, the results were similarly significant. Main effects were observed for *Country* ($F(5, 14648) = 19715.864, p < .001, partial\ \eta^2 = .871$) and *Establishment* ($F(6, 14648) = 23603.617, p < .001, partial\ \eta^2 = .906$), along with a significant interaction between *Country* and *Establishment* ($F(30, 14648) = 1991.292, p < .001, partial\ \eta^2 = .803$). These findings provide strong evidence that both the country and the establishment type are significant factors in differentiating high-end wines through the presence of a cork stopper (Figure 11).

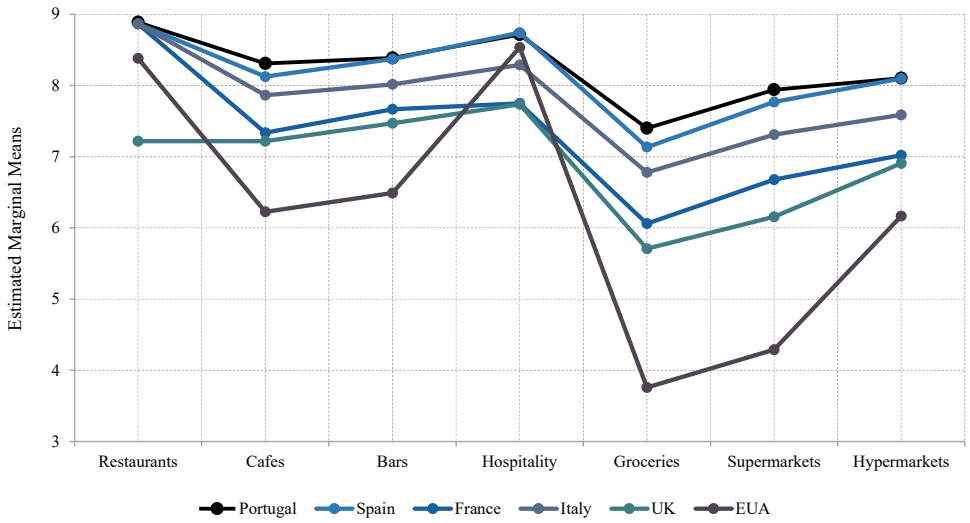

Figure 11: Cross-Country High-End Differentiation Perception in Retail Establishments

Despite variations across establishments and countries, our hypothesis is supported, since $\approx 64.29\%$ of all estimated marginal means exceed the threshold of 7, and $\approx 95.24\%$ are above 5. This aligns with our one-sample t-test results.

5.2.2 Research Hypothesis B2

Adopting a similar approach as before, we analyzed Hypothesis B2 on *Importance of Cork Stoppers* using a one-sample t-test to see if it is below the Test Value of 3. The results from the one-sample t-test support our hypothesis ($t(14689) = -132.277, p = .000$). Despite having a large dataset, which provides robustness to our one-sample t-test, we conducted a 6 (Countries) $\times$ 7 (Establishment Types) factorial ANOVA to determine whether this perspective changes with Establishment type and Country.

We found significant main effects for both Country ($F(5, 14648) = 12807.667, p < .001, partial\ \eta^2 = .814$) and Establishment ($F(6, 14648) = 69327.868, p < .001, partial\ \eta^2 = .966$). These

results suggest that perceptions of tradition and authenticity are strongly influenced by the country of the establishment and the type of establishment. Additionally, there was a significant interaction effect between *Country* and *Establishment* ($F(30, 14648) = 3243.261, p < .001, partial\ \eta^2 = .869$), indicating that the effect of Establishment Type on perceptions of cork stoppers varies by country (see Figure 12).

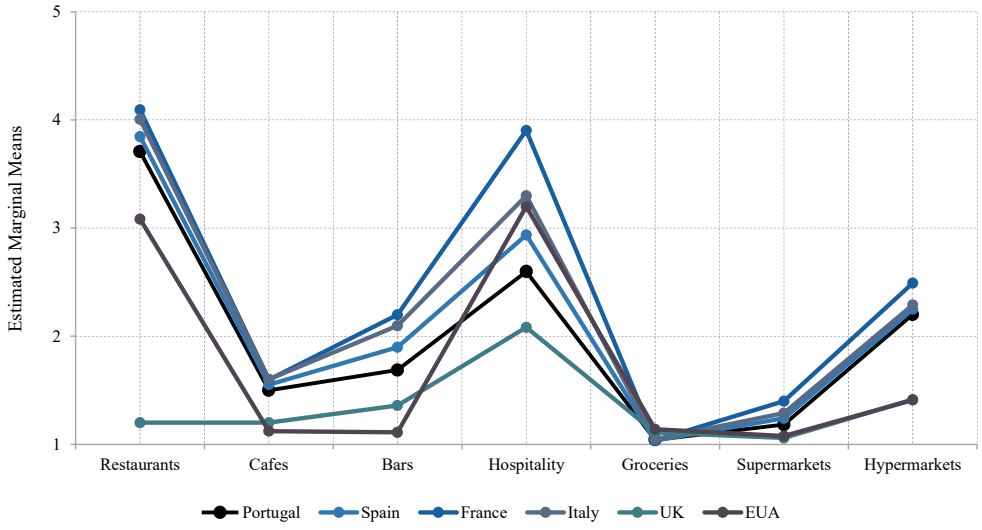

Figure 12: Importance of Cork Stoppers in Wine Purchasing Decisions Across Retail Establishments and Countries

Although the data corroborates our hypothesis, a discernible pattern emerges. Restaurants and Hospitality establishments appear to value cork stoppers more than other establishments do, albeit these values are still below the midpoint of 5. In fact, $\approx 80.95\%$ of all our estimated marginal means fall below the threshold of 3, reinforcing our hypothesis. However, to obtain a more detailed understanding of which factors are most important to Retailers when selecting wines for their establishments, we employed a non-parametric test, the Friedman Test, to analyze *Wine Selection Factors*. The test statistics revealed a highly significant difference in rankings ($\chi^2(9) = 107850.483, p < .001$), indicating distinct preferences among retailers for certain selection factors over others (see Figure 13). Indeed, retailers regard certain attributes such as 'Purchase Price' ($MR = 9.72$) and 'Wine Quality' ($MR = 9.03$) as highly critical, while aspects like 'Type of Stopper' ($MR = 1.77$) and 'Bottle Design' ($MR = 2.18$) are deemed less essential. This reinforces our hypothesis.

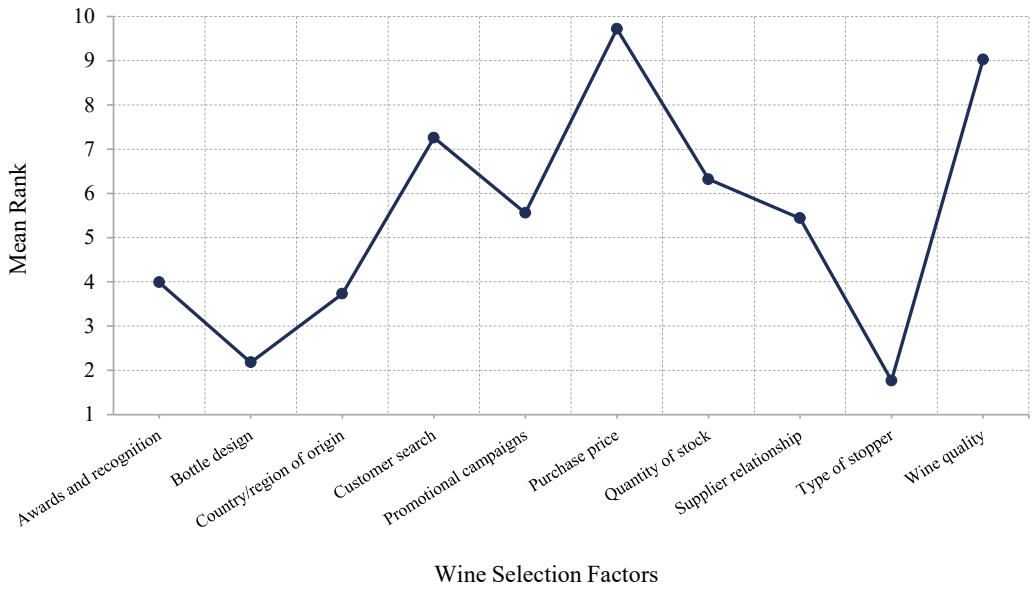

Figure 13: Ranking of Wine Selection Factors by Retailers

5.2.3 Research Hypothesis B3

To address Hypothesis B3, we conducted a one-sample t-test using a Test Value of 7, which was the threshold selected for testing our hypothesis. The variable *Selection Adjust for Feedback* was employed for this purpose. The results $(t(14689) = -717.998, p < .001)$ do not support the hypothesis (refer to Table 49). Specifically, the mean value $(M = 1.798, SD = .878)$ was significantly below our defined threshold $(MD = -5.202, CI(95\%) = [-5.216, -5.188])$. Given that the mean was substantially lower than our threshold and considering the robustness of the one-sample t-test results, which were also far below the midpoint, we decided not to proceed with further analysis of this hypothesis in relation to *Country* and *Establishment* variations.

5.2.4 Research Hypothesis B4

The examination of Hypothesis B4 was aimed at understanding the impact of branding on cork stoppers on retailers' wine purchasing decisions. We utilized a Chi-Square Test of Independence to analyze the relationship between *Brand Relevance*, *Establishment Type*, and *Country*. The results indicated no significant association between the variables, with p-values of 0.910 for establishment types $(\chi^2\ (6, N = 14690) = 2.098, p = .910)$ and 0.361 for countries $(\chi^2\ (5, N = 14690) = 5.469, p = .361)$, as detailed in Table 50. To further support our findings, we examined the frequencies of responses for the entire sample, as shown in Table 51. A resounding 97.2% of respondents answered 'No', indicating that the presence of a brand on cork stoppers is not a crucial consideration for the majority of retailers when selecting wines. This evidence corroborates our

hypothesis, affirming that branding on cork stoppers does not significantly influence the wine purchasing decisions of retailers.

5.3 Final Consumers

5.3.1 Research Hypothesis C1

To address Hypothesis C1, we commenced by analyzing the means of *Vinicultural Tradition* (M = $8.003, SD$ = 0.858) and *Commitment to Quality* (M = $7.472, SD$ = 1.131). We tested whether these means were significantly above our defined threshold (Test Value = 7) using one-sample t-tests. The results for Vinicultural Tradition (MD = $1.003, CI(95\%)$ = $[0.984, 1.021], p < .001$) and Commitment to Quality (MD = $0.472, CI(95\%)$ = $[0.448, 0.497], p < .001$) corroborated our hypothesis.

To examine the relationship between these variables, we applied Pearson Correlation, revealing a significant correlation (r = $0.899, p < .001$). Subsequent one-way ANOVAs were conducted with Vinicultural Tradition and Commitment to Quality, using *Country* as a factor, to assess mean differences across countries. Significant differences were observed for both Vinicultural Tradition and Country ($F(7, 8073)$ = $8360.461, p < .001$) and Commitment to Quality and Country ($F(7, 8073)$ = $13251.630, p < .001$).

Analysis of mean values (Figure 14) shows differences among countries. Portugal, Spain, France, and Belgium had higher means, while the UK and USA showed lower. Although UK and USA's means were under our 7 threshold, they surpassed the neutral mean of 5. This suggests that in our sample, UK and USA wine consumers view cork stoppers less as a tradition symbol and less as a quality commitment indicator than other countries.

5.3.2 Research Hypothesis C2

To test Hypothesis C2, one-sample t-tests were performed to examine consumer valuations of cork stoppers' ecological and sustainable attributes (*Ecological and Sustainable*), and their importance for special occasions (*Special Occasions*), against a predetermined importance threshold (Test Value = 7). The ecological and sustainable attributes (M = $3.694, SD$ = 0.668) were significantly undervalued ($t(8080)$ = $-444.378, p < .001$), with a mean difference of -3.306 ($CI(95\%)$ = $[-3.320, -3.291]$), indicating a discrepancy with our hypothesis. Conversely, the importance of cork for special occasions (M = $7.762, SD$ = 1.445) was significantly appreciated ($t(8080)$ = $47.416, p < .001$), with a mean difference of 0.762 ($CI(95\%)$ = $[0.731, 0.794]$), align-

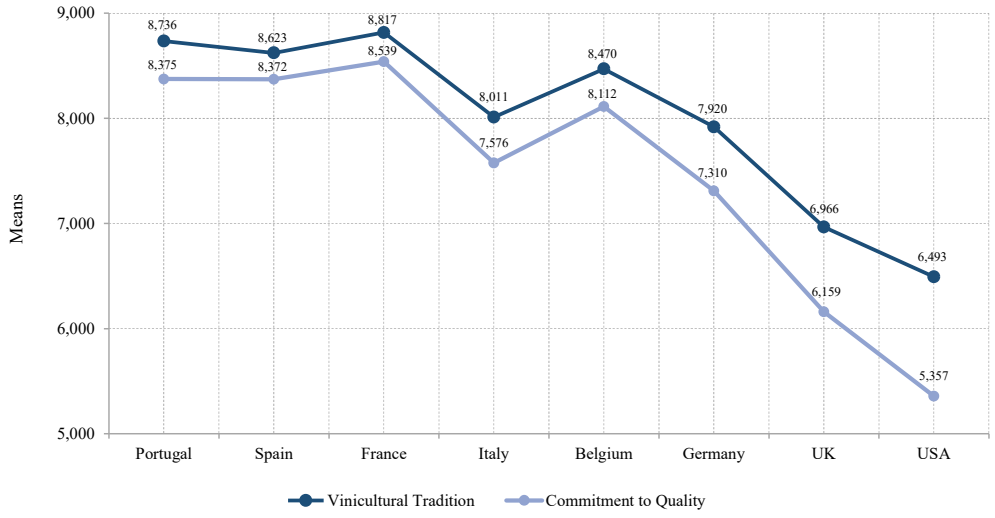

Figure 14: Comparative Analysis of Perceptions of Vinicultural Tradition and Commitment to Quality by Country

ing with our expectations. Thus, while the ecological and sustainable aspects are undervalued, the significance of cork in special occasions is affirmed.

Subsequent ANOVA analyses revealed significant differences among countries for Ecological and Sustainable ($F(7, 8073) = 3660.550, p < .001$) and Special Occasions ($F(7, 8073) = 829.622, p < .001$). Post hoc tests highlighted stark contrasts; Portugal ($M = 3.843, SD = 0.395$) and the USA ($M = 2.870, SD = 0.447$) were at opposing ends for ecological attributes, while for special occasions, Portugal ($M = 8.529, SD = 0.346$) again reported the highest, with the USA ($M = 5.874, SD = 2.553$) the lowest, as depicted in Figure 15. The disparities ($p < .001$) in all comparisons indicate that cultural and regional factors greatly influence consumer perceptions. Ecological and sustainable attributes are less valued in the USA, and special occasions are less affected by cork in the UK and USA compared to other studied countries. These results partially support our hypothesis regarding Special Occasions.

5.3.3 Research Hypothesis C3

In assessing Hypothesis C3, we performed one-sample t-tests with a test value set at 7. The data suggest that consumers acknowledge the significance of cork stoppers for both preserving ($M = 7.827, SD = 1.049, t(8080) = 70.857, p < .001$) and enhancing the maturation of wine ($M = 7.012, SD = 1.228, t(8080) = 7.478, p < .001$), with both mean scores significantly above the test value. ANOVA results further indicate significant differences across countries in these

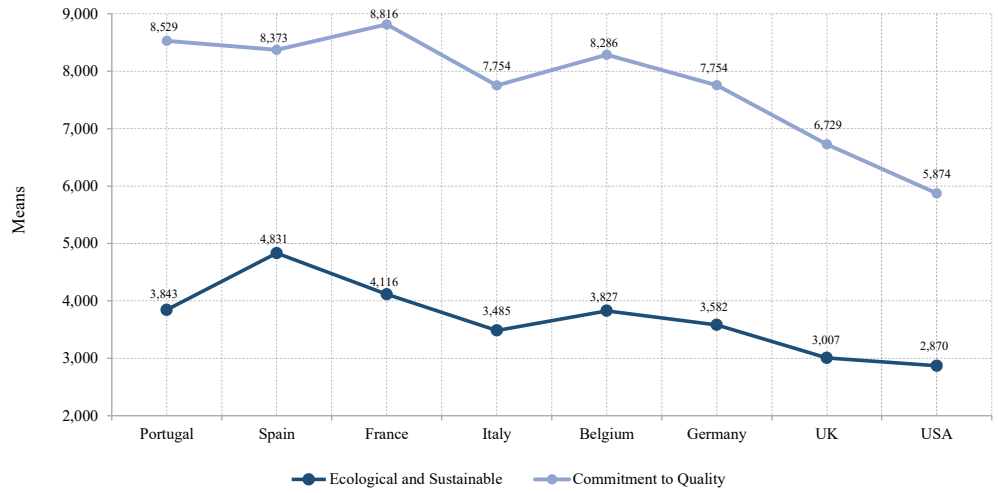

Figure 15: Comparative Analysis of Ecological and Sustainable and Special Occasions by Country

perceptions (F for Wine Preservation $= 22826.789, p < .001$, F for Enhanced Maturation $= 342.262, p < .001$), suggesting cultural variances in the valuation of cork's role (see Figure 16). Post hoc analyses indicate country-specific differences: Portugal and Spain with higher means, and the UK and USA with lower for both variables. These findings support Hypothesis C3, suggesting consumers see cork stoppers as positive for wine preservation and maturation, with regional differences.

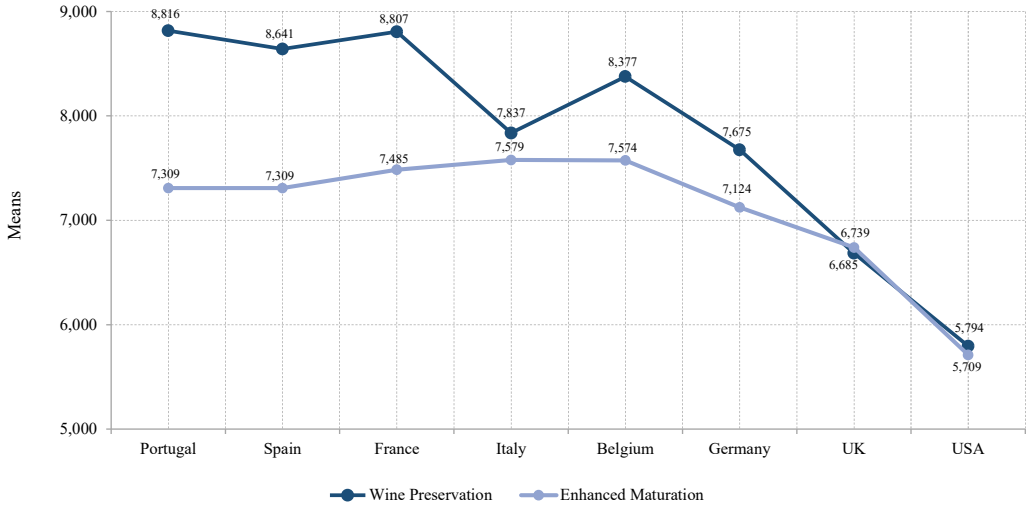

Figure 16: Consumer Perceptions of Cork's Role in Wine Preservation and Maturation by Country

5.3.4 Research Hypothesis C4

In assessing Hypothesis C4, the Chi-Square Test of Independence indicated substantial differences in the influence of cork stoppers on wine purchasing decisions across countries ($\chi^2(28) = 1327.121, p < .001$). Despite these differences, the cross tabulation (see Table 52) revealed that the majority of consumers across all countries lean towards *Cork No Preference* at 42.1%, and *Cork Rarely Considered* at 45.3%, indicating a predominant trend of indifference towards cork as a decisive factor in wine selection. Even though the chi-square results highlight notable country-specific variations, the fact that a combined total of 87.4% of responses fall into these two categories suggests that, overall, cork stoppers do not play a central role in influencing wine purchasing decisions, thus lending support to our hypothesis.

5.3.5 Research Hypothesis C5

In assessing Hypothesis C5, we aimed to determine whether consumers perceive the brand mark on cork stoppers as indicative of a wine producer's attention to detail and professionalism. The one-sample t-test results for the *Detail and Professionalism* variable ($M = 3.054, SD = .688$) indicated a mean score significantly below the test value of 7 ($t(8080) = -515.578, p < .001$), suggesting that consumers do not view the brand mark on cork stoppers as a critical indicator of attention to detail and professionalism.

ANOVA results confirmed significant differences in this perception across countries ($F(7, 8073) = 1721.563, p < .001$), with Portugal showing a higher mean score ($M = 3.412, SD = .457$) and Spain ($M = 3.210, SD = .440$), while the UK ($M = 2.408, SD = .433$) and the USA ($M = 1.995, SD = .417$) demonstrated lower mean scores. These results, indicating that the mean scores are substantially lower than the test value, lead us to not support our hypothesis. The data suggests that the presence of a brand mark on cork stoppers is not generally perceived as a sign of a producer's attention to detail and professionalism across the sampled countries.

In this context, further one-sample t-tests extend our understanding of the brand's significance on cork stoppers for *Authenticity* ($M = 3.762, SD = 2.112$), *Tasting Experience* ($M = 5.377, SD = 2.092$), and *Product Quality* ($M = 2.389, SD = .519$). With all means notably below the test value of 7 ($t(8080) \leq -69.720, p < .001$), these additional dimensions underscore a broader consumer indifference to branding on corks, reinforcing the findings from Hypothesis C5 about the brand's limited role in conveying detail and professionalism.

6 General Discussion

6.1 Relevance of Cork Stoppers to Different Stakeholders

From our exploratory research, we found significant differences in how the three stakeholders in our study—Wine Producers, Retailers, and Final Consumers—value cork stoppers. Specifically, we discovered that Wine Producers perceive cork stoppers as being of utmost importance. Further detailed in our Conclusive Research, this stakeholder not only finds cork stoppers important but also considers them essential for wine preservation (Hypothesis A1) and for contributing to the overall quality of the wine (Hypothesis A2). In contrast, the other two stakeholders, Retailers and Final Consumers, do not regard cork stoppers as important.

Our exploratory research revealed that Retailers do not place much value on cork stoppers, as their focus is primarily on aspects related to the profitability and quality of the wines they purchase for resale in their establishments. Furthermore, our conclusive research confirmed that retailers do not prioritize the type of stoppers when selecting wines. Instead, their focus is more on factors such as the purchase price and the quality of the wine (Hypothesis B2).

In addition to their minimal valuation of cork stoppers, Retailers also show a lack of willingness to adjust their wine selections based on consumer preferences regarding stoppers (Hypothesis B3). Nevertheless, they do recognize that cork stoppers impart a sense of tradition and authenticity to higher-end wines, which are pivotal in both preservation and enhancing market perception (Hypothesis B1).

For Final Consumers, cork stoppers are linked to traditional winemaking practices, symbolizing a winemaker's commitment to quality (Hypothesis C1). They are considered crucial for the preservation and maturation of wine (Hypothesis C3), as well as indicators of a wine producer's attention to detail and professionalism (Hypothesis C4). While not particularly valuing the ecological and sustainable attributes of cork stoppers, Final Consumers do acknowledge the role of cork in enhancing the wine experience during special occasions (Hypothesis C5).

Therefore, we conclude that within the wine value chain, the stakeholder who recognizes cork stoppers as a valuable element in their operations and decision-making process is the Wine Producer. This finding directly addresses the first element of our research question (a).

6.2 Key Attributes Valued by Wine Producers in Cork Stoppers

In recognizing that Wine Producers are the key stakeholder valuing cork, it is imperative to identify the specific attributes they favor. Our conclusive research indicates that Wine Producers not only assign a high importance to cork stoppers, as identified in our exploratory research, but also significantly prioritize the value of cork stoppers over their cost (Hypothesis A3). Their interest in alternative stoppers is limited, with a marked preference for cork, particularly for premium wines such as DOP and Reserve. In contrast, they tend toward synthetic/screw stoppers mainly for Current/Table Wine (Hypothesis A7).

In analyzing the preferred attributes of cork stoppers, it was found that Wine Producers highly value aspects such as density, porosity, additional treatments, degree of compression, and ease of opening, over other features (Hypothesis A4). They are not willing to sacrifice attributes for cost reduction. However, they are more flexible regarding the size, provenance, toast degree, and visual quality of cork stoppers (Hypothesis A11). This understanding addresses the second element of our research question (b).

6.3 Establishing a Brand for Cork Stoppers in the B2B Market

In the cork stopper market, characterized by commoditized products with minimal tangible differences, the creation of a distinctive brand becomes crucial for differentiation (Saunders & Watt, 1979). The B2B context of this market is marked by high risks (Leek & Christodoulides, 2011), particularly evident in the face of issues such as the TCA contamination. Our conclusive research reveals that TCA incidents significantly affect the majority of wine producers, leading to frequent problems (Hypothesis A5) and diminishing their confidence in cork stoppers (Hypothesis A6).

To successfully establish a brand in the cork industry, it is imperative to build the foundation on credibility and trust. Branding is a critical tool in mitigating perceived risks (Aaker, 1991; S. M. Mudambi et al., 1997), especially in the B2B context where creating a credible and trustworthy narrative is essential (Bendixen et al., 2004; Herbst & Merz, 2011). A well-crafted brand, rooted in credibility, can over time earn consumer trust, providing them with a sense of security in their transactions and influencing their purchasing decisions (Erdem & Swait, 2004; Goldberg & Hartwick, 1990).

Furthering our analysis, we examined the *Brand Type* and *Information* variables. Findings indicated

that wine producers prefer their brand on cork stoppers ($M = 7.04, SD = 2.42$), more than the wine brand ($M = 5.64, SD = 2.99$) or the cork producer's brand ($M = 3.77, SD = 2.81$). However, most retailers (80.04%) and a significant number of consumers (48.88%) favor the wine brand, with a notable proportion of consumers (36.13%) indifferent to branding on cork stoppers. This highlights the need for tailored branding strategies in cork stopper production. Regarding information dissemination, wine producers primarily seek knowledge through direct interactions with cork producers (70.30%) and recommendations from peers (50.00%), emphasizing the importance of direct communication in brand building, as noted by Bendixen et al. (2004).

Our research suggests that the focus on product attributes should be a central aspect of brand development. We identify the attributes most valued by Wine Producers. Considering that consumers typically evaluate attributes they find important (Mackenzie, 1986), our findings support the notion of building a brand in accordance with the model of S. Mudambi (2002) and the framework of Randall et al. (1998). This approach underscores the significance of these attributes in B2B decision-making.

By centering on these identified attributes, the brand can create strong associations in the consumer's memory. These brand associations, comprising attributes and benefits, are crucial in establishing brand equity (Keller, 1993). Hence, based on our research, the brand should be built on confidence, striving to cultivate trust, and should be anchored in the attributes most valued by Wine Producers, as identified in our study.

This understanding addresses the third and last element of our research question (c).

6.4 Theoretical and Managerial Implications

This thesis advances the understanding of branding in the cork industry, especially for cork stoppers in the wine sector. It enhances knowledge about wine industry stakeholders' preferences and perceptions regarding cork. Our findings confirm cork stoppers' vital role in wine preservation and quality as seen by producers, contrasting with their lesser importance to retailers and consumers. This nuanced view aids in developing targeted branding strategies in the cork industry.

Furthermore, our research provides insights for cork industry managers on effectively branding cork stoppers for the wine industry. It underscores the need to align branding strategies with attributes valued by wine producers, such as density, porosity, and cork treatments. Additionally, this thesis

expands the B2B branding literature in commoditized markets like cork stoppers, showing the importance of brand differentiation and trust in competitive, standardized markets. This enriches the understanding of branding strategies in similar markets.

6.5 Limitations and Further Research

In our thesis, we recognize some key limitations. Firstly, while our research encompassed various geographies concerning consumers and retail, our focus on wine producers was exclusively in Portugal. This limitation restricts the generalizability of our findings to Portuguese wine producers and does not extend to producers in other countries. The absence of a broader international perspective, particularly from countries that are major importers of cork stoppers, narrows the scope of our research. Future studies should aim to expand this geographical range to include a more diverse array of wine-producing regions, especially those beyond the borders of Portugal. Secondly, our research did not include the perspectives of wine aficionados and sommeliers, whose insights could have significantly enriched our understanding of cork stoppers in the wine experience.

Additionally, we identified a gap in the existing literature, particularly in the areas of industrial branding and branding in commoditized B2B markets. Most studies focus on consumer branding, leaving a shortage of information on practical brand creation and management strategies in industrial contexts. Addressing these areas in future research would provide valuable contributions to both academic and practical understanding of branding in specialized industries.

7 Conclusion

This thesis presents a critical examination of the perception and valuation of cork stoppers within the wine industry's value chain, emphasizing our detailed exploration of wine producers' distinct perspectives as opposed to those of retailers and consumers. Our findings underscore the particular importance that wine producers place on cork stoppers, primarily due to their integral role in wine preservation and quality perception, a sentiment that we found to be less pronounced among other stakeholders.

Confronting the challenge of TCA contamination—a significant concern impacting producers' trust—we advocate for a strategic reformation of brand narratives within the cork industry. We propose that by encapsulating the attributes treasured by wine producers into a coherent brand strategy, manufacturers can not only navigate but potentially overcome the prevalent skepticism stemming from TCA contamination risks.

In essence, our research delineates a pathway for cork stopper producers to recalibrate their branding efforts, positioning themselves not merely as suppliers but as partners in the wine production process. This strategic alignment, predicated on the values and attributes identified as paramount by wine producers, could cultivate deeper trust and solidify preferences towards cork stoppers, reinforcing the time-honored link between cork and wine. Thus, our thesis offers substantial contributions to both theoretical discussions on B2B branding in commodity markets and practical frameworks for brand development in the cork stopper industry.

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Appendix A: Exploratory Research Interviews

Table 1: Summary of One-on-One Interviews with Wine Producers

Description	Interviews	Wine Revenue
Wine Producers	3	614 988 €
All	3	-

Note: For the stakeholder 'Wine Producers,' we interviewed three wine producers. The 'Wine Revenue' column represents the annual average wine revenue reported by the referred stakeholder, weighted by the number of interviews conducted. This information should not be extrapolated to the entire population of Wine Producers.

Table 2: Summary of One-on-One Interviews with Retailers

Description	Interviews	Wine Revenue
Mid/high range restaurants	2	192 560 €
Mid/Low range restaurants	2	171 972 €
Low-end restaurants	2	52 049 €
Grocery stores	2	29 836 €
Supermarkets	1	196 780 €
Hypermarkets	1	291 030 €
All	10	-

Note: 'Wine Revenue' reflects the annual average reported by interviewees, weighted by interview count, and indicates wine sales volume per establishment, not to be generalized beyond the sample. Interviews in restaurants and grocery stores were exclusively with owners/managers, as pre-determined by the study design. In supermarkets and hypermarkets, the wine buyer, as identified by store personnel, was interviewed.

Table 3: Summary of Focus Group Interviews with Final Consumers

Description	Age Segment	Elements
Focus group 1	25-34	7
Focus group 2	35-44	6
Focus group 3	45-54	5
Focus group 4	55-65	7
All	-	25

Note: Selection criteria ensured participants were confirmed wine drinkers and purchasers to maintain group homogeneity while allowing for age-based diversity. Group segmentation followed Cox et al. (1976) recommended practices for optimal group size and composition, facilitating comparative analysis of opinions and perceptions across the four age-defined focus groups.

Appendix B: Questionnaire to Wine Producers

Introduction to the questionnaire:

This questionnaire is part of my master's thesis at **Católica Lisbon School of Business & Economics** and is expected to last 7-10 minutes.

Please consider the following:

- All data collected will be treated with the utmost confidentiality and will be used exclusively for academic purposes.
- The analysis will only be carried out on the aggregated set of responses, without individual identification.
- Your participation is voluntary, so you can stop filling out the questionnaire at any time.
- Read each statement carefully and remember that there are no right or wrong answers. Your honest and personal opinion is valued.

For any clarification or comment, I am available via email: *s-afantao@ucp.pt*.

Thank you in advance for your time and collaboration!

André Antão

Break

Screening Questions:

Screening 1 (*Role*): Please complete the following sentence, selecting the option that best characterizes your professional activity.

"I perform my duties in the wine sector as _____."

- Wine producer (wine grower).
- Wine bottler.
- Winemaker.
- Other (please specify) _____.
- I do not carry out any activity in the wine sector.

Break

Section 1 - Perception and Valuation of Cork Stoppers:

In this section, we aim to understand your perception of the **importance of cork stoppers.**

Question 1 (*Cork Importance*): How important do you consider the cork to preserve wine? (*1 = Not important; 9 = Extremely important*)

Question 2 (*Cork Overall Quality*): How important do you consider the cork to the overall quality of the wine? (*1 = Not important; 9 = Extremely important*)

Question 3 (*Cork Characteristics*): Next, several **characteristics of the cork** will be presented. Indicate, for each of them, their level of relevance (how relevant they are to you) on a scale of 1 to 9 (*1 = Totally irrelevant; 9 = Extremely relevant*)

- Size (Size of the cork in relation to the bottle)
- Density (Cork compaction, affecting sealing and aging)
- Porosity (The amount of air that can pass through the cork, influencing the oxygenation of the wine)
- Visual quality (Appearance and cleanliness of the cork surface)
- Heat treatment (The temperature used in the cork treatment process)
- Additional treatments (Additions to avoid unwanted flavours in wine)
- Degree of compression (The firmness of the cork that affects the seal and maturation of the wine)
- Provenance (The region of origin of cork)
- Toast degree (Toast level, common in wines aged in barrels)
- Guarantee seal (Certification of authenticity and quality on the cork)
- Surface treatment (Coatings for impermeability and protection against external odours)
- Sustainable supply (Origin of cork from suppliers that adhere to sustainable practices)
- Ease of opening (How easy it is to remove the cork from the bottle without damaging it)

Question 4 (*Cost*): To what extent are you willing to compromise on the quality of the cork to obtain a more competitive price? (*1 = Not at all willing; 9 = Extremely willing*)

Question 5 (*Quality*): How important do you consider the cork to the overall quality of the wine? (*1 = I value the price most; 9 = I value the quality most*)

Break

Section 2 - Challenges and Problems of Cork Stoppers:

In this section, we aim to understand your perception of the **challenges and problems of cork stoppers.**

Question 6 (*TCA Incidence*): Have you ever faced problems with wines that had a "corked taste" due to TCA?

- □ Yes
- □ No

Display questions 7 and 8 if question 6 = Yes

Question 7 (*TCA Confidence*): To what extent does the TCA reduce your confidence in cork stoppers? (*1 = It does not reduce my confidence; 9 = It extremely reduces my confidence*)

Question 8 (*TCA Frequency*): Which option best describes the frequency with which you encounter incidents associated with TCA?

- Rarely (less than once a year).
- Occasionally (1 to 3 times a year).
- Frequently (more than 3 times a year).
- Other (please specify) _____.

Break

Section 3 - Innovation and Alternatives to Cork Stoppers:

In this section, we aim to understand your perception of **innovation and alternatives to cork stoppers.**

Question 9 *(Open to Alternatives)*: To what extent do you agree with the following statement: "I am open to considering alternative types of corks, such as synthetic or screw caps." (*1 = Completely disagree; 9 = Completely agree*)

Question 10 ***(Stoppers Wine Type)*****:** For each type of wine listed below, use the slider to indicate your preference between using synthetic corks and cork stoppers. Move the slider to the *left* (if you prefer synthetic and/or screw stoppers) and to the *right* (if you prefer cork stoppers), or *maintain the slider in the middle* (if you are indifferent to the type of stopper). If you do not produce the type of wine in question, select *"Not Applicable"*.

- Red Wine
- White Wine
- Rosé Wine
- Sparkling Wine

Question 11 ***(Stoppers Wine Segment)*****:** Repeat the previous exercise, this time depending on the quality and segmentation of the wine.

- Current/Table Wine
- Regional Wine
- DOP Wine
- Reserve Wine
- Organic Wine
- Liqueur Wine

Break

Section 4 - Impact of Cork Stoppers on the Price of Wine:

In this section, we aim to understand your perception of the **impact of cork stoppers on the price of wine.**

Question 12 ***(Cork Influence On Price)*****:** Indicate, for the following statement, your level of agreement: "The cork stopper has an influence on the selling price of my wine." (*1 = Completely disagree; 9 = Completely agree*)

Question 13 ***(Cork Choice In Pricing Strategy)*****:** To what extent is the choice of cork considered in your pricing strategy? (*Select all applicable options*)

- □ Reflection of the total quality of the wine (The quality of the cork justifies a higher price).
- □ Cost component (The cork directly affects the production cost).
- □ Investment in customer satisfaction (Customer preference for certain types of cork can influence the price).

- □ Differentiating element (The cork is used as a differentiating factor, which can justify a different price).
- □ Valuing tradition (The use of traditional corks can influence the perception of value and, consequently, the price).
- □ Environmental considerations (The environmental commitment associated with the type of cork may affect the final price).
- □ Other (please specify)_____.

Question 14 ***(Willingness To Compromise On Cork)*****:** Are you willing to give up some features of the cork to have a more competitive price? (*1 = Completely disagree; 9 = Completely agree*)

Question 15 ***(Trade Off Features For Price)*****:** What features would you be willing to give up on the cork to have a more competitive price? (*Select all applicable options*)

- □ Size (Size of the cork in relation to the bottle)
- □ Density (Cork compaction, affecting sealing and aging)
- □ Porosity (The amount of air that can pass through the cork, influencing the oxygenation of the wine)
- □ Visual quality (Appearance and cleanliness of the cork surface)
- □ Heat treatment (The temperature used in the cork treatment process)
- □ Additional treatments (Additions to avoid unwanted flavors in wine)
- □ Degree of compression (The firmness of the cork that affects the seal and maturation of the wine)
- □ Provenance (The region of origin of cork)
- □ Toast degree (Toast level, common in wines aged in barrels)
- □ Guarantee seal (Certification of authenticity and quality on the cork)
- □ Surface treatment (Coatings for impermeability and protection against external odors)
- □ Sustainable supply (Origin of cork from suppliers that adhere to sustainable practices)
- □ Ease of opening (How easy it is to remove the cork from the bottle without damaging it)

Break

Section 5 - Presence of a Mark on the Cork Stopper:

In this section, we aim to understand your perception of the **presence of a mark on the cork stopper.**

Question 16 ***(Brand Type)*****:** What type of brand do you consider most relevant in cork stoppers? (*1 = Completely irrelevant; 9 = Completely relevant*)

- Wine producer's brand
- Cork producer 's brand
- Wine brand itself

Break

Section 6 - Information about Cork Stoppers:

Question 17 ***(Information)*****:** How do you prefer to obtain information about corks for your wines? (*Select all applicable options*)

- □ Meetings with cork producers
- □ Industry fairs and events
- □ Expert publications
- □ Publications in specialist media
- □ Webinars or online training
- □ Consultancy with experts
- □ Recommendations from colleagues or business partners
- □ Online searches (websites, articles, blogs)
- □ Participation in associations or clubs in the wine sector
- □ Other (please specify) _____.

Break

Section 7 - Demographic Questions:

Question 18 ***(Country)*****:** In which country is the wine company you represent located? (*Portugal; Spain; France; Germany; United Kingdom; Italy; Switzerland; Other*)

Question 19 ***(Employees)*****:** How many employees does the wine company you represent have? (*1-9; 10-19; 20-29; 30-39; 40-49; More than 50*)

Question 20 ***(Years in Business)*****:** How many years has the wine company you represent been in business? (*Less than 1 year; 1 - 5 years; 6 - 10 years; 11 - 20 years; More than 20 years*)

Question 21 ***(Regions of Portugal)*****:** In which regions of Portugal is the wine company you represent located? Select all that apply. (*North; Center; Lisbon and Tagus Valley; Alentejo; Algarve; Autonomous Region of the Azores*)

Question 22 ***(Annual Turnover)*****:** What is the annual turnover of the wine company you represent? (*Less than €49,999; €50,000-€199,999; €200,000-€999,999; €1,000,000-€4,999,999; €5,000,000-€9,999,999; More than €10,000,000; Prefer not to say*)

End

Appendix C: Questionnaire to Retail

Introduction to the questionnaire:

This questionnaire is part of my master's thesis at **Católica Lisbon School of Business & Economics** and is expected to last 3-5 minutes.

Please consider the following:

- All data collected will be treated with the utmost confidentiality and will be used exclusively for academic purposes.
- The analysis will only be carried out on the aggregated set of responses, without individual identification.
- Your participation is voluntary, so you can stop filling out the questionnaire at any time.
- Read each statement carefully and remember that there are no right or wrong answers. Your honest and personal opinion is valued.

For any clarification or comment, I am available via email: *s-afantao@ucp.pt*.

Thank you in advance for your time and collaboration!

André Antão

Break

Screening Questions:

Screening 1 ***(Retail Operator)*:** Do you represent a company operating in the retail sector (including restaurants, cafes, bars, hospitality, groceries, supermarkets, hypermarkets, and/or similar establishments)?

- □ Yes
- □ No

Display screening 2 if screening 1 = Yes, otherwise the survey finishes

Screening 2 ***(Establishment)*:** Please indicate the type of retail establishment your company represents.

- Restaurants
- Cafes
- Bars
- Hospitality
- Groceries
- Supermarkets
- Hypermarkets
- Other similar establishment (please specify) _____.

Break

Section 1 - General Perception of Cork Stoppers:

In this section, we aim to understand your perception of the **importance of cork stoppers when selecting wines for your establishment.**

Question 1 ***(Importance of Cork Stoppers)*****:** When choosing a wine for your establishment, what level of importance do you attribute to cork stoppers? (*1 = Not important; 9 = Extremely important*)

Question 2: Below are some multiple choice questions. Indicate your answer by selecting the option that best aligns with your opinion and/or experience. (*Yes; No; Indifferent*)

- *(High-End Cork Association)* Do you associate cork stoppers exclusively with high-end wines?
- *(Cork Relevance Mid Low Range)* In medium/low range wines, do you consider the presence of a cork stopper relevant for your establishment?
- *(Cork Influenced Purchase)* Have you ever purchased wine for your establishment specifically because of the type of stopper?

Break

Section 2 - Cork and the Shopping Experience:

In this section, we aim to understand how the presence of the cork stopper **influences your decision and the experience of purchasing wine for your establishment.**

Question 3: To what extent do you agree with the following statements? (*1 = Strongly disagree; 9 = Strongly agree*)

- *(Tradition and Authenticity Perception)* The cork stopper gives the wine a sense of tradition and authenticity.

- *(High-End Differentiation)* For higher-end wines, the presence of a cork stopper is a differentiating factor.
- *(Selection Adjust for Feedback)* I am willing to adjust my establishment's wine selection based on customer feedback about the type of stopper.
- *(Cork Influence on Buying Experience)* The cork stopper influences my overall perception of the wine buying experience.

Break

Section 3 - Importance of the Brand on the Cork Stopper:

In this section, we aim to understand the **relevance of the brand present on the cork stopper when selecting wines for your establishment.**

Question 4 ***(Brand Relevance)*****:** Do you consider the brand on the cork stopper to be a relevant factor when selecting wines for your establishment?

- □ Yes
- □ No

Display question 5 if question 4 = Yes, otherwise move to question 6

Question 5 ***(Brand Type)*****:** What type of brand do you consider most relevant in cork stoppers? Order the following options according to your level of preference and/or importance when evaluating the brand on a cork stopper. (*1 = Being the most important option; 3 = Being the least important option)*

- Cork producer's brand
- Wine producer‘s brand
- Wine brand itself

Break

Section 4 - Weight of Each Element in the Purchase Decision:

In this section, we aim to understand which factors have the greatest weight in your decision **when choosing wines for your establishment.**

Question 6 ***(Wine Selection Factors)*****:** Below you will find a list of factors. Please rank them from 1 to 10. (*1 = Being the least important factor in your purchasing decision; 10 = Being the most important factor in your purchasing decision)*

- Wine quality
- Purchase price
- Customer search
- Supplier relationship
- Country/region of origin
- Bottle design
- Promotional campaigns
- Awards and recognition
- Type of stopper
- Quantity in stock

Break

Section 5 - Demographic Questions:

Question 7 ***(Country)*****:** In which country is the main headquarters of the company you represent located? (*Portugal; Spain; France; Germany; United Kingdom; Italy; Switzerland; Other*)

Question 8 ***(Employees)*****:** How many employees does the company you represent have? (*1-10; 11-50; 51-200; 201-500; More than 500*)

Question 9 ***(Years in Business)*****:** How many years has the company you represent been in business? (*Less than 1 year; 1 - 5 years; 6 - 10 years; 11 - 20 years; More than 20 years*)

Question 10 ***(Regions of Portugal)*****:** In which regions of Portugal is the company you represent located? Select all that apply. (*North; Center; Lisbon and Tagus Valley; Alentejo; Algarve; Autonomous Region of the Azores; None*)

Question 11 ***(Annual Turnover)*****:** What is the annual turnover of the wine company you represent? (*Less than €49,999; €50,000-€199,999; €200,000-€999,999; €1,000,000-€4,999,999; €5,000,000-€9,999,999; €10,000,000-€49,999,999; More than €50,000,000; Prefer not to say*)

End

Appendix D: Questionnaire to Final Consumers

Introduction to the questionnaire:

This questionnaire is part of my master's thesis at **Católica Lisbon School of Business & Economics** and is expected to last 3-5 minutes.

Please consider the following:

- All data collected will be treated with the utmost confidentiality and will be used exclusively for academic purposes.
- The analysis will only be carried out on the aggregated set of responses, without individual identification.
- Your participation is voluntary, so you can stop filling out the questionnaire at any time.
- Read each statement carefully and remember that there are no right or wrong answers. Your honest and personal opinion is valued.

For any clarification or comment, I am available via email: *s-afantao@ucp.pt*.

Thank you in advance for your time and collaboration!

André Antão

Break

Screening Questions:

Screening 1 *(Legal Age)*: Confirm that you are of legal age?

- □ Yes
- □ No

Screening 2 *(Wine Purchase)*: Do you usually consume and/or purchase wine?

- □ Yes
- □ No

Display question 1 if screening 1 and 2 = Yes, otherwise the survey finishes

Break

Section 1 - General Perception of Cork Stoppers:

In this section, we aim to understand your **perceptions and feelings regarding cork stoppers and their role in the wine industry.**

Question 1: Below, you will find a series of statements. Please read each statement carefully and indicate your level of agreement. (*1 = Completely disagree; 9 = Completely agree*)

- *(Vinicultural Tradition)* Cork stoppers are a symbol of vinicultural tradition.
- *(Ecological and Sustainable)* I value cork stoppers for their ecological and sustainable impact.
- *(Commitment to Quality)* The use of cork stoppers in wine is an indication of the winemaker's commitment to quality.
- *(Longevity and Quality)* Cork significantly influences the longevity and quality of wine during storage.
- *(Special Occasions)* The presence of a cork stopper is particularly important in wines chosen for special occasions.

Break

Section 2 - Role of Cork Stoppers in Preserving and Maturing Wine:

In this section, we aim to explore your opinions on the **role of cork stoppers in preserving and maturing wine.**

Question 2: Below, you will find a series of statements. Please read each statement carefully and indicate your level of agreement. (*1 = Completely disagree; 9 = Completely agree*)

- *(Wine Preservation)* The use of cork stoppers significantly contributes to the proper preservation of wine.
- *(Enhanced Maturation)* Cork stoppers enhance the maturation process of wine.
- *(Indicator of Quality)* A wine with a cork stopper suggests higher quality compared to other types of closures.

Break

Section 3 - Importance of the Brand on the Cork Stopper:

In this section, we aim to assess your opinions about the **presence and importance of the brand engraved on the cork stopper and what it represents in terms of authenticity and quality.**

Question 3: Below, you will find a series of statements. Please read each statement carefully and indicate your level of agreement. (*1 = Completely disagree; 9 = Completely agree*)

- *(Authenticity)* The brand engraved on the cork is a clear sign of the wine's authenticity.
- *(Detail and Professionalism)* The presence of a brand on the cork demonstrates attention to detail and professionalism by the wine producer.
- *(Tasting Experience)* I value the brand on the cork as a memory of my tasting experience.
- *(Product Quality)* The brand engraved on the cork reinforces my confidence in the product's quality.

Question 4 *(Brand Importance)*: In line with the statements from the previous question, do you agree that the brand on the cork is important?

- □ Yes
- □ No

Display question 5 if question 4 = Yes, otherwise move to question 6

Question 5 *(Brand Type)*: Order the following options according to your preference and importance when evaluating a cork stopper. (*1 = Being the most important; 4 = Being the least important*)

- Wine brand engraved on the cork
- Wine producer's brand engraved on the cork
- Cork producer's brand engraved on the cork
- Indifferent

Break

Section 4 - Reflection on the Purchasing Process:

In this section, we aim to understand the **importance of cork stoppers in your decision-making process when purchasing wine.**

Question 6: When choosing a wine to purchase, how does the presence of a cork stopper influence your decision? Please select the option that best applies to your experience and decision-making when choosing a wine.

- *(Cork Decisive Factor)* It is a decisive factor, and I do not buy wines without cork stoppers.
- *(Cork Significant Influence)* It influences my decision, but it is not the only factor I consider.
- *(Cork Minor Value)* I recognize the value of cork stoppers, but it does not affect my purchasing decision.

- *(Cork Rarely Considered)* I rarely consider the cork stopper when choosing a wine.
- *(Cork No Preference)* I have no preference regarding the type of wine closure.

Break

Section 5 - Demographic Questions:

Question 7 ***(Age)*****:** What is your age range? (*18-24; Spain; 25-34; 35-44; 45-54; 55-64; 65 or more*)

Question 8 ***(Gender)*****:** Which gender do you identify with? (*Male; Female; Other; Prefer not to say*)

Question 9 ***(Occupation)*****:** What is your current occupation? (*Student; Student worker; Salaried employee; Self-employed; Unemployed; Retired; Other (please specify)*)

Question 10 ***(Education)*****:** What is the highest level of education you have completed? (*Less than high school; High school completion; Bachelor's degree; Postgraduate; Master's degree; Doctorate or higher; Other (please specify)*)

Question 11 ***(Country of Residence)*****:** What is your country of residence? (*Portugal; Spain; France; Italy; Germany; United Kingdom; Netherlands; Belgium; Switzerland; Other (please specify)*)

Question 12 ***(Gross Monthly Income)*****:** Please select the option that best represents your gross monthly income. (*Less than €500; €500 - €999; €1.000 - €1.999; €2.000 - €2.999; €3.000 - €3.999; €4.000 - €4.999; €5,000 or more; Prefer not to say*)

End

Appendix E: Data Characteristics

Wine Producers

Table 4: Data Characteristics - Wine Producers

	Portugal
Sampling frame	1371
Sample size	148
Response rate	10.80%
Key-informant criteria	Participants must work in the wine sector

Retail

Table 5: Data Characteristics - Restaurants

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	6846	13412	12484	18538	21214	42152
Sample size	306	309	501	312	509	514
Response rate	4.47%	2.30%	4.01%	1.68%	2.40%	1.22%
Key-informant criteria	Participants represent a restaurant business					

Table 6: Data Characteristics - Cafes

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	19432	38564	42466	47296	52815	95631
Sample size	303	308	507	313	511	513
Response rate	1.56%	0.80%	1.19%	0.66%	0.97%	0.54%
Key-informant criteria	Participants represent a cafe business					

Table 7: Data Characteristics - Bars

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	1827	3773	4133	5431	5646	11294
Sample size	300	304	504	308	504	509
Response rate	16.42%	8.06%	12.19%	5.67%	8.93%	4.51%
Key-informant criteria	Participants represent a bar business					

Table 8: Data Characteristics - Hospitality

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	1635	3278	4414	4602	4832	14569
Sample size	204	305	309	306	408	517
Response rate	12.48%	9.30%	7.00%	6.65%	8.44%	3.55%
Key-informant criteria	Participants must represent a hospitality business					

Table 9: Data Characteristics - Grocery Stores

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	17204	28437	46008	47613	51053	92106
Sample size	311	311	502	411	501	508
Response rate	1.81%	1.09%	1.09%	0.86%	0.98%	0.55%
Key-informant criteria	Participants must represent a grocery store business					

Table 10: Data Characteristics - Supermarkets

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	1483	3061	6047	4947	4741	18983
Sample size	209	302	307	306	312	511
Response rate	14.09%	9.87%	5.08%	6.19%	6.58%	2.69%
Key-informant criteria	Participants must represent a supermarket business					

Table 11: Data Characteristics - Hypermarkets

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	78	144	196	204	186	1235
Sample size	52	103	151	102	103	306
Response rate	66.67%	71.53%	77.04%	50.00%	55.38%	24.78%
Key-informant criteria	Participants must represent a hypermarket business					

Final Consumers

Table 12: Data Characteristics - Final Consumers

	Portugal	**Spain**	**France**	**Italy**	**UK**	**EUA**
Sampling frame	53152	146086	165303	159694	168432	654311
Sample size	1006	1009	1007	1003	1012	1014
Response rate	1.89%	0.69%	0.61%	0.63%	0.60%	0.15%
Key-informant criteria	Participants are consumers and buyers of wine					

Appendix F: Descriptive Statistics of Retailers

Table 13: Employee Distribution in Retail Businesses by Size Category in Portugal

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	177	57.84%	148	48.84%	126	42.00%	73	35.78%	311	100.00%	194	92.82%	0	0.00%
11 - 50 employees	113	36.93%	155	51.16%	171	57.00%	98	48.04%	0	0.00%	15	7.18%	0	0.00%
51 - 200 employees	16	5.23%	0	0.00%	3	1.00%	23	11.27%	0	0.00%	0	0.00%	17	32.69%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	6	2.94%	0	0.00%	0	0.00%	32	61.54%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	4	1.96%	0	0.00%	0	0.00%	3	5.77%
Total	306	100.00%	303	100.00%	300	100.00%	204	100.00%	311	100.00%	209	100.00%	52	100.00%

Note: The table reflects workforce size distribution from our sample across Portuguese retail sectors. Restaurants and supermarkets typically employ 1-10 workers. Cafes and bars have staffs of 11-50. Hospitality spans several size categories, grocery stores remain small, and hypermarkets significantly employ 201-500.

Table 14: Employee Distribution in Retail Businesses by Size Category in Spain

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	176	56.96%	154	50.00%	131	43.09%	107	35.08%	299	96.14%	266	88.08%	0	0.00%
11 - 50 employees	111	35.92%	154	50.00%	167	54.93%	140	45.90%	12	3.86%	27	8.94%	0	0.00%
51 - 200 employees	22	7.12%	0	0.00%	6	1.97%	37	12.13%	0	0.00%	9	2.98%	34	33.01%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	12	3.93%	0	0.00%	0	0.00%	64	62.14%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	9	2.95%	0	0.00%	0	0.00%	5	4.85%
Total	309	100.00%	308	100.00%	304	100.00%	305	100.00%	311	100.00%	302	100.00%	103	100.00%

Note: The table reflects workforce size distribution from our sample across Spanish retail sectors. Restaurants and supermarkets usually employ 1-10 workers. Cafes and bars staff 11-50. Hospitality covers multiple size categories, grocery stores are consistently small, and hypermarkets largely employ 201-500.

Table 15: Employee Distribution in Retail Businesses by Size Category in France

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	261	52.10%	269	53.06%	217	43.06%	98	31.72%	492	98.01%	258	84.04%	0	0.00%
11 - 50 employees	205	40.92%	238	46.94%	262	51.98%	127	41.10%	10	1.99%	43	14.01%	0	0.00%
51 - 200 employees	35	6.99%	0	0.00%	25	4.96%	43	13.92%	0	0.00%	6	1.95%	46	30.46%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	22	7.12%	0	0.00%	0	0.00%	94	62.25%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	19	6.15%	0	0.00%	0	0.00%	11	7.28%
Total	501	100.00%	507	100.00%	504	100.00%	309	100.00%	502	100.00%	307	100.00%	151	100.00%

Note: The table from our sample illustrates workforce sizes in French retail businesses. Restaurants and supermarkets are mainly staffed by 1-10 employees. Cafes and bars range from 1-50 employees. In hospitality, employee numbers span a variety of scales, with grocery stores operating with smaller teams. Hypermarkets have a notable presence in the 201-500 employee bracket.

Table 16: Employee Distribution in Retail Businesses by Size Category in Italy

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	171	54.81%	160	51.12%	133	43.18%	104	33.99%	407	99.03%	269	87.91%	0	0.00%
11 - 50 employees	122	39.10%	153	48.88%	169	54.87%	135	44.12%	4	0.97%	34	11.11%	0	0.00%
51 - 200 employees	19	6.09%	0	0.00%	6	1.95%	40	13.07%	0	0.00%	3	0.98%	34	33.33%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	15	4.90%	0	0.00%	0	0.00%	63	61.76%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	12	3.92%	0	0.00%	0	0.00%	5	4.90%
Total	312	100.00%	313	100.00%	308	100.00%	306	100.00%	411	100.00%	306	100.00%	102	100.00%

Note: The table from our sample portrays workforce sizes in Italian retail sectors. The majority of restaurants, cafes, and supermarkets employ between 1-10 people. Bars and hospitality have a wider employee size range, with grocery stores typically small in staff. Hypermarkets are distinguished by a significant workforce within the 201-500 range.

Table 17: Employee Distribution in Retail Businesses by Size Category in the United Kingdom

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	280	55.01%	286	55.97%	247	49.01%	139	34.07%	491	98.00%	259	83.01%	0	0.00%
11 - 50 employees	199	39.10%	225	44.03%	232	46.03%	171	41.91%	10	2.00%	47	15.06%	0	0.00%
51 - 200 employees	30	5.89%	0	0.00%	25	4.96%	54	13.24%	0	0.00%	6	1.92%	28	27.18%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	24	5.88%	0	0.00%	0	0.00%	66	64.08%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	20	4.90%	0	0.00%	0	0.00%	9	8.74%
Total	509	100.00%	511	100.00%	504	100.00%	408	100.00%	501	100.00%	312	100.00%	103	100.00%

Note: The table from our sample depicts workforce sizes across British retail sectors. Restaurants, cafes, and supermarkets predominantly employ 1-10 individuals. Bars and hospitality feature a broader range of staff sizes, while grocery stores are mostly small-scale. Hypermarkets, however, largely operate with 201-500 employees.

Table 18: Employee Distribution in Retail Businesses by Size Category in the United States of America

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
1 - 10 employees	211	41.05%	292	56.92%	234	45.97%	171	33.08%	467	91.93%	378	73.97%	0	0.00%
11 - 50 employees	272	52.92%	216	42.11%	229	44.99%	186	35.98%	41	8.07%	123	24.07%	0	0.00%
51 - 200 employees	31	6.03%	5	0.97%	46	9.04%	67	12.96%	0	0.00%	10	1.96%	89	29.08%
201 - 500 employees	0	0.00%	0	0.00%	0	0.00%	57	11.03%	0	0.00%	0	0.00%	168	54.90%
More than 500 employees	0	0.00%	0	0.00%	0	0.00%	36	6.96%	0	0.00%	0	0.00%	49	16.01%
Total	514	100.00%	513	100.00%	509	100.00%	517	100.00%	508	100.00%	511	100.00%	306	100.00%

Note: The table from our sample reflects workforce sizes in U.S. retail businesses. Restaurants typically employ 11-50 employees, while cafes have staff sizes of 1-50. Bars and hospitality show a diverse range of employment scales. Grocery stores and supermarkets are generally small to medium in scale. Hypermarkets significantly employ 201-500 workers.

Table 19: Years in Business Distribution in Retail Businesses by Longevity Category in Portugal

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	28	9.15%	33	10.89%	54	18.00%	35	17.16%	25	8.04%	0	0.00%	0	0.00%
1 - 5 years	103	33.66%	128	42.24%	78	26.00%	53	25.98%	84	27.01%	24	11.37%	0	0.00%
6 - 10 years	129	42.16%	118	38.94%	93	31.00%	55	26.96%	109	35.05%	59	27.96%	0	0.00%
11 - 20 years	34	11.11%	24	7.92%	66	22.00%	37	18.14%	59	18.97%	109	51.66%	6	11.54%
More than 20 years	12	3.92%	0	0.00%	9	3.00%	24	11.76%	34	10.93%	19	9.00%	46	88.46%
Total	306	100.00%	303	100.00%	300	100.00%	204	100.00%	311	100.00%	211	100.00%	52	100.00%

Note: This table showcases the distribution of business longevity within our sample of Portuguese retail establishments. Restaurants and cafes display a higher proportion of businesses operating for 1-10 years. Bars and hospitality venues show a more even spread across different operational durations. Grocery stores and supermarkets have a significant presence in the 6-20 years range. In contrast, hypermarkets are predominantly long-established entities with over 20 years of operation.

Table 20: Years in Business Distribution in Retail Businesses by Longevity Category in Spain

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	25	8.09%	34	11.04%	55	18.09%	52	17.05%	34	10.93%	3	0.99%	0	0.00%
1 - 5 years	105	33.98%	129	41.88%	82	26.97%	83	27.21%	100	32.15%	45	14.90%	0	0.00%
6 - 10 years	133	43.04%	117	37.99%	97	31.91%	85	27.87%	102	32.80%	88	29.14%	1	0.97%
11 - 20 years	34	11.00%	25	8.12%	64	21.05%	58	19.02%	50	16.08%	142	47.02%	13	12.62%
More than 20 years	12	3.88%	3	0.97%	6	1.97%	27	8.85%	25	8.04%	24	7.95%	89	86.41%
Total	309	100.00%	308	100.00%	304	100.00%	305	100.00%	311	100.00%	302	100.00%	103	100.00%

Note: The table from our sample indicates the operational longevity of Spanish retail businesses. Most restaurants, cafes, and bars have been in business for 1-10 years. The hospitality sector shows a more distributed longevity, with grocery stores and supermarkets predominantly operating for 6-20 years. Hypermarkets are markedly well-established, with a vast majority operating for more than 20 years.

Table 21: Years in Business Distribution in Retail Businesses by Longevity Category in France

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	20	3.99%	35	6.90%	76	15.08%	49	15.86%	55	10.96%	3	0.98%	0	0.00%
1 - 5 years	165	32.93%	193	38.07%	156	30.95%	87	28.16%	136	27.09%	74	24.10%	0	0.00%
6 - 10 years	221	44.11%	208	41.03%	181	35.91%	83	26.86%	131	26.10%	101	32.90%	4	2.65%
11 - 20 years	65	12.97%	66	13.02%	81	16.07%	65	21.04%	110	21.91%	95	30.94%	23	15.23%
More than 20 years	30	5.99%	5	0.99%	10	1.98%	25	8.09%	70	13.94%	34	11.07%	124	82.12%
Total	501	100.00%	507	100.00%	504	100.00%	309	100.00%	502	100.00%	307	100.00%	151	100.00%

Note: This table from our sample outlines the years in business for French retail establishments. Restaurants and cafes are mainly active for 1-10 years, while bars and hospitality display a balanced longevity distribution. Grocery stores and supermarkets show a strong presence in the 6-20 years category. Hypermarkets are largely long-standing businesses, with a significant portion operating for more than 20 years.

Table 22: Years in Business Distribution in Retail Businesses by Longevity Category in Italy

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	22	7.05%	28	8.95%	49	15.91%	52	16.99%	41	9.98%	6	1.96%	0	0.00%
1 - 5 years	106	33.97%	122	38.98%	86	27.92%	80	26.14%	107	26.03%	55	17.97%	0	0.00%
6 - 10 years	135	43.27%	126	40.26%	105	34.09%	82	26.80%	128	31.14%	88	28.76%	2	1.96%
11 - 20 years	37	11.86%	34	10.86%	59	19.16%	64	20.92%	86	20.92%	129	42.16%	14	13.73%
More than 20 years	12	3.85%	3	0.96%	9	2.92%	28	9.15%	49	11.92%	28	9.15%	86	84.31%
Total	312	100.00%	313	100.00%	308	100.00%	306	100.00%	411	100.00%	306	100.00%	102	100.00%

Note: Our sample's table shows years in operation for Italian retail businesses. Restaurants and cafes are frequently found in the 6-10 years category. Bars exhibit a balanced presence across several age groups, with grocery stores and supermarkets also favoring the 11-20 years range. Hypermarkets stand out with a significant majority established for more than 20 years, suggesting enduring operations.

Table 23: Years in Business Distribution in Retail Businesses by Longevity Category in the United Kingdom

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	71	13.95%	66	12.92%	91	18.06%	37	9.07%	80	15.97%	12	3.85%	0	0.00%
1 - 5 years	183	35.95%	199	38.94%	171	33.93%	102	25.00%	115	22.95%	59	18.91%	1	0.97%
6 - 10 years	194	38.11%	175	34.25%	187	37.10%	126	30.88%	141	28.14%	107	34.29%	7	6.80%
11 - 20 years	46	9.04%	61	11.94%	45	8.93%	90	22.06%	110	21.96%	122	39.10%	12	11.65%
More than 20 years	15	2.95%	10	1.96%	10	1.98%	53	12.99%	55	10.98%	12	3.85%	83	80.58%
Total	509	100.00%	511	100.00%	504	100.00%	408	100.00%	501	100.00%	312	100.00%	103	100.00%

Note: This table from our sample reveals the distribution of business longevity in the UK's retail sector. Restaurants, cafes, and bars commonly operate between 1-10 years. Hospitality and grocery stores are well represented in the 11-20 years category. Supermarkets show substantial longevity, with hypermarkets predominantly exceeding 20 years in business, highlighting their long-term market presence.

Table 24: Years in Business Distribution in Retail Businesses by Longevity Category in the United States of America

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than 1 year	57	11.09%	72	14.04%	87	17.09%	41	7.93%	81	15.94%	46	9.00%	0	0.00%
1 - 5 years	170	33.07%	164	31.97%	148	29.08%	88	17.02%	112	22.05%	82	16.05%	3	0.98%
6 - 10 years	225	43.77%	200	38.99%	157	30.84%	186	35.98%	148	29.13%	189	36.99%	24	7.84%
11 - 20 years	62	12.06%	77	15.01%	112	22.00%	124	23.98%	137	26.97%	179	35.03%	37	12.09%
More than 20 years	0	0.00%	0	0.00%	5	0.98%	78	15.09%	30	5.91%	15	2.94%	242	79.08%
Total	514	100.00%	513	100.00%	509	100.00%	517	100.00%	508	100.00%	511	100.00%	306	100.00%

Note: The table from our sample details the longevity of U.S. retail entities. Restaurants and cafes show a considerable number of businesses within the 6-10 years bracket. Bars and hospitality are varied in age, while grocery stores and supermarkets have a noteworthy percentage in the 11-20 years segment. Hypermarkets are mostly long-standing, with a vast majority operating for over 20 years, indicating a stable sector.

Table 25: Geographical Distribution of Portuguese Retail Businesses by Region

	Restaurants		**Cafes**		**Bars**		**Hospitality**		**Grocery Stores**		**Supermarkets**		**Hypermarkets**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
North	116	37.91%	118	38.94%	123	41.00%	71	34.80%	112	36.01%	75	35.89%	19	36.54%
Center	49	16.01%	55	18.15%	57	19.00%	43	21.08%	53	17.04%	42	20.10%	11	21.15%
Lisbon and Tagus Valley	64	20.92%	70	23.10%	66	22.00%	47	23.04%	65	20.90%	46	22.01%	12	23.08%
Alentejo	25	8.17%	21	6.93%	15	5.00%	10	4.90%	31	9.97%	19	9.09%	4	7.69%
Algarve	37	12.09%	33	10.89%	33	11.00%	27	13.24%	38	12.22%	19	9.09%	4	7.69%
Autonomous Region of the Azores	6	1.96%	3	0.99%	3	1.00%	2	0.98%	6	1.93%	4	1.91%	1	1.92%
Autonomous Region of Madeira	9	2.94%	3	0.99%	3	1.00%	4	1.96%	6	1.93%	4	1.91%	1	1.92%
Total	306	100.00%	303	100.00%	300	100.00%	204	100.00%	311	100.00%	209	100.00%	52	100.00%

Note: The table illustrates our sample's geographic distribution of retail businesses across Portuguese regions. The North region leads with the highest number of establishments in most sectors. Lisbon and Tagus Valley also hold a significant share, particularly for cafes and hospitality. Both the Azores and Madeira regions have the fewest businesses, reflecting a smaller retail footprint in these autonomous regions.

Descriptive statistics for Country and Annual Turnover are omitted from the appendix as they offer negligible insight into our sample's retailer demographics. Appendix E details the sample distribution by country for Country. Pertaining the Annual Turnover, the majority of participants elected not to disclose their company's annual turnover.

Appendix G: Descriptive Statistics of Final Consumers

Table 26: Descriptive Statistics of Age Distribution Among Consumers

	Portugal		Spain		France		Italy		Belgium		Germany		UK		EUA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
18 - 24	80	7.95%	71	7.04%	60	5.96%	90	8.97%	71	7.02%	71	6.97%	81	8.00%	30	2.96%
25 - 34	121	12.03%	141	13.97%	141	14.00%	150	14.96%	142	14.05%	132	12.95%	121	11.96%	122	12.03%
35 - 44	172	17.10%	162	16.06%	181	17.97%	150	14.96%	182	18.00%	163	16.00%	142	14.03%	132	13.02%
45 - 54	221	21.97%	242	23.98%	212	21.05%	191	19.04%	212	20.97%	225	22.08%	233	23.02%	213	21.01%
55 - 64	231	22.96%	242	23.98%	222	22.05%	211	21.04%	222	21.96%	234	22.96%	243	24.01%	274	27.02%
65 or more	181	17.99%	151	14.97%	191	18.97%	211	21.04%	182	18.00%	194	19.04%	192	18.97%	243	23.96%
Total	1006	100.00%	1009	100.00%	1007	100.00%	1003	100.00%	1011	100.00%	1019	100.00%	1012	100.00%	1014	100.00%

Note: The table provides descriptive statistics on age distribution among wine consumers from our selection of countries, indicating that the largest proportion of consumers typically falls within the 45-64 age range, with distinct variations in distribution percentages and consumer frequencies within each age group across the countries sampled.

Table 27: Descriptive Statistics of Gender Distribution Among Consumers

	Portugal		Spain		France		Italy		Belgium		Germany		UK		EUA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Male	674	67.00%	616	61.05%	564	56.01%	602	60.02%	586	57.96%	601	58.98%	648	64.03%	537	52.96%
Female	322	32.01%	363	35.98%	433	43.00%	381	37.99%	415	41.05%	387	37.98%	324	32.02%	416	41.03%
Other	10	0.99%	30	2.97%	10	0.99%	20	1.99%	10	0.99%	31	3.04%	40	3.95%	61	6.02%
Prefer not to say	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total	1006	100.00%	1009	100.00%	1007	100.00%	1003	100.00%	1011	100.00%	1019	100.00%	1012	100.00%	1014	100.00%

Note: The table provides descriptive statistics on gender distribution among wine consumers from our selection of countries, revealing that males generally represent the largest proportion of our sample of wine consumers, while there are noticeable differences in the percentage and frequency of male, female, and other gender identifications among consumers across these countries.

Table 28: Descriptive Statistics of the Distribution of Occupations Among Consumers

	Portugal		Spain		France		Italy		Belgium		Germany		UK		EUA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Student	81	8.05%	70	6.94%	60	5.96%	90	8.97%	71	7.02%	51	5.00%	81	8.00%	30	2.96%
Student worker	30	2.98%	61	6.05%	30	2.98%	0	0.00%	20	1.98%	41	4.02%	40	3.95%	51	5.03%
Salaried employee	664	66.00%	646	64.02%	675	67.03%	693	69.09%	687	67.95%	703	68.99%	729	72.04%	741	73.08%
Self-employed	40	3.98%	71	7.04%	70	6.95%	50	4.99%	61	6.03%	82	8.05%	61	6.03%	81	7.99%
Unemployed	121	12.03%	111	11.00%	91	9.04%	80	7.98%	91	9.00%	71	6.97%	40	3.95%	30	2.96%
Retired	70	6.96%	50	4.96%	81	8.04%	90	8.97%	81	8.01%	71	6.97%	61	6.03%	81	7.99%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total	1006	100.00%	1009	100.00%	1007	100.00%	1003	100.00%	1011	100.00%	1019	100.00%	1012	100.00%	1014	100.00%

Note: The table provides descriptive statistics on the distribution of occupations among wine consumers from our selection of countries, showing that salaried employees constitute the largest proportion of our consumer sample, with significant variations in the percentage and frequency of different employment statuses, including students, self-employed, unemployed, and retired individuals, across these countries.

Table 29: Descriptive Statistics of the Distribution of Education Levels Among Consumers

	Portugal		Spain		France		Italy		Belgium		Germany		UK		EUA	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Less than high school	91	9.05%	71	7.04%	70	6.95%	80	7.98%	81	8.01%	71	6.97%	61	6.03%	40	4.04%
High school completion	281	27.93%	262	25.97%	232	23.04%	241	24.03%	233	23.05%	214	21.00%	192	18.97%	172	16.95%
Bachelor's degree	272	27.04%	293	29.04%	272	27.01%	261	26.02%	263	26.01%	245	24.04%	243	24.01%	223	21.97%
Postgraduate	211	20.97%	222	22.00%	242	24.03%	261	26.02%	263	26.01%	275	26.99%	283	27.96%	274	27.00%
Master's degree	121	12.03%	121	11.99%	131	13.01%	130	12.96%	131	12.96%	143	14.03%	152	15.02%	193	19.01%
Doctorate or higher	30	2.98%	40	3.96%	60	5.96%	30	2.99%	40	3.96%	71	6.97%	81	8.00%	112	11.03%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Total	1006	100.00%	1009	100.00%	1007	100.00%	1003	100.00%	1011	100.00%	1019	100.00%	1012	100.00%	1014	100.00%

Note: The table presents descriptive statistics on the distribution of education levels among wine consumers from our selected countries, demonstrating that the most common educational attainment is high school completion or a bachelor's degree, with a notable presence of postgraduate levels, and it highlights the diversity in educational backgrounds with varying frequencies and percentages across different countries.

We omitted the descriptive statistics for Country of Residence and Gross Monthly Income from the appendix because they add limited value to our understanding of wine consumer demographics in our sample. Appendix E provides a breakdown of our sample distribution by Country of Residence. As for Gross Monthly Income, most respondents chose not to disclose their gross monthly income.

Appendix H: Complementary Tables of Our Conclusive Research

Table 30: Descriptive Statistics of Cork Importance for Wine Preservation

	N	Mean	Std. Deviation	Std. Error
Wine Producer	96	8.074	1.181	.121
Wine Bottler	13	8.179	1.056	.293
Winemaker	39	8.567	.954	.153
Total	148	8.213	1.129	.093

Note: This table presents the descriptive statistics for the importance of cork in wine preservation as perceived by different groups within the wine production industry. The mean scores indicate a general consensus on the importance of cork stoppers, with winemakers rating it slightly higher than producers and bottlers.

Table 31: ANOVA for Importance of Cork in Wine Preservation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,753	2	3,377	2.712	.070
Within Groups	180,543	145	1,245		
Total	187,297	147			

Note: This ANOVA table shows the analysis of variance for the perceived importance of cork in wine preservation among different groups of wine producers. The significance value suggests no substantial difference in the mean importance ratings between groups at the .05 level.

Table 32: Descriptive Statistics of Cork Importance for Wine Quality

	N	Mean	Std. Deviation	Std. Error
Wine Producer	96	7.583	1.551	.158
Wine Bottler	13	8.043	1.117	.310
Winemaker	39	8.133	1.231	.197
Total	148	7.768	1.454	.119

Note: This table presents the descriptive statistics for the perceived importance of cork in wine quality by different roles within the wine industry. The mean scores suggest a general agreement on cork's significance, with no single group standing out in their valuation.

Table 33: ANOVA for Importance of Cork in Wine Quality

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9,476	2	4,738	2.282	.106
Within Groups	301,079	145	2,076		
Total	310,556	147			

Note: This ANOVA table displays the analysis of variance for the perceived importance of cork to wine quality across different roles within the wine industry. The significance value indicates that there is no statistically significant difference in the mean ratings for cork importance between the groups.

Table 34: Ranks from Wilcoxon Signed Ranks Test

	N	Mean Rank	Sum of Ranks
Negative Ranks (Cost $>$ Quality)	7	18.86	132.00
Positive Ranks (Quality $>$ Cost)	123	68.15	8383.00
Ties (Cost = Quality)	18	-	-
Total	148	-	-

Note: Negative Ranks indicate a preference for cost over quality. Positive Ranks indicate a preference for quality over cost. Ties indicate no difference between the valuation of cost and quality.

Table 35: Test Statistics from Wilcoxon Signed Ranks Test

Z	Asymp. Sig. (2-tailed)
-9.606	$< .001$

Note: Test statistics for the comparison of quality and cost rankings.

Table 36: Tests of Within-Subjects Effects (Greenhouse-Geisser)

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial η^2
Characteristics	754,011	8.122	92,833	37.125	< 0.001	.202
Error(Characteristics)	2985,583	1193.963	2,501	-	-	-

Note: Mauchly's Test indicated a violation of the sphericity assumption, therefore Greenhouse-Geisser correction has been applied to the degrees of freedom.

Table 37: Estimated Marginal Means of Cork Characteristics

			95% Confidence Interval	
Characteristic	**Mean**	**Std. Error**	**Lower**	**Upper**
Density [2]	8.153	.083	7.990	8.317
Porosity [3]	8.075	.111	7.856	8.295
Degree of Compression [7]	8.009	.088	7.835	8.183
Additional Treatments [6]	7.859	.116	7.630	8.088
Ease of Opening [13]	7.769	.108	7.556	7.981
Size [1]	7.607	.143	7.325	7.889
Visual Quality [4]	7.468	.124	7.224	7.713
Sustainable Supply [12]	7.450	.143	7.168	7.733
Heat Treatment [5]	7.348	.141	7.070	7.627
Surface Treatment [11]	7.348	.144	7.064	7.633
Guarantee Seal [10]	7.228	.152	6.928	7.529
Toast Degree [9]	6.159	.175	5.813	6.505
Provenance [8]	6.081	.168	5.750	6.412

Note: Means are based on the Greenhouse-Geisser correction for the within-subjects design.

Table 38: Crosstabulation of TCA Issues by Wine Producer Role

	Role			
Frequency of TCA Issues	**Wine Producer**	**Wine Bottler**	**Winemaker**	**Total**
Rarely	26 (33.8%)	1 (10.0%)	6 (17.1%)	33 (27.0%)
Occasionally	34 (44.2%)	5 (50.0%)	14 (40.0%)	53 (43.4%)
Frequently	12 (15.6%)	4 (40.0%)	11 (31.4%)	27 (22.1%)
Other	5 (6.5%)	0 (0.0%)	4 (11.4%)	9 (7.4%)
Total	77 (100%)	10 (100%)	35 (100%)	122 (100%)

Note: This table presents a breakdown of TCA issues experienced by wine producers, bottlers, and winemakers. The percentages reflect the proportion within each role, indicating the frequency at which each group encounters TCA-related problems.

Table 39: ANOVA for TCA Confidence Across Wine Producer Types and TCA Incidence

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,500	2	3,750	.537	.586
Within Groups	831,437	119	6,987		
Total	838,936	121			

Note: This ANOVA table presents the analysis of variance for confidence in cork stoppers despite TCA challenges, considering different types of wine producers. The lack of statistical significance suggests that confidence levels are consistent across groups.

Table 40: One-Sample t-Test Results for Wine Producers' Confidence Reduction Due to TCA

			95% Confidence Interval		
t	df	Mean diff.	Lower	Upper	Sig.
2.995	122	0.714	0.2421	1.1899	.003

Test Value = 5

Table 41: ANOVA Results for the Impact of TCA Occurrences on Wine Producers' Confidence

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	33.898	3	11.299	1.656	.180
Within Groups	805.038	119	6.822		
Total	838.936	122			

Table 42: Preferences for Wine Stoppers

	Synthetic/Screw Stoppers		Indifferent		Cork Stoppers		Total	
Type of Wine	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Red Wine	3	2.1%	13	9.2%	125	88.7%	141	100%
White Wine	17	11.9%	33	23.1%	93	65.0%	143	100%
Rosé Wine	31	23.3%	31	23.3%	71	53.4%	133	100%
Sparkling Wine	12	10.8%	16	14.4%	83	74.8%	111	100%
Current/Table Wine	47	40.5%	34	29.3%	35	30.2%	116	100%
Regional Wine	19	15.3%	39	31.5%	66	53.2%	124	100%
DOP Wine	7	5.2%	26	19.3%	102	75.6%	135	100%
Reserve Wine	2	1.4%	9	6.4%	130	92.2%	141	100%
Organic Wine	11	10.4%	22	20.8%	73	68.9%	106	100%
Liqueur Wine	15	14.0%	16	15.0%	76	71.0%	107	100%

Note: The table shows the preferences for different types of wine stoppers categorized by type of wine.

Table 43: Chi-Square Test Statistics for Preferences for Wine Stoppers

Type of Wine	Chi-Square	df	Asymp. Sig.
Red Wine	195.234	2	< .001
White Wine	67.357	2	< .001
Rosé Wine	24.060	2	< .001
Sparkling Wine	86.000	2	< .001
Current/Table Wine	2.707	2	.258
Regional Wine	26.919	2	< .001
DOP Wine	112.311	2	< .001
Reserve Wine	220.383	2	< .001
Organic Wine	61.943	2	< .001
Liqueur Wine	68.430	2	< .001

Note: The chi-square test statistics indicate preferences for different types of wine stoppers categorized by type of wine.

Table 44: One-Sample T-Test for Openness to Alternative Stoppers

			95% Confidence Interval		
t	**df**	**Mean diff.**	**Lower**	**Upper**	**Sig.**
-2.977	147	-0.69	-1.15	-.23	.003

Note: The one-sample t-test compared the mean openness to alternative stoppers against the neutral midpoint of the scale (Test Value = 5).

Table 45: One-Sample t-Test Results for the Perceived Influence of Cork Stoppers on Wine Selling Price

			95% Confidence Interval		
t	**df**	**Mean diff.**	**Lower**	**Upper**	**Sig.**
6.566	147	1.378	0.96	1.79	< .001

Test Value = 5

Table 46: Wine Producers' Ratings on Factors Influencing Pricing Strategy

Factor	**Number of Responses**	**Percentage**
Reflection of the total quality of the wine	98	66.2%
Cost component	66	44.6%
Investment in customer satisfaction	43	29.1%
Differentiating element	60	40.5%
Valuing tradition	75	50.7%
Environmental considerations	56	37.8%

Note: This table displays the number of wine producers who selected each factor as influencing their pricing strategy, along with the corresponding percentage of the total responses.

Table 47: Trade-Off Preferences in Cork Features for Competitive Pricing

Feature	**Frequency**	**Percentage**
Size	73	49.3%
Density	14	9.5%
Porosity	13	8.8%
Visual Quality	46	31.1%
Heat Treatment	14	9.5%
Additional Treatments	23	15.5%
Degree of Compression	9	6.1%
Provenance	64	43.2%
Toast Degree	51	34.5%
Guarantee Seal	28	18.9%
Surface Treatment	27	18.2%
Sustainable Supply	23	15.5%
Ease of Opening	26	17.6%

Note: This table displays the frequency and corresponding percentage of wine producers willing to compromise on specific cork features to reduce pricing.

Table 48: One-Sample t-Test Results for Tradition and Authenticity Perception and High-End Differentiation

Variable	**t**	**df**	**Sig. (Two-Sided)**	**Mean Difference**	**95% Confidence Interval**	
					Lower	**Upper**
Tradition and Authenticity Perception	23.716	14689	< .001	.264	.242	.286
High-End Differentiation	28.925	14689	< .001	.361	.286	.327

Test Value = 7

Table 49: One-Sample t-Test Results for Cork Stopper Importance

Variable	t	df	Sig. (Two-Sided)	Mean Difference	95% Confidence Interval	
					Lower	Upper
Importance of Cork Stoppers	-717.998	14689	< .001	-5.202	-5.216	-5.187

Test Value = 7

Table 50: Chi-Square Test of Independence for Brand Relevance on Cork Stoppers

	Chi-Square	df	Asymptotic Significance (2-sided)	N of Valid Cases
Establishment	2.098	6	.910	14690
Country	5.469	5	.361	14690

Note: This table presents the results of the Chi-Square Test of Independence, assessing the relevance of branding on cork stoppers as a factor in wine selection by retailers. The p-values indicate that there is no significant association between the brand on cork stoppers and the decision-making process of retailers, supporting Hypothesis B4.

Table 51: Frequency of Responses for Brand Relevance on Cork Stoppers

Response	Frequency	Percent	Valid Percent
No	14276	97.2%	97.2%
Yes	414	2.8%	2.8%
Total	14690	100.0%	100.0%

Note: This table outlines the overall frequency and percentage of respondents considering the brand on cork stoppers to be a relevant factor in their wine selection. A vast majority of retailers (97.2%) responded 'No', indicating that the brand presence on cork stoppers is not a significant factor for their purchasing decisions.

Table 52: Crosstabulation of Cork Influence on Wine Purchasing Decisions by Country

	Country							
Cork Influence	Portugal	Spain	France	Italy	Belgium	Germany	UK	USA
Cork Decisive Factor	13.8%	16.6%	24.9%	13.8%	19.3%	11.0%	0.3%	0.3%
Cork Significant Influence	12.5%	18.7%	22.9%	14.6%	18.7%	12.7%	0.0%	0.0%
Cork Minor Value	58.9%	51.9%	43.0%	60.9%	51.9%	39.0%	36.0%	20.9%
Cork Rarely Considered	7.3%	6.5%	5.4%	7.6%	6.5%	4.9%	4.5%	2.6%
Cork No Preference	27.9%	30.9%	33.0%	25.9%	29.0%	48.0%	62.9%	79.0%

Note: Percentages are based on the number of respondents from each country who selected each category of cork influence on their wine purchasing decisions.