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THE ROLE OF PERCEPTION AND ATTRIBUTES ON NON-ALCOHOLIC BEER

CONSUMPTION IN THE ITALIAN MARKET

“Exploring consumers & non consumers perceptions about non-alcoholic beer brands
through Perceptual Mapping”

GIOVANNI GIACHINO

Work project carried out under the supervision of:

ARASH LAGHAIE

Abstract

Non-alcoholic beer (NAB) is becoming more and more popular in Italy. This study looks at factors that influence consumer choices, with a focus on taste, packaging, and health claims. Experienced buyers look for premium attributes, complexity in taste and authenticity, while beginners prioritize affordability, transparency and emotional connection. Using conjoint analysis and perceptual mapping, the study identifies ways that NAB brands may use to improve their marketing and product offerings while engaging to a variety of customer demographics and focusing on the growing demand for alcohol-free solutions.

Keywords: Non-alcoholic beer, Italian market, consumer choice, health-conscious consumption, perceptual mapping, conjoint analysis, product segmentation, market strategy.

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1. Introduction

1.1 General Overview

The beer industry has seen growth in recent years in corporate production and consumer consumption of non-alcoholic beer. The non-alcoholic beer market has grown significantly in recent years due to shifting consumer tastes and a greater focus on leading a healthy lifestyle. This figure takes value when thinking that, within the European Union in 2023, for the first time ever total non-alcoholic beer production had a 13.5% increase while alcoholic beer production had a 5% decrease (Il messaggero, 2023). Non-alcoholic beers have become a popular option due to a growing interest on the part of consumers in a wellness life based on the values of healthy and sustainable and the expansion of trends focused on reducing or eliminating alcohol consumption as sober curious.

According to a study made by Nielsen IQ (NIQ, 2022), 82% of customers who buy non-alcoholic beverages also buy alcoholic ones, showing that people aim to reduce alcohol consumption instead of completely avoiding it.

Beer companies, influenced by the change in consumer perception especially towards non-alcoholic beverages, have understood that the market will require increasingly diversified and high-quality beers, with particular attention to ingredients, flavors and wellness. This way of thinking leads companies to innovate and experiment with new methods to produce increasingly sustainable beer, focusing on non-alcoholic or low-alcohol beers as a new future trend.

Non-alcoholic beers may now compete with their alcoholic counterparts due to improvements in production methods that allow companies to create a product 99% like traditional products. The organoleptic characteristics of NAB beers satisfy consumers without the negative effects of alcohol.

Although the sector is growing, it is not yet capable of reducing the clear gap with the alcohol sector, due to the awareness barriers between the product and the consumers. Taste perception is still a major obstacle, since some customers believe that the flavor of non-alcoholic beers is inferior to that of ordinary beer. To address this, companies must invest in production techniques capable of delivering a product like an original beer, allocating resources to communication strategies that bring consumers closer to non-alcoholic beer, highlighting product's benefits and understanding how to shift the target audience of traditional beers towards non-alcoholic options while exploring the new target.

Technological developments in brewing have enhanced the flavor and quality of non-alcoholic beers, helping to address past taste complaints as the demand for healthy, alcohol-free options grows globally. The improvement of quality and environmentally friendly methods, such as using organic products and eco-friendly packaging, are predicted to emerge as important differentiators at the same time.

In the future, new flavors and advancements in brewing methods will dominate the market. The advent of hybrid products, like beer combined with kombucha, as well as the growth of e-commerce will assist firms in reaching new customers.

The intention of the work project, as we will see later in the purpose chapter, is precisely to give insights to Italian companies by understanding what consumers' perceptions of non-alcoholic beer are through a series of qualitative and quantitative analyses and studies, comparing different target groups and understanding what characteristics of beer distinguish consumers' choices.

1.2 Why the Italian Market?

The non-alcoholic beer landscape in Italy offers a differentiated set of potentials and problems. This market is still in a development and growth phase compared to other European realities. There are many opportunities for expansion due to its not yet fully exploited potential and its

adaptability to trends more oriented to the physical and healthy well-being of Italians. In this paragraph we will analyze the factors that allow Italy to be a suitable country for the growth and innovation of this market, comparing it with the development of the sector in other European countries where the growth phase of non-alcoholic beer has stabilized.

Health-Oriented Consumption. The non-alcoholic beer market in Italy is growing due to increasing consumer awareness of the benefits of reducing alcohol consumption and growing interest in health and wellness +8% by volume and +17% by value YTD 2024 (Expert, 2024). It still represents a niche in the total market, 2% in volume and value but it's a high-value niche (Expert Interview, 2024).

Untapped Potential. The Italian non-alcoholic beer market is very underdeveloped compared to other European countries. The percentage of non-alcoholic beer sales in Italy is less than 3%, compared to 7-10% in countries such as Germany and Spain (Statista, 2023). As more and more consumers turn to non-alcoholic products due to increasing awareness and demand, this low market penetration may represent a substantial growth opportunity.

Cultural Compatibility with Gastronomic Tradition. Thanks to Italy's rich culinary heritage, non-alcoholic beer goes well with meals. Its delicate flavor profiles enhance the entire dining experience, balancing the richness of Italian cuisine. For this reason, it is a culturally relevant substitute for customers seeking moderation without sacrificing the pleasure of taste.

Germany and Spain. These two countries are the forerunners of the non-alcoholic beer market in Europe, where this trend has been stable and mature for several years. Non-alcoholic beer accounts for 7-15% of total beer sales, leaving little room for new competitors. Spain has impressive figures in this regard, where non-alcoholic beer consumption accounts for 14% of total beer consumption per capita while supermarket sales generated 229 million euros selling about 129 million liters in one year (Il Messaggero, 2023). Furthermore, both markets are

characterized by increased consumer awareness and loyalty to established brands, which makes market penetration costly and difficult.

Scandinavian Countries. In these countries, the non-alcoholic beer market enjoys more favorable regulations and is culturally linked to Scandinavian consumers who are more concerned about physical and mental health. Unlike Italy, where the population is larger and the demand for non-alcoholic products is increasing, these markets are restricted, which limits their ability to scale the market.

By focusing on the Italian market, it is possible to benefit from a growing trend without having to face the strong rivalry of crowded markets such as Germany and Spain. Brands can gain ground in the growing Italian alcohol-free market by focusing on health-conscious consumers and promoting non-alcoholic beer as a culinary and social partner. Furthermore, Italy's growth potential and relatively low level of competition foster an atmosphere in which brand differentiation can create substantial competitive advantages, allowing for faster development.

1.3 Current Trends in Italy's Non-Alcoholic Beer Market

When we look at the Italian non-alcoholic beer market, we can conclude that it is a sector that is growing steadily, with notable trends in both domestic and non-domestic consumption. Domestic consumption turnover generated by channels such as supermarkets and convenience stores are expected to reach \$32.6m in 2024, with stable growth prospects and a compound annual growth rate (CAGR) of 1.27% for the period 2024-2029. Sales from non-domestic consumption which includes restaurants and bars - are also expected to reach \$32.4m in 2024, bringing the total value of the non-alcoholic beer market in Italy to \$65.0m (Statista, 2023).

The Italian market represents a growing niche within the European beverage sector, despite being smaller than world leaders such as the United States, where domestic consumption revenues are estimated to reach \$4,298 million. The domestic non-alcoholic beer sector in Italy is expected to earn an average of \$0.56 per person in 2024, indicating that this section of the

market is new and expanding. The importance of non-alcoholic beer among domestic beverage options is highlighted by the 7.2 million liters of beer expected to be consumed at home by the Italian market in 2024. The growing range of non-alcoholic alternatives offered by restaurants, pubs and other such venues is reflected in the estimated 3.8 million liters consumed outside the home. In 2024, the total market consumption volume is estimated to reach 11.0 million liters. However, it is important to bear in mind that domestic consumption is expected to decline slightly in 2025 (-1.6%). This could result from various issues such as market saturation or changing consumer tastes (Statista, 2023).

The fact that the average volume of non-alcoholic beer consumed at home in Italy in 2024 is still relatively low, at 0.12 liters per person (Statista, 2023), highlights the niche place of beer in the diet of the average consumer. This figure indicates that there is room for growth, by launching new product lines and focusing on advertising efforts to attract younger, health-conscious consumers. In conclusion, the non-alcoholic beer industry in Italy shows steady revenue growth and a balanced trend in domestic and non-domestic consumption. Although per capita consumption and volume growth are currently modest, this sector has the potential to grow considerably thanks to the strategic initiatives of the various brands, changes in consumer attitudes and thus increased market penetration (Statista, 2023)

1.4 Comparison with the Italian Alcoholic Beer Market

On the other hand, however, we find the Italian alcoholic beer market, which has much more solid dynamics. The domestic beer consumption sector, which includes sales in supermarkets and small retailers, is expected to generate sales of USD 4.5 billion by 2024. With a compound annual growth rate (CAGR) of 3.76% from 2024 to 2029 (Statista 2023), this segment is expected to grow steadily in subsequent years, showing continued demand from customers in retail settings. Non-domestic beer consumption, including sales in locations such as pubs and restaurants, is expected to reach USD 3.08 billion in 2024. Globally, the Italian alcoholic beer

market generates annual sales of \$7.6 billion, demonstrating the economic importance of this beverage. With a turnover of an amazing \$78.24 billion in 2024, the United States is leading the domestic beer market at a global level, underlining Italy's moderately large but remarkable contribution in the global perspective. The average revenue of the Italian beer market for domestic consumption in 2024 is \$77.39 per person, showing how this beverage is an established part of Italian culture (Statista, 2023).

By 2024, the Italian domestic beer market is projected to reach 1,264 million liters consumed, making it a crucial distribution channel for beer. Due to the strong socio-cultural relevance of beer in hospitality contexts such as bars, taverns, and restaurants, a further 452.8 million liters are consumed in non-domestic contexts. The total amount of beer in Italy is expected to reach 1,717 million liters in 2024, demonstrating the variety of situations in which beer is consumed. As consumers continue to prefer to purchase beer for domestic consumption, the domestic beer category is expected to increase by 2.2% in volume in 2025, indicating a healthy trajectory. Its importance within the lives of Italians is also demonstrated by the prediction that the average per capita volume of beer consumption at home in 2024 will be 21.54 liters (Statista, 2023).

These data have shown us how indeed the beer market in Italy is strongly rooted in the country's culture and tradition, distinguishing itself for the quantity and quality of sales and volumes in both the domestic and international markets. With a forecast of constant growth, the sector continues to play a significant role in the Italian economy and culture, constantly innovating and developing in the methods of marketing and distribution to satisfy customers. (Statista, 2023)

1.5 Purpose

Our interest in understanding the elements that influence customer behavior in this area has increased due to the growing popularity of non-alcoholic beer in the everyday context.

“How do non-alcoholic beer characteristics and consumer perceptions influence the choices of consumers who have tried it compared to those who have not?” is the central topic that our thesis aims to investigate. It emphasizes the differentiation between these two consumer segments due to the nascent state of the non-alcoholic beer market. A considerable segment of prospective consumers has not yet sampled these products, frequently due to preconceived beliefs that non-alcoholic beer is less appealing than conventional alcoholic beer. This stigma, grounded in cultural preferences and taste expectations, generates a disparity between perception and reality. Conversely, individuals who have sampled non-alcoholic beer often possess perceptions influenced by their personal experiences, tastes, and the characteristics of the product. Through the examination of these disparities, our research seeks to furnish pragmatic insights for enterprises within the sector, empowering them to make better-informed decisions to surmount obstacles and improve market acceptance.

This research topic explores how the perceptions of experienced and inexperienced customers in this category interact with product qualities such as taste, packaging, and health benefits. We will mainly use two different methodologies to answer this question comprehensively. The first point of our analysis will be based on understanding and highlighting market positioning by specifically using perceptual mapping to illustrate how customers perceive the various brands or features of non-alcoholic beer in relation to each other. In addition, we will be able to go in and objectively assess the relative importance of different product attributes in influencing customer choices through conjoint analysis. These two tools will offer great support in analyzing the dynamics of consumer behavior within the non-alcoholic beer market. In order to influence consumer preferences, it is crucial to understand both practical factors like calorie content and alcohol-free certification as well as emotional ones like cultural importance and brand trust. With the objective of remaining competitive and satisfying a wide range of consumer needs, firms must also customize their goods for lifestyles, such as urban millennials

or health-conscious people. In the following chapters we will go on looking specifically at the application of the tools and the results obtained from the analysis carried out on various consumers to outline the main factors that affect consumer choices regarding the choice of different types of non-alcoholic beer.

The distinction between the two types of consumers, which distinguishes our research question, has implications from a managerial perspective. Consumers who have never tried non-alcoholic beer and those who have tried it represent two customer segments with different characteristics and for whom non-alcoholic beer companies must adopt different marketing strategies. Consumers who have tried non-alcoholic beer have evaluation references based on their personal experiences, so their perceptions will be influenced by specific factors such as taste, price, and brand. In this case, companies will focus more on improving their products and strategies based on brand loyalty and continuous innovation of their products, playing with consumer preferences. Considering that non-alcoholic beer penetration in Italy in 2024 is 18% (+1.4 pb) compared to 2023, most Italian consumers do not fall into the category of those who have never tried non-alcoholic beer (Expert Interview, 2024). Consumers who have never tried this type of product have perceptions that are more influenced by external factors, as they cannot rely on their own experience, and this often leads to misconceptions and perceptions of the product. Companies, to appeal to these consumers as well, need to invest more in marketing and advertising to overcome the barriers of misinformation, educating consumers so as to overcome the bias and stigma of alcohol-free beer, through events and product positioning to emphasize the “real beer” experience by highlighting the positive aspects of the non-alcoholic product. That said, companies in this market are expected to operate differently depending on

the type of consumer. This distinction is important because it allows us to understand that, for consumers who have never tried non-alcoholic beer, the strategy to be adopted is one of acquisition, positively influencing the perceptions of these consumers; while for consumers who have already tried it, the strategy to be adopted is one of loyalty by going about changing consumer preferences.

2. Literature Review

2.1 Market Research

The non-alcoholic beer market has been experiencing notable growth in recent years (Statista, 2024), primarily due to the shifting consumer preferences towards health, wellness, and quality (Market Research Future, n.d.). Research from various countries reveals that consumers choose non-alcoholic beer options primarily due to health benefits, influence on lifestyle, and brand reputation when choosing between non-alcoholic beer options. This section aims to review foundational studies that explore the impact of diverse attributes on consumers when deciding between different options, providing valuable insights about the topic to build a strong basis for our further analysis.

2.1.1 Consumer Segmentation: Experienced vs Non-Experienced Consumers

An important factor that our research question aims to explore corresponds to the distinction between experienced and non-experienced consumers. Experienced consumers are the ones who have already integrated non-alcoholic beer into their consumption habits and who commonly view them as an important part of a broader health-conscious lifestyle. The main motivation behind consumers is essentially related with the benefits that reducing alcohol

consumption may bring in the long-term, promoting the alignment of their choices with wellness and healthier alternatives (Nicholls, 2022). On the other side, non-experienced consumers represent the ones who have never tried non-alcoholic beer before. This segment is mainly driven by factors such as curiosity, social influences, or marketing campaigns. However, the fact that some concerns still exist with respect to taste mixed with the perceived social stigma surrounding NAB consumption ends up creating a feeling of hesitancy in trying this type of beer (Hernández-Mora et al., 2022).

Since the lifestyle of experienced consumers is related with maintaining a fitness regime with healthier choices in their day-to-day diets (Scherr et al., 2011), their focus is essentially on health-related attributes, including lower calories or the ability to maintain a clear mind while still enjoying the social aspects usually associated with normal beer consumption. Since these consumers are repeatedly exposed to NAB, they tend to have more positive perceptions regarding sensory properties, such as flavor and mouthfeel, allowing them to develop a higher tolerance regarding the more subtle characteristics of NABs (Jaeger et al., 2021).

Conversely, non-experienced consumers will probably base their decisions on whether to try NABs on external factors, such as peer recommendations, advertising, or the desire to try something new. However, initial experiences are often associated with skepticism, especially regarding the taste of non-alcoholic beer. Among this type of consumers, the common opinion is that NAB is inferior to traditional beer, especially when it comes to taste since it lacks the complexity and satisfaction that their alcoholic counterparts can offer (Taylor Jr. et al., 2023). The differences in these two segments also create divergencies in marketing strategies. More specifically, experienced consumers are more propense to respond positively to authentic and health-oriented branding that can illustrate how beneficial is to have NABs as part of their lifestyle, meaning that topics like sustainability, quality, and fitness will effectively capture their attention (Zlatanov et al., 2023).

In contrast, capturing the attention of non-experienced consumers means that marketing campaigns should focus on factors such curiosity, novelty, taste, and social acceptability in an effective manner. Value-expressive advertising appeals that can connect NABs with modern and trendy lifestyles can have a strong influence. However, it is worth mentioning that traditional guilt-based appeals – associating NABs with the avoidance of alcohol – may not be effective among this group since they don't perceive the cognitive disagreement between health and alcohol consumption in a similar manner (Castro-Sepulveda et al., 2016; Taylor Jr. et al., 2023).

2.1.2 Social Perceptions and Stereotypes in Non-Alcoholic Beer

A study made by Staub et al. (2022) was developed with the objective of exploring the stereotypes that are commonly associated with people that consume non-alcoholic beer, concluding about the impact of social perceptions regarding brand preferences. The analysis was based on an online vignette experiment in which German participants (N = 509) were asked to evaluate the character of a person who drinks non-alcoholic beer compared to one who drinks alcoholic beer.

According to the authors, NAB consumers are usually associated with some characteristics such as health-conscious, rational, disciplined, modern and strong. This idea also goes in line with the findings of Vartanian et al. (2007), who concluded that food and beverage options are often related to personality traits. Since stereotypes are made based on consumption behavior, people end up being influenced by the way they want others to see themselves. In a similar way, Hartmann et al. (2018), also investigated about the influence of stereotypes on social perceptions mainly in the food domain, where factors such as the portion size or the type of food influence the perception when it comes to attractiveness, desirability, and health-consciousness.

As described by the authors, these social perceptions can be seen not only as motivators but also as barriers when it comes to NAB consumption. This means that more health-conscious individuals may opt for NAB options in order to reflect their balanced lifestyles (Hartmann et al. (2018), while other individuals may avoid them due to concerns related with their social acceptability and factors such as the perceived lack of taste or the perceived target consumers (Vasiljevic et al., 2019) - common stereotypes that act as barriers when it comes to first-time consumers.

Another pointed considered relevant for the authors corresponds to the role of subjective norms. These are a concept rooted in the Theory of Planned Behavior, that will be explored further, but that essentially illustrates the idea that consumers often take into consideration what their peers would consider as an appropriate behavior in a situation (Ajzen, 1991; Cooke et al., 2016). In the context of NAB, these subject norms may play a notable role on those who are more hesitant to try the product and that can look at it as not socially favorable when compared with alcoholic beer. Besides that, these social norms can also affect consumption behavior even in situations where other people are not around (Howland et al., 2012).

Another study from Taylor Jr. et al. (2023) focused on developing an in-depth analysis of consumer perceptions for no- and low-alcohol beers (NLABs) opting to focus on two distinct groups, active lifestyle individuals and general craft beer consumers. This article was divided into two main studies, where the first one used a mixed methods approach in order to determine perceptions and switching behaviors for active lifestyle individuals while the second one was more specifically exploring information about perceptions and preferences when it comes to NLABs.

Some of the barriers identified were related with adoption. Since these beers are often perceived as inferior taste and limited variety, conclusions relate to previous research that focused on consumer hesitations (Catarino & Mendes, 2011). On the other side, the authors of this article

also highlight the potential of these beers as a healthier alternative for post-exercise recovery, due to the low-calorie content and more nutrients added (Castro-Sepulveda et al., 2016; Scherr et al., 2011).

Another point that was explored by Taylor Jr. et al. (2023) was the efficacy of advertising appeals, more specifically value-expressive and guilt-based, in promoting these beers. The value-expressive appeals have the objective of connecting the consumption of NLABs with the values of fitness and health, while the guilt-based ones explore the cognitive dissonance between alcohol consumption and keeping a healthy lifestyle. Even though there's theoretical studies that support these strategies (Johar & Sirgy, 1991; Burnett & Lunsford, 1994), this research concluded that none of them have a significant influence in switching behaviors among active lifestyle individuals or general beer consumers. More specifically, active individuals don't perceive a conflict between the consumption of traditional beer and their health values, consequently reducing the efficacy of guilt-based appeals. On the other hand, the respondents focused on taste and availability as key factors that indeed affect their willingness to try NLABs, taking us to previous studies on product quality perceptions in the craft beer industry (Aquilani et al., 2015).

The qualitative part of this study also made important conclusions that point out a critical gap when it comes to consumer knowledge - the potential health benefits of NLABs. Having in mind that many consumers remain hesitant about the flavor of NLABs, increasing awareness of health advantages - such as post-exercise hydration or reducing inflammation - could represent a path for shifting perceptions and increasing adoption (Gleeson, 2016). This idea emphasizes the importance of developing targeted marketing strategies that have the power of focusing both on taste improvement and health benefits, mixed with experimental tactics with the objective of overcoming the challenge of the existing stereotypes associated with this type of beer (Roberts, 2020; Snider, 2022).

2.1.3 Sensory Properties and Expectations

Another study was developed by Moss et al. (2022) with a strong focus on the sensory properties, emotional responses and social settings commonly associated with non-alcoholic beer and how those impact consumer acceptability and purchase intent. More specifically, the study focuses primarily on identifying who drinks NAB and in which social settings, then if consumers perceive different sensory proprieties in NAB in comparison to alcoholic beer, and then on emotional responses to NABs. For this study, sensory evaluation techniques were applied - such as the check-all-that-apply (CATA) method and hedonic scales - in order to compare NABs with alcoholic beers when it comes to important factors such as flavor, carbonation, mouthfeel, and aftertaste.

The study identified that NABs are often seen as banal and watery, sensory characteristics that negatively influence consumer acceptability. These conclusions reflect previous studies that mentioned the difficulty in replicating the sensory complexity that we observe in alcoholic beers. It is important to mention the crucial role of ethanol when enhancing sweetness and the aroma (Bellut & Arendt, 2019; Ramsey et al., 2020).

The authors also analyzed how emotions influence consumer decision-making. Suppose we focus on positive emotions, like “pleasant” and “enthusiastic”. Here, the purchase intent for NABs was increased, mainly for the craft and imported ones (Bhaduri & Stanforth, 2017; Gómez-Corona et al., 2016). On the other hand, macro-brewed products are usually associated with more neutral or negative emotions, such as “boredom”. This idea is one of the roots of the findings of Jaeger et al. (2021), which illustrated that micro-brewed or craft NABs could induce positive emotional associations when compared to the ones from macro-breweries since there is this strong association between the artisanal and imported products and higher perceived quality and exclusivity (Aquilani et al., 2015; Gómez-Corona et al., 2016).

Besides that, this research also recognized key consumer segments based on lifestyle and motivations. This idea means that people who either have a health-conscious lifestyle or are looking to reduce alcohol consumption or avoid intoxication are the ones who have a higher probability of consuming NABs. When it comes to the social context, NABs are predominantly consumed in environments that somehow demand some sense of sobriety, in gatherings at someone's house, family events or if the person is driving (Chrysochou, 2014; Silva et al., 2016). This conclusion is aligned with previous studies that also focused on the importance of health and social acceptability regarding NAB consumption trends (Bellut & Arendt, 2019; Lafontaine et al., 2020). However, it is interesting to mention the existing barrier in the restaurant industry due to the perceived stigma associated with the consumption of NAB there (Norris, 2023).

Another study by Blackmore et al. (2022) was developed, with a sophisticated analysis of how intrinsic and extrinsic cues such as beer color or sensory descriptors influence consumer expectations and sensory experiences. Consumers rely not only on cues linked with the product itself - appearance and chemosensory properties - named as product intrinsic cues but also on cues related to the packaging and other information about the product, the product extrinsic cues (Cardello, 2007). More specifically, 87 regular beer drinkers were tested to analyze if and how factors like beer color, label-based sensory descriptors, and labeled alcohol content influence expected and perceived bitterness, refreshment, liking, and body. Besides that, a mediation analysis was also developed with the objective of observing if expectation mediates these effects or not.

Beer color has indeed a significant effect when shaping consumers' perception of beer taste, flavor, and mouthfeel. Darker beer colors are usually linked with increased expectations and perceptions of body and bitterness and decreased expected and perceived refreshment. All these effects have the mediation of consumer expectations, a well-documented process in the

assimilation and contrast sensory perception science (Cardello, 2007; Piqueras-Fiszman & Spence, 2015). Our brains are constantly developing predictions of what we are likely to experience (Clark, 2013), including taste perception (Gardner & Fontanini, 2014). This means that the process of expectation generation is affected by diverse factors like previous experiences, attitudes, or product-related cues (Cardello, 2007; Deliza & MacFie, 1996; Fernqvist & Ekelund, 2014; Piqueras-Fiszman & Spence, 2015).

Additionally, it is important to explore the limited effect of some sensory descriptors if the actual sensory perception is not directly relevant to the property being analyzed. As an example, the descriptor “bitter” is indeed associated with the perceived bitterness of a beer, a fact that is mediated by consumer expectations. However, if we think about more complex descriptors such as “full body”, it is more abstract and, consequently, harder to quantify, ending up not being that effective when translating perceived changes in the beer’s body (Blackmore et al., 2022; Carvalho et al., 2019).

2.1.4 Labeling and its Psychological Impact

The study developed by Blackmore et al. (2022) also mentioned the importance of labeled alcohol content regarding hedonic expectations, concluding that beer liking was only influenced by labeled and actual alcohol content, not beer color or sensory descriptors. Beers that are labeled as non-alcoholic (0.0% ABV) are often seen as less desirable when in comparison with those with a higher alcohol content, independently of the sensory differences. This conclusion is in line with other studies that explored how labeling influences on consumer perceptions across diverse types of beverages (Meillon et al., 2010; Silva et al., 2017).

Another study developed by Silva et al. (2017) explores the influence of product labeling - “beer” vs. “non-alcoholic beer” - on consumer liking and emotional responses, directly relating this topic to consumer perceptions and brand preferences. This research had an interesting approach, opting to do the test in a realistic setting - a bar. 155 consumers had a drink of beer

or NAB under two different conditions, it could be labeled either correctly or wrongly concerning the actual composition of the sample. Then, questionnaires were applied to rate the liking and emotions associated with prior and post-consumption. Using a within-subjects experimental design, the study concluded that if NAB was labeled as “beer”, there was a significant increase in consumer liking and a positive influence on specific emotions, like the feeling of “fulfillment”. On the other hand, if the beer was labeled as “non-alcoholic beer”, consumer liking was not affected, but positive emotions such as “joyful” and “comforted” were reduced. These conclusions highlight the importance of cognitive and psychological mechanisms on consumer experiences, which aligns with previous research that focuses on the power of extrinsic product attributes to set sensory expectations (Cardello, 2007; Lee et al., 2006).

Previous research also suggests that sensory expectations influence hedonic evaluations and emotional connections with products (Chaya et al., 2015). Moreover, and once again, these conclusions have implications on other topics such as marketing strategies, showing that product naming has the potential to influence consumer perceptions between alcoholic and non-alcoholic beverages, representing a way of possibly improving general acceptance and emotional connection with NAB (Gutjar et al., 2015). By analyzing mutual emotional and liking

scores, the authors were able to develop a differentiated understanding of consumer answers, emphasizing to the role of emotions in complementing the evaluation of food and beverage products (Piqueras-Fiszman & Spence, 2015; Köster & Mojet, 2015).

2.2 Choice Attributes

The selection of the key attributes for this study was based on the insights that were previously gathered from our preliminary interviews both with consumers and industry experts, that allowed for a deeper understanding of the factors that have a major influence on the choice of

non-alcoholic beer. These insights were further connected with our market research. Through a qualitative analysis of these discussions, we considered the following factors as the most relevant ones.

2.2.1 Category

The category of beer refers its different types or styles. There are two main types: lager and ale, although some beers are classified as hybrids since they contain characteristics from both types (Wagner, n.d.). Each category is usually associated with distinct factors such as flavor profiles, type of yeast, brewing and fermentation methods, and consumer preferences.

Lagers are usually fermented with bottom-fermenting yeast at cold temperatures (35°–50°F) (Wagner, ND) and are typically associated with a clean, crisp, and refreshing taste. They are often chosen as the perfect option in social settings where consumers desire an easy-drinking and light beer.

On the other side, Ales represent the oldest type of beer, dating back to antiquity. They are fermented with top-fermenting yeast at warm temperatures (60°–70°F) (Wagner, ND), giving origin to beers that can be considered as more complex with fruity, spicy and stronger flavor profiles.

As non-alcoholic beer gains popularity in the market, consumers still have this overall idea of the traditional beer categories even though they have different expectations. More specifically, a non-alcoholic beer with a lager style would be appealing to consumers that are looking for refreshment and simplicity while a non-alcoholic beer with an ale style would be a good option for consumers that want more complexity in their experience.

3.2.2 Flavor

A beer's flavor is one of the most important factors in the choice of beer, including in the non-alcoholic options. The flavor profile of non-alcoholic beers is a crucial factor when it comes to

consumer's acceptance, especially when thinking about the balance between bitterness and malt sweetness. It is important that taste can reflect traditional beer but that it is able to align with modern preferences (Mintel, 2021; Bain & Company, 2020).

Non-alcoholic beers are often expected to replicate the usual characteristics of regular beer at the same time it balances flavor, refreshment, and drinkability, creating a challenge for producers. Lighter flavors are well-known for offering a more refreshing and crisp sensation, being easier to drink, and one of the most popular among non-alcoholic consumers since they offer an experience like the one of an alcoholic beer but without the intoxication (Bain & Company, 2020).

Medium and more complex flavors are more common in ales or craft beers once they segment a more specific and niche market that often has more sophisticated palates and that wants a more complex experience including hops, fruitless, and malt depth (Bain & Company, 2020). Since the non-alcoholic industry continues to grow and diversify, it is important to ensure flavor consistency to maintain consumer loyalty and satisfaction.

2.2.3 Format

The beer format corresponds to the volume a can or a bottle may assume, representing a significant consideration for consumers in their consumption choices. Even though there are diverse formats, the two main ones correspond to 330 ml or 500 ml.

Smaller formats are increasingly becoming more attractive to consumers since they are associated with convenience and perceived health benefits. These sizes, particularly single-serving formats reflect the current health trends (Thomson, 2024). The growing demand for smaller and controlled portion sizes represents an example, specifically if we are thinking about health-conscious consumers that are often more worried about the management of calorie intake - these sizes are associated with lower health risks at the same time being more attractive to younger consumers (Thomson, 2024).

2.2.4 Packaging

Related to the format is the packaging, which relates not only to a functional purpose, but also to an emotional one in the sense that it reflects factors like perceived quality, status, and brand identity (Luís, 2021). Packaging is often made of visual design elements with the objective of capturing attention and increasing brand recognition.

The most common packaging formats include bottles and cans, but more recently, there has also been an increase in eco-friendly options such as biodegradable bottles (Writer, 2024). Packaging design is important in consumer perception since characteristics like color, shape and labeling can have a notable influence.

In order to replicate the authenticity and high quality of traditional beer, the packaging of non-alcoholic beer is often similar (Mudura et al., 2020). Besides that, sustainability concerns lead to an increasing demand for eco-friendly packaging materials, aligning with consumer's preferences for more sustainable products (Writer, 2024).

2.2.5 Price

Price, one of the key factors influencing consumer behavior, corresponds to the monetary value customers associate with a product or service. It is a crucial role in shaping consumer's purchasing decisions (Nagle et al., 2010) since it implies a financial sacrifice. Previous research concluded that price has a dual significance since it works both as an indicator of value and a determinant of affordability. Pricing strategies that are focused on consumer needs represent a way of increasing customer satisfaction and loyalty (Hanif et al., 2010). Besides that, fair pricing represents a strategy for positively influencing perceived quality and satisfaction.

In the context of non-alcoholic beer, pricing strategies must balance between the premium idea often associated with healthier and specialized products and price-sensitive consumers who may be more hesitant to adopt this type of beer (Martin-Consuegra et al., 2007). When a

company uses transparent and value-driven pricing, it creates a relationship of trust that enhances repeated purchases (Kukar-Kinney et al., 2017).

2.2.6 Label

Labeling corresponds to the process in which a label is attached to a product or its container, providing essential information about it. However, although it seems to be a simple concept, labeling is another decisive factor with a functional purpose that also acts as a powerful tool for brand identity, quality representation and consumer engagement (Cox, 2023).

Brands' labels can focus more on emotional appeal if design elements related with familiarity, cultural values, and stories are used. The fact that many non-alcoholic beer labels are similar to traditional beer in terms of imagery and colors represents a strategy that aims to create a sense of nostalgia and connection with consumers (Dhar & Simonson, 1999). By doing this, brands are making sure they are associated with culture, being seen as a product that is both familiar and trustworthy.

Labels can also be related to brand consistency. A strong and consistent brand identity can be achieved through elements like logos, color schemes, and typography since all these elements are a way of helping to reinforce the brand's core message and increase consumer loyalty (Mudura, 2020). A brand can ensure its constant identity recognition in a crowded market if it can maintain this consistency in its labels. By doing this, it also facilitates consumers' choices concerning products that align with their preferences and values.

An analytical appeal may also be used in labels in the sense that they communicate key product attributes in a clear way, such as the alcohol-free percentage of alcohol, and also balance traditional elements with modern innovations. Again, non-alcoholic beer labels are often similar to the traditional ones to replicate the look and feel and also to ensure authenticity. However, they also have modern twists that appeal to contemporary tastes and expectations.

Product transparency is another increasingly important factor, especially among health-conscious consumers. Labels that provide clear and accurate information regarding ingredients, brewing methods and processes, and sustainable practices are able to improve trust and consumer loyalty. Transparency makes consumers more confident about their purchase since they can be sure that they choose a product that aligns with their values (Peattie & Crane, 2005).

3. Methodology

To respond our research question “How do the characteristics of non-alcoholic beer and consumer perception influence brand preferences among consumers who have tried it compared to those who have not?”, we implemented both qualitative and quantitative research method.

The use of a dual approach allowed us to understand better consumers and experts point of view of the topic of reference while having access to collectable information and data that are pivotal for the analysis, “using both qualitative and quantitative methods provides a more comprehensive understanding of research problems by triangulating data from multiple perspectives” (Creswell, 2014).

3.1 Qualitative Research Method

Burns and Grove (2003) describe a qualitative approach as “a systematic subjective approach used to describe life experiences and situations to give them meaning”.

This approach enables the researcher to analyze a focused group of customers' or companies' perspectives, concentrating on collecting detailed information. It allows for an exploration of emotions, motivations behind purchases, barriers to purchasing, and overall buying behavior.

This approach allows the researcher to deeply analyze the perspectives of a specific group of customers or companies, focusing on gathering detailed information. It provides an opportunity to investigate emotions, reasons for purchases, impediments to purchasing, and overall purchasing behavior.

The study employed a qualitative method through a series of interviews aimed at gathering insights into both consumer perceptions and knowledge of the beer industry, with a particular emphasis on non-alcoholic beer. Consumer interviews were conducted to better understand

their awareness, preferences, and attitudes towards non-alcoholic beer. Simultaneously, industry experts were interviewed to gain their perspectives on the current state of the beer market, future trends in non-alcoholic beer, and the methods that companies are using to effectively position these products.

To achieve a comprehensive understanding of the beer industry, particularly the non-alcoholic beer segment, a dual-method approach was adopted using two distinct scripts. This methodological decision established a clear distinction between analyzing consumer perceptions and knowledge and that of industry professionals. The consumer analysis focused on three key areas: socio-demographic profiling to define the characteristics of the sample; an exploration of general beer consumption habits, social and behavioral awareness of the product, and attitudes towards responsible consumption; and an investigation into their knowledge and perception of non-alcoholic beer, including associations, familiarity, and specific consumption habits. On the expert side, the analysis focused on their associations and perceptions of beer, with a particular emphasis on the non-alcoholic category, their insights into market dynamics and opportunities within the sector, and their assessments of emerging trends and effective communication strategies for promoting non-alcoholic beer.

This comprehensive and multi-layered strategy gave an integrated view, allowing for a better grasp of market dynamics, consumer behavior, and industry expertise in the non-alcoholic beer area. Interviews proven to be critical in understanding the structure of the perceptual survey, which serves as the foundation for creating the perceptual map.

The results provided a solid foundation for the perceptual analysis survey. As outlined in the methodology, the interviews allowed us to gather valuable insights into consumers' perceptions of beer and offered critical perspectives on the associations.

As mentioned in the methodology, the interviews were carried out with two sample - consumers and experts - to collect data of a different nature for the research. Twenty interviews were

collected, of which fifteen were with consumers and five with experts. These findings served as a crucial starting point to design the survey's focus and objectives.

3.1.1 Consumers Interviews

The consumer interviews provided an in-depth understanding of beer consumption habits, perceptions, and industry awareness. Analyzing consumer's responses, it was observed that beer consumption primarily takes place in social settings, usually paired with food or shared with friends and family.

The question, "How do you feel when drinking beer?" revealed that beer is not just perceived as a simple drink, but as a true symbol of conviviality and sharing.

Many interviewees highlighted how beer is linked to feelings of happiness, relaxation, and nostalgia, often recalling pleasant memories and past experiences, such as Erasmus, parties, or football matches.

The question "What aspects of drinking beer do you enjoy the most?" highlighted two main aspects: social and taste pleasure. As demonstrated before, beer is appreciated for its ability to promote socialization, creating moments of sharing among people. At the same time, the taste of beer is a central element in the drinking experience.

To better understand the interviewees' preferences, they were asked, "What type of beer do you usually prefer?" revealing an inclination toward traditional options such as lagers and ales.

The third part of the interview focused on understanding respondent's awareness of non-alcoholic beer and the correspondent market.

The first objective was to understand the awareness of this product, and it emerged that 100% of our interviewees are aware of the non-alcoholic beers available in the market.

To comprehend consumer's point of view about non-alcoholic beer we asked, "What comes to mind when you think of non-alcoholic beer?", gathering a diversified range of opinions. A

consistent group of respondent sees non-alcoholic beer as a valid alternative, especially in specific situations, such as driving, teetotalism or pregnancy.

The remaining part expressed a more negative view, considering taste inferior to a traditional beer, or affirming they would prefer to consume other drinks, such as water or soda when they cannot drink alcohol.

To understand this scenario, the question "In which contexts do you or would you drink non-alcoholic beer?" highlighted several situations in which consumers consider the consumption of this beer appropriate. The responses show that the primary context is linked to consumers that have a driving's license, where non-alcoholic beer represents a safe solution for those who wish to drink a beer without compromising their safety. Another area is health, with consumers choosing non-alcoholic beer for reasons related to physical well-being, such as health problems, pregnancy, or simply a healthier lifestyle. Finally, other contexts are connected to formal events related to work environment or sports context, where consumers want to enjoy the taste of a beer remaining sober.

The question "Would you buy alcohol-free beer if you knew it reduces alcohol-related problems while maintaining the same taste as alcoholic beer?" was asked to understand consumer behavior, highlighting varied responses but with some clear trends. Some interviewees declared that they would be willing to buy non-alcoholic beer if offered at a lower price than traditional alcoholic beer. This suggests that the perceived value of non-alcoholic beer is lower than that of its alcoholic counterpart despite the potential health benefits. Other interviewees responded negatively, indicating that maintaining the taste would not be enough to convince them to purchase. However, a significant part of respondent, showed openness towards this 0% option, recognizing the advantages related to the reduction alcohol consumption.

The responses obtained from interviews highlighted that consumers have not already developed a complete understanding of non-alcoholic beer, its taste characteristic, and its benefits.

To also analyze the perspective of the producer, interviews were then directed toward a group of experts, allowing us to delve deeper into the analysis.

3.1.2 Expert Interviews

The expert interviews provided an in-depth perspective on the beer market and strategies. Experts were also asked the same concept of questions to understand associations and emotions related to beer. Experts recognize beer as being associated with relaxation, refreshment, friendliness, sociability, and sharing, and it is often seen as a younger and more informal alternative to wine.

Through the analyses, we aimed to understand their perception of non-alcoholic beer, their communication strategies, and how to move customers from the alcoholic segment.

At the question, "What is your opinion on the alcohol-free beer market?", the response was that the non-alcoholic beer segment is viewed as a growing niche, as it also emerged in the previous market analysis, driven by health and wellness trends where the main competitors are soda (e.g., Coca-Cola, Pepsi) and non-alcoholic aperitifs (Martini, Campari).

Non-alcoholic beer tends to appeal to younger audiences, especially female targets, and this trend is taking hold in Nordic countries. Although it accounts for only 2% of the market, it shows a solid upward sales trend with significant growth potential.

However, experts emphasize that this product category faces challenges related to the perception of lower quality and lack of authenticity compared to traditional beers, as also emerged from consumer interviews, due to a lack of awareness of the product.

In response to this, Luca De Zen (CEO of Bavaria Italy) ensures that new production techniques are reducing this gap, offering a product with a 99% taste similarity to a traditional beer so companies can play on price and communication to push the product.

To analyze marketing strategies to push non-alcoholic beer and increase awareness among consumers, the analyses are based on what communication strategies work best for promoting alcohol-free beer.

Taking inspiration from Bavaria's strategy, the communication strategies focus on associating the product with a healthy and active lifestyle. A practical approach is to position non-alcoholic beer as the official partner of sporting events, such as marathons or fitness-related competitions, emphasizing its use by athletes as a post-sport drink.

Another strategy is to directly sponsor athletes or sports associations, communicating the link between high-level performance and consumption of non-alcoholic beer and strengthening the image of a product. Finally, it is particularly interesting to focus on aspects related to fitness, such as the significantly reduced calorie and sugar content compared to traditional beer. This message can attract an increasingly attentive audience to nutrition and maintaining physical fitness, thus broadening the target audience of non-alcoholic beer.

They are trying to understand how companies can educate their consumers and leverage their brand and current consumers to push non-alcoholic products more. Beer companies can inform consumers about the benefits of non-alcoholic beer by highlighting that it offers the same taste characteristics as alcoholic beer but with the benefits of being alcohol-free. Through targeted campaigns and tastings, it is possible to make people discover that the pleasure of beer can be experienced more healthily.

Another strategy is to expand the range of non-alcoholic products, providing alternatives for every preference and occasion. Currently, 90% of consumers choose alcoholic beers, while only 15% opt for non-alcoholic ones. The aim is to increase the penetration of non-alcoholic beers, making them a more common choice among many households.

3.2 Quantitative Research Method

The quantitative method is mostly used to describe causality in an exact way, frequently between two or few variables where the independent and dependent variables are set (Gummesson, 2005). Quantitative research methods focus on the collection and analysis of numerical data to describe, explain, or predict phenomena with precision. They use a methodical and objective techniques to measure variables, establish correlations, and generalize findings to a larger population. After examining the results from a sample of the population of interest, quantitative approaches quantify data and determine the outcomes acquired. (Macdonald and Headlam, 2008).

3.2.1 Perceptual Map

The second step of the methodology involves the use of a quantitative analysis tool, the perceptual map. A perceptual map is a visual tool in marketing that graphically illustrates how consumers perceive a brand or product compared to its competitors, based on key attributes.

As stated by Gigauri, “perceptual maps help to display both brands and their advantages from the customer’s perspective. Consequently, the benefits determine how brands are positioned” (Gigauri, 2019).

According to the literature review, we run our analyses using an attribute-based approach. Using an attribute-based approach allows us to identify the primary factors shaping consumer perceptions of brands. This method provides valuable insights into how brands are positioned in consumers’ minds, offering a clearer understanding of their perceived value and differentiation from competitors.

The attribute-based approach to perceptual mapping involves using a survey to measure key associations, where respondents rate selected products or brands based on a predefined set of attributes. The collected data is analyzed, often with tools like SPSS software, using

discriminant analysis. From the SPSS output, a perceptual map is created, highlighting the most critical attributes driving consumer decision-making. These identified attributes become the primary focus for product design and advertising strategies, ensuring they align closely with consumer preferences and priorities.

Design

To conduct the analysis, a questionnaire was created using Microsoft Forms and shared through various social media platforms, including Instagram, LinkedIn, and WhatsApp group.

The questionnaire is structured into two parts: Introductory part and Associations part.

1. Introductory Part

This section seeks to anonymously divide respondents into groups according to important characteristics including age, nationality, educational level, and whether they prefer alcoholic or non-alcoholic beer. An in-depth examination of attitudes across various demographic groups is made possible by this segmentation, which offers a more thorough comprehension of market viewpoints. "How often do you drink alcohol-free beer?" is a major survey question that separates respondents into two important consumer groups: The first segment, "new consumers," consists of individuals who have not yet tried non-alcoholic beer. The second segment, "return consumers," includes those who have already tried it. By separating these groups, we can explore how prior experience with non-alcoholic beer influences brand perception. This distinction offers valuable insights for understanding brand positioning and refining consumer engagement strategies.

2. Associations Part

The two primary domains of brand-specific associations—contextual and emotional—are the subject of this section. Emotional associations, including "iconic," "relaxing," and "sense of sobriety," reveal how the customer feels about the brand and how they perceive its values and characteristics. The contextual connections, on the other hand, such as "tasty," "pairs with

food," "perfect for a sport night," "perfect for a party," and "social moment (family/friends)," draw attention to the situations and certain times when customers are more likely to select one brand over another. This dual approach highlights how companies expose their situational fit and emotional appeal by positioning themselves differently through their communication methods, product features, and relevance in diverse consuming settings. Consumers were asked to rate, on a scale from 1 (very low) to 5 (very high), how much each association applied to each beer brand. This quantitative approach allows for the collection of structured data on consumer perceptions, which is essential for constructing the perceptual map.

In this study, the perceptual map aims to provide a clear and actionable understanding of how consumers perceive the various beer brands, with particular attention to the positioning of non-alcoholic beers.

a) Sample

The survey aimed to explore consumer perceptions of non-alcoholic beer, focusing on key demographic characteristics and consumption patterns. A total of 172 respondents participated, providing a diverse range of perspectives. ([Table 3 – appendix](#)).

To begin the analysis, we examine the demographic composition of the sample.

- Most respondents identified as men (55.8%), followed by women (27.9%). A smaller portion identified as "Other" (8.7%) or chose not to disclose their gender (7.6%).
- The largest age group was 18-24 years old, representing 52.3% of the sample, followed by 25-34 (18%) and 45-54 (8.7%). Other age categories, including younger and older participants, contributed a combined 21% to the sample.
- In terms of nationality, Italians dominated the survey, making up 59.3% of respondents. Participants from six additional nationalities accounted for less than 3% each, reflecting moderate geographic diversity.

- Regarding occupation, the sample primarily consisted of full-time workers (39%) and students (26.2%). Smaller proportions included part-time workers (19.2%), self-employed individuals (7%), unemployed participants (5.2%), and retirees (3.5%).
- Education levels among respondents were notably high, with a significant portion holding a bachelor's degree (41.3%) or a master's degree (32.6%). Those with high school diplomas represented 11%, while the remaining 15.1% included individuals with PhDs or other educational backgrounds.

This demographic breakdown provides valuable context for understanding the varied perceptions and behaviors surrounding non-alcoholic beer consumption within the sample.

b) Consumption Patterns

The poll indicated that respondents consumed varied amounts of non-alcoholic beer, ranging from frequent and occasional drinkers to a sizable percentage of non-consumers.

- Non-consumers (36.4%): More than one-third of respondents said they "never" drink non-alcoholic beer. This category most likely comprises people who like alcoholic beverages, are uninformed of non-alcoholic options, or are indifferent owing to taste preferences, cultural conventions, or personal habits.
- Occasional Customers (19.1%): Nearly a fifth of respondents said they drank non-alcoholic beer "rarely (once a month)." This sector represents occasional interest or specific situations in which non-alcoholic alternatives are preferred, such as at social gatherings or when avoiding alcohol is required.
- Moderate Consumers (23.7%): Nearly a quarter of respondents said they drink non-alcoholic beer 1-3 times per week, indicating a moderate degree of engagement. This category could include those who drink non-alcoholic beer on a regular basis, perhaps as a healthier or more convenient alternative to alcoholic beverages.

- Frequent Customers (20.2%): A significant proportion of the sample reported consuming non-alcoholic beer four to seven times per week, indicating a group of dedicated and frequent customers. This group is most likely made up of people who have completely incorporated non-alcoholic beer into their daily routines, possibly owing to flavor preferences or as a replacement for traditional beer.

These findings indicate that, while a significant portion of the population does not engage with non-alcoholic beer, there is a growing base of both occasional and frequent consumers.

c) Consumption Patterns by Age, Gender, Nationality and Education

1. Age and Consumption Patterns ([Table 41](#) – Appendix)

Young adults (18-24 years) are the group most likely to experience non-alcoholic beer, with a majority reporting some degree of consumption. In contrast, older age groups, particularly those between 55 and 64 years, are more likely to report having ‘never’ had non-alcoholic beer, highlighting a generational divide in the receptiveness towards this category. In relation to the impact on the results, a considerable proportion of 18–24-year-olds consume non-alcoholic beer regularly (1-3 times per week). Frequent consumption (4-7 times per week) seems to be more evenly distributed among the middle-aged groups (25-34 and 35-44 years), indicating that regular habits may develop as lifestyle choices in later life.

2. Gender and Consumption Patterns ([Table 42](#) – Appendix)

The male gender constitutes the predominant group among regular non-alcoholic beer consumers. A considerable number of men reported consuming it 1-3 times a week (20 individuals) and 4-7 times a week (15 individuals). In contrast, women and groups identifying as ‘Others’ or ‘Prefer not to say’ exhibit a lower propensity for regular

consumption. A significant finding is that 41 men stated that they ‘never’ consumed non-alcoholic beer, a significantly higher number than the other gender groups. Even among women, a significant portion (15 individuals) stated that they had never experienced it. Finally, occasional consumption (once a month) is more evenly distributed among the gender groups, with a slight male predominance (20 individuals). This indicates that although habitual consumption is more common among men, resistance to this category persists among all genders, with variations in intensity.

3. Nationality and Consumption Patterns ([Table 43](#) – Appendix)

The Italian nationality is predominantly represented in the sample and shows varying non-alcoholic beer consumption behavior. A considerable number of Italians claimed to consume this drink 1-3 times a week (29 individuals) and 4-7 times a week (28 individuals), indicating a growing predisposition towards this category. However, it is significant to note that 48 Italians stated that they had never consumed non-alcoholic beer, constituting the largest portion among non-consumers. Occasional consumption (once a month) is also predominant among Italians, with 24 individuals. Other nationalities, such as the French, Poles, Portuguese and Germans, show marginal numbers, with a few individuals reporting sporadic or absent consumption. For example, only 3 Germans are represented, with sporadic consumption and one case of total abstinence. These results show that regular consumption and non-adoption are predominant phenomena among Italians, suggesting a behavioral polarization. The other nationalities, although present, do not reach adequate quantities to formulate meaningful conclusions.

4. Education and Consumption Patterns ([Table 44](#) – Appendix)

Holders of a bachelor’s degree constitute the predominant group among both regular drinkers (1-3 times per week: 18 individuals) and those who stated that they had never consumed non-alcoholic beer (31 individuals), indicating polarized behavior. Regular consumption (4-7 times per week) is prevalent among those with a bachelor’s degree (12 individuals) or a master’s

degree (11 individuals), suggesting that this habit tends to take root in groups with a medium-high educational level. In contrast, those with a high school degree show a greater propensity to never consume non-alcoholic beer (11 out of 19 individuals), while occasional consumption (once a month) is less frequent in this group. Finally, PhD students show more moderate & sporadic consumption, with 2 individuals consuming 1-3 times per week and 2 individuals who have never consumed this category of beverage. These results indicate that the level of education may influence drinking behavior, with more educated groups showing a greater inclination and constant participation in non-alcoholic beer consumption.

4.2.2 Conjoint Analysis

Conjoint analysis is a quantitative analytic tool that is used in the third step of the process.

According to the literature Conjoint analysis assists in determining the best possible combination of consumer-pleasing product features. Pricing tactics, market segmentation, and product creation all make extensive use of it. Conjoint analysis "provides a realistic approach to measuring consumer preferences and forecasting consumer choice behavior," (Green & Srinivasan, 1978).

It is a statistical technique used in marketing research to determine how consumers value different attributes of a product or service, enabling marketers to understand the trade-offs that consumers make when making purchasing decisions, as stated by Green and Srinivasan.

According to Orme (2010), conjoint analysis "decomposes the decision-making process into individual components, allowing for the estimation of the value placed on each attribute" as mentioned in the literature.

Conjoint analysis requires several crucial procedures. Finding the essential characteristics and their corresponding levels that characterize the product, or service is the first step in the process.

Usually, qualitative research techniques like focus groups and interviews are used to ascertain

these characteristics. These characteristics are then put together to produce a number of product profiles, which are then methodically shown to the respondents.

Following that, participants score or assess these profiles according to their preferences, offering important insights into the variables influencing their choices.

Subsequently, the experiment is designed, frequently employing methods such as adaptive conjoint analysis, fractional factorial, or full profile to effectively capture consumer preferences without overwhelming respondents (Louviere, Hensher, & Swait, 2000).

Design

To assess our second research question, we launched a Brand Specific Conjoint analysis on Conjointly, that has been shared through various social media platforms, including Instagram, LinkedIn and WhatsApp.

Conjointly, an online platform that specializes in designing and analyzing conjoint studies, was used to launch a brand-specific conjoint experiment to conduct the study.

This kind of experiment assesses how various attributes or features of a product associated with a specific brand influence consumer choices and perceptions. According to the conjoint website, it "is a discrete choice method that uncovers what drives consumers' choices in markets where potential product characteristics vary across brands, SKUs, or price tiers."

The survey is divided into two primary sections: Introductory part and conjoint tasks

1. Introductory Part

This section is intended to anonymously divide respondents into groups according to important characteristics, such as age, nationality, educational attainment, and whether they prefer alcoholic or non-alcoholic beer. A more detailed examination of preferences across different customer groups is made possible by this segmentation. The conjoint survey uses the identical segmentation question as specified in the project's framework to consistently split the sample into two major groups: "return consumers" and "new consumers." The investigation determines

the beer qualities that affect repeat customers' decisions to buy the product. The qualities that can entice new customers to try the product for the first time are highlighted.

2. Conjoint Tasks

The survey's main objective is to determine which product combinations customers are most likely to select by examining their preferences across a variety of possibilities. A range of product combinations that differ systematically across a few chosen variables related to beer consumption are shown to the respondents.

These attributes include:

- **Price.** Based on the average price of beer cans and bottles in Italy, the poll displayed three pricing categories. Price has a big impact on consumers' selections about which store, product, or brand to choose, making it a crucial consideration when making purchases, especially for items that are bought regularly. "Price is an important factor in the purchasing decision, especially for products that are frequently purchased, and in turn, influences the choices of which store, product, and brand to patronise," as Faith and Agwu (2014) point out.
- **Format.** This characteristic describes the beer's cans or bottles. Since packaging is the physical component of the product that frequently influences first impressions and purchasing behavior, it is essential to the decision-making process of the consumer. "Beer packaging has become extremely important since it is the part of the product that has a huge influence in the customer buying decision process," as was noted.
- **Category.** The beer type, such as lager or ale, is another key consideration. These categories reflect different brewing styles, flavors, and consumer preferences, allowing segmentation based on taste and cultural associations. According to the qualitative interviews conducted in the research and the studies mentioned in the literature chapter,

consumers recognize these two types of beer as the main and most chosen on the market.

- **Flavors.** The poll comprised three flavor profiles: light, medium, and complex, each with its own aromatic description (see Appendix for more information). This feature aids in the identification of customers' sensory preferences and proclivity for specific flavor profiles. Referring to the literature and the interviews conducted, it emerged that, being a beverage, taste is the main aspect that the customer seeks in the product. Furthermore, this attribute becomes even more relevant especially for non-alcoholic beers, as the taste must reflect that of traditional beers, leaving the % alcohol and other attributes as key factors of choice for the consumer.
- **Labels.** We considered adopting the "label" attribute because it is a crucial aspect that consumers evaluate when purchasing a product. Labels are not just a means to provide information but also a tool to convey values, identity, and transparency. Food labels are associated with the food purchase decision and assist consumers in making food choices (Kriflik and Yeatman, 2005).

For this reason, we decided to create four distinct levels to analyze and enhance this attribute: emotional appeal, brand consistency, analytical appeal, and product transparency. With emotional appeal, we mean the ability of the label to create an emotional connection with the consumer through visual elements that evoke familiarity and reflect cultural values, shared stories, or themes. These details allow the product to communicate authenticity, tradition, and warmth, enhancing the purchasing experience. Brand consistency refers to the visual and communicative coherence of the label with the brand's identity. By using distinctive elements such as colors, logos, and typography, the label ensures immediate recognition, strengthens consumer trust, and maintains a strong and enduring brand image. Analytical appeal concerns the label's ability to communicate information clearly and directly, such as the product's status

(e.g., alcohol-free). This approach balances tradition and innovation, offering a straightforward and accessible message that meets the needs of a wide range of consumers, making the product easy to understand. Finally, product transparency represents the commitment to providing detailed and complete information on the label, including ingredients, production processes, and sustainability practices. This level of transparency builds consumer trust, enabling them to make more informed choices and reinforcing the bond of trust with the brand.

Participants are asked to select their preferred alternative from a range of product profiles. By analyzing these options, the conjoint analysis may establish the relative importance of each feature and which levels within each attribute are chosen.

Furthermore, the study included a question to investigate the social settings in which consumers are more likely to prefer a non-alcoholic beer over an alcoholic one. The goal of this inquiry is to acquire a greater understanding of the dynamics and events that influence this preference, such as special occasions, social contexts, or personal demands, in order to better understand consumer behavior.

a) Sample

The survey served as the foundation for data collection to understand the key attributes influencing consumer choices. As previously mentioned, it was distributed through major social media platforms, garnering a total of 260 responses, of which 178 were completed and 82 were unfinished.

The demographic analysis highlights the following insights about the survey sample:

- Gender: Females represent the largest group, accounting for 42.1% of respondents, followed by males at 39.3%. A smaller segment identified as "Other" 9.6%, while 9.0% decided not to reveal their gender.

- Age: The 18-24 age range constitute half of the sample 50%, with 19.7% aged 25-34 and 12.4% falling into the 35-44 range and the remaining 17.9% represent the participants outside these categories.
- Nationality: Italian nationality dominated the sample, representing 91% of participants. Respondents from six other nationalities were present but each contributed less than 3%, reflecting limited geographical variation.
- Occupation: Full-time workers are the largest occupational group 46.1%, followed by part-time workers 19.1%, students (15.7%), self-employed individuals (8.4%), unemployed respondents (6.7%), and retirees (3.9%).
- Education: The sample showed a high level of educational attainment, with 39.9% having a bachelor's degree and 27% holding a master's degree, followed by 20.2% PhD and 12.9% with High School Diploma.

b) Consumption Patterns

Based on the analysis of consumption patterns already conducted for the perceptual map, the survey revealed varied consumption habits for non-alcoholic beer, ranging from frequent consumers to non-drinkers:

- Non-Consumers (36.5%): Over a third of respondents never drink non-alcoholic beer, likely due to a preference for alcoholic beverages, lack of awareness, or taste and cultural factors.
- Occasional Consumers (20.2%): Nearly one in five drink it rarely (once a month), often for specific occasions or social events requiring alcohol-free options.
- Moderate Consumers (29.8%): About a quarter consume it 1-3 times weekly, suggesting regular but moderate use as a healthier or practical alternative.
- Frequent Consumers (13.5%): A smaller group drinks it 4-7 times weekly, showing strong engagement, likely due to preference or a lifestyle choice.

These results highlight that while many avoid non-alcoholic beer, occasional and frequent users form a growing audience.

c) Consumption Patterns by Age, Gender, Education and Occupation

1. Age and Consumption Patterns ([Table 37](#) – Appendix)

Younger respondents (<18 and 18-24) are the ones that demonstrate higher engagement with non-alcoholic beer. 60% of the respondents that are under 18 years old stated that they consume non-alcoholic beer 4-7 times per week. Besides that, 36% of the ones between 18-24 years old consume it 1-3 times per week even though there's still a higher proportion of 46.1% that answered "Never" in this last segment of ages.

On the other side, when we look at older groups, we can see that responses are more divided between the different frequencies but, in general, the level of engagement is not that high with the individuals that have between 45-54 years old, showing the same percentage of 28.6% for "Never", 1-3 times and 4-7 times per week. However, it is worth mentioning that the 35-44 age group showed a notable percentage of 40.9% regarding individuals that consume non-alcoholic beer 1-3 times per week, being a signal that regular consumption may be arising as a lifestyle choice as people age.

The chi-square test was performed in order to confirm that age has indeed a significantly impact on consumption patterns since different age groups show different levels of engagement with the non-alcoholic beer. The p-value is less than 0.001, that is less than 0.05, indicating statistical significance.

2. Gender and Consumption Patterns ([Table 38](#) – Appendix)

Regarding women, the highest percentage stated that they never consume non-alcoholic beer (32%), followed by those that consumer it 1-3 times per week with a closer percentage of

30.7%. When it comes to men, the similar happens, with the higher proportion observed in the “Never” category, with 45.7% followed by 1-3 times per week consumption that represents 30% of the men.

With this, the chi-square test gave us a p-value of 0.125, that is higher than 0.05, meaning that the observed differences are not statistically significant and so we can’t observe a meaningful relationship between the variation in consumption patterns and genders.

3. Education and Consumption Patterns ([Table 39](#) – Appendix)

Respondents with lower levels of education, such as the high school diploma showed a balanced distribution, with 30.4% “Never” consuming and 30.4% consuming 4-7 times per week, meaning that preferences inside this group are really divided.

Among individuals that have the bachelor’s degree, the highest proportion is also attributed to “Never” with 42.3%, while 35.2% consume 1-3 times per week, indicating some signal of engagement among this group.

For those with a master’s degree, we can conclude that consumption is slightly more evenly distributed but here, the largest percentage corresponds to individuals who consume 1-3 times per week (37.5%), closely followed by “Never” (35.4%), meaning that this group is moving towards more regular consumption when compared to those individuals that have a bachelor’s degree.

Individuals that have a PhD have a different behavior since 41.7% of them “Never” consumes, and 33.3% of them “Rarely” consumes, meaning that the level of engagement in this group is not that high.

The chi-square test gave us a p-value of 0.065 that is slightly above 0.05, meaning that the observed differences are not statistically significant at the 95% confidence level.

4. Occupation and Consumption Patterns ([Table 40](#) – Appendix)

Starting with students, the highest percentage (46.4%) stated that they “Never” consume non-alcoholic beer. However, a notable percentage (25%) stated that they consume 4-7 times per week, meaning that we can have polarizing behavior inside this group.

When it comes to full-time workers, we can observe that consumption patterns are more distributed since the majority consumes 1-3 times per week (39%), followed by “Never” with 37.8%, illustrating a relatively higher regular consumption when compared to students. Part-time workers also follow this pattern since 32.4% consume 1-3 times per week and a slightly higher proportion is applied to “Never” (35.3%).

Regarding unemployed respondents, the distribution is more balanced in the sense that 33.3% of them reported “Never”, and 33.3% of them consume 1-3 times per week. Retired individuals essentially reported “Never” (42.9%) while self-employed individuals reflected a higher tendency of regular consumption with 46.7% of them consuming 1-3 times per week.

The p-value obtained of 0.005 indicates that there’s a significant relationship between the occupation status and the consumption patterns of non-alcoholic beer.

4. Results

This section presents the main results obtained from both perceptual map analysis and conjoint analysis, highlighting the main insights on consumer preferences and brand positioning in the non-alcoholic beer (NAB) market in Italy. The results are structured to provide an in-depth understanding of how brands are perceived in different consumer segments (consumers vs. non-consumers) and how specific attributes influence brand preferences.

4.1 Perceptual Map Results

In this study, three perceptual maps were developed to explore in detail how consumers and non-consumers of non-alcoholic beer perceive the different brands across the range of attributes: one with all the responses from the survey; one with the responses from people who have never tried non-alcoholic beer; and one with the responses from people who consume non-alcoholic beer. By applying this segmentation approach, we can achieve a more delicate and comprehensive understanding of how each group perceives the same set of brands since the factor prior experience may influence consumer dynamics.

The first perceptual map was created using the complete dataset, including all responses regardless of whether they tried non-alcoholic beer. This perceptual map allows for a broad overview of general perceptions within the population. By including all respondents, we captured a wide range of options, which serves as a baseline and a first step for understanding general trends. Factors such as overarching consumer preferences and potential misconceptions were also highlighted, setting the stage for further analysis.

The second perceptual map focused only on individuals who have never tried non-alcoholic beer. This segment becomes interesting because they hold different perceptions and attitudes towards brands compared to regular consumers. Their perceptions are not based on prior consumption but on external factors such as advertising, word-of-mouth, and cultural influences. By exploring this segment, we can highlight some barriers to entry and also reflect on why non-consumers may be more hesitant to try non-alcoholic beer.

The third and last perceptual map focuses on individuals who consume non-alcoholic beer. It allows us to understand how prior experience and product usage influence brand perception. By isolating this group, we can gain insights about what truly motivates consumer loyalty and overall satisfaction in this market. At the same time, it allows us to identify potential areas that still have room for improvement or innovation.

All three perceptual maps were created using SPSS, a statistical software package that facilitates factor analysis. Factor analysis was chosen due to its ability to reduce the dimensionality of the attributes, making the analysis easier in terms of interpretation and clarity, using the Principal Component Analysis (PCA) as the extraction method. Besides that, the Varimax rotation with Kaiser Normalization was also applied in order to simplify the factor loadings. This rotation method allows us to minimize complexity in the sense that each factor represents a clear set of attributes easier to interpret and ensures that results are normalized (Abdi, 2003).

The number of dimensions to retain in the factor analysis was decided based on the Eigenvalues and the scree plot ([Table 4](#), [Table 5](#), [Table 6](#) - Appendix). According to the standard criterion, factors with an Eigenvalue greater than 1 should be retained. After analyzing our Eigenvalues, it was determined that two dimensions would be considered as sufficient for explaining the variance in the data. The two-dimensional solution was illustrated in a scatter plot, with the X-axis representing Dimension I and the Y-axis Dimension II. These dimensions were further interpreted by having factor loadings and the relationships between the diverse attributes as a basis, with the objective of concluding “how strongly a variable from the original research data is related to a given factor” (Bandalos, 2017). The Rotated Component Matrix ([Table 7](#), [Table 8](#) and [Table 9](#) – Appendix) shows the loadings between the original variables and the extracted components. Loadings can range between -1 and 1, meaning that variables with the highest absolute loadings in each component represent the ones with a more substantial influence when defining it. In contrast, the ones with values close to 0 imply the opposite. The analysis can also be verified by measuring the closeness of the vectors to an axis, in the sense that the closer it is, the higher contribution it has to the interpretation of that dimension.

After developing the analysis just described, we were able to identify the two-dimensional groups:

- The first one, X-Axis, focuses on social moments that highlight well-being and relaxation, touching on points such being as calm, mindful, and health-conscious, being labeled as “Balanced Lifestyle”.
- The second dimension, Y-Axis, is strongly associated with active socializing, fun and entertainment that highlights social events like parties, sports nights, and innovation and so the label chosen was “Vibrant Socializing”.

The two-dimensional solution also exhibits the correlation between the attributes considered, keeping in mind the length and direction of its vectors. Attributes with similar directions indicate a positive correlation with them, meaning that if a brand is characterized as high in one attribute, it will also be rated as high in the other. Another way of forming this profile setting is by using the ranking of the attributes used. We can draw an imaginary perpendicular line that goes along each attribute line, starting from the point contrary to the origin and continuing until it reaches the center of the map. By applying this technique, we can understand better which attributes influence brands. The higher the rank, the higher the level of consumer’s association between the attribute and the specific brand.

Figures 1, 2, and 3 conjoin the position of the NAB brands with the profile points that served as a basis for the brand’s position, where: figure 1 is based on the entire dataset; figure 2 is based on non-consumers; and figure 3 is based on actual consumers. The two-dimensional solution exhibits the correlation between the understudied NAB attributes, considering the length and direction of its vectors.

Figure 1 Non-Alcoholic Beer Brands and Attributes Relative Positioning – Entire Dataset

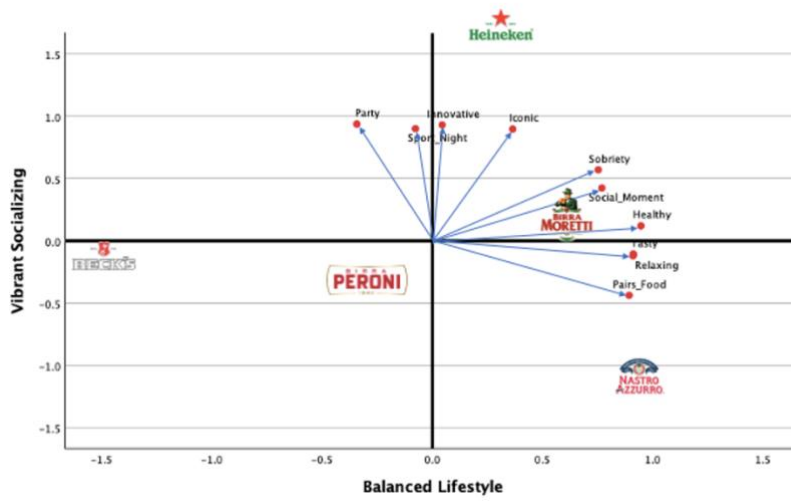


Figure 2 Non-Alcoholic Beer Brands and Attributes Relative Positioning – Non-Consumers

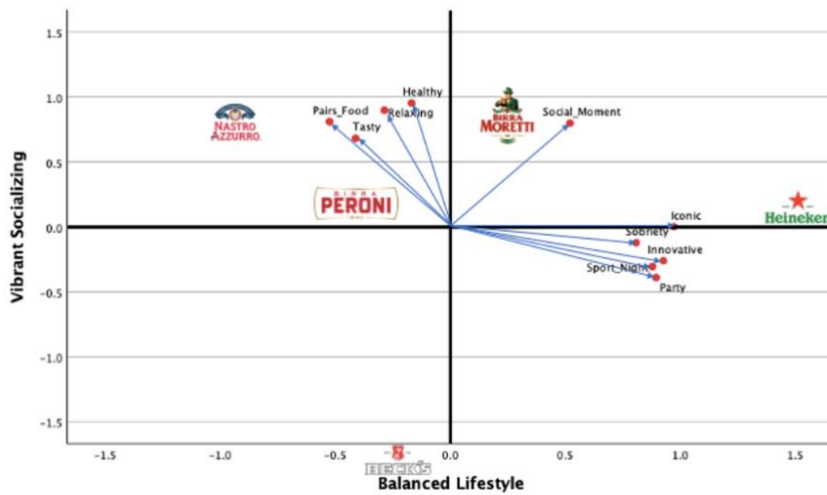
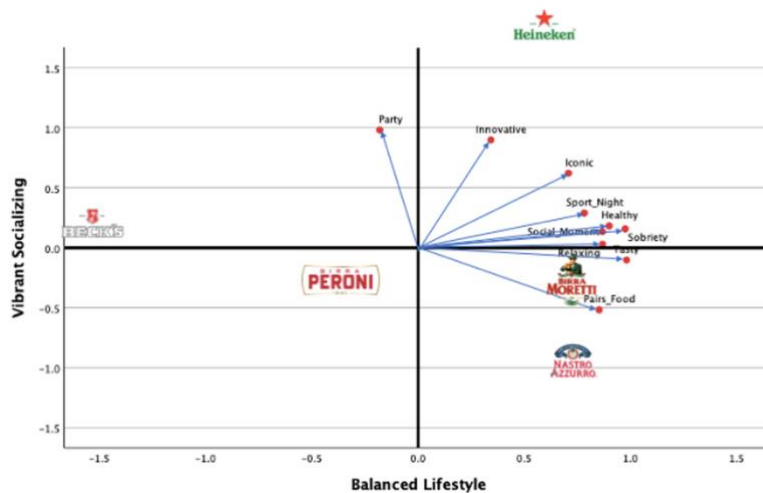


Figure 3 Non-Alcoholic Beer Brands and Attributes Relative Positioning - Consumers



The first perceptual map (Figure 1) - which includes the entire dataset regardless of prior experience - represents the positioning of the attributes considered for this analysis and the five brands under analysis that were positioned following the coordinates displayed in SPSS. The first component explains 47.80% of the variance, while the second represents 41.03%, ensuring that both explain 88.83% of the total variance (Table 10 – Appendix). Brands located close to each other have similar quality dimensions profiles, meaning that the probability of them competing is greater. With this in mind, we can observe two groups of brands that seem to share similar profiles, Heineken and Moretti, Beck's and Peroni and one other brand with a unique profile, Nastro Azzurro.

With this, three main attribute groups can be defined: group 1 - Iconic, Innovative, Sports Night and Party; group 2 - Sobriety, Social Moment and Healthy; and group 3 - Tasting, Relaxing and Pairs with Food. Attributes with opposite directions are negatively correlated and can be shown through Pairs with Food and Party, Relaxing and Party, Tasty and Party, among others. There is also the case where the attributes are almost uncorrelated since they are perpendicular to one another, such as Relaxing and Innovative and Sports Night and Healthy (Table 13 – Appendix). As previously mentioned, we have two different groups of brands that share similar profile attributes, considering the entire dataset: Heineken and Moretti, Beck's and Peroni, and one unique brand, Nastro Azzurro. Heineken and Moretti are perceived as brands that offer qualities associated with a Balanced Lifestyle and Vibrant Socializing. Beck's and Peroni occupy distinctive spaces, far from most key attributes, meaning a weak association exists with the characteristics explored. Nastro Azzurro also occupies a unique position on the map, with limited proximity to the main attributes.

Moving on with the second graph (Figure 2) - which focuses on the responses of individuals who have never tried non-alcoholic beer, the first component explains 48.63% of the variance while the second represents 38.14%, ensuring that both explain 86.77% of the total variance

([Table 11](#) – Appendix). Here, we also can observe two groups of different brands that share similar profiles - Heineken and Moretti as in the previous perceptual map, but then we have another group formed by Nastro Azzurro and Peroni - and one other brand that has a unique profile, Beck's, showing that the perception of the brands has changed.

We can observe some changes in comparison to the first one. Here, three main attribute groups can be defined: group 1 - Iconic, Sobriety, Innovative, Sports Night and Party; group 2 - Healthy, Relaxing, Tasty and Pairs with Food; and group 3 - only with Social Moment. Many attributes are also negatively correlated, especially those in group 1 vs. those in group 2. There is also the case where the attributes are almost uncorrelated, such as Social Moment and Party and Iconic and Healthy ([Table 14](#) – Appendix).

Regarding non-consumers, we can conclude that we have two different groups of brands that share similar profile attributes: Heineken and Moretti, Nastro Azzurro and Peroni, and one unique brand, Beck's. Both Heineken and Moretti are perceived as being brands that offer qualities associated with a Balanced Lifestyle and Vibrant Socializing, even though Heineken is practically considered not to have many characteristics associated with Vibrant Socializing. Nastro Azzurro and Peroni occupy a different space in the sense that they are perceived as brands related to Vibrant Socializing but without an emphasis on a healthier and Balanced Lifestyle. Beck's also occupies a unique position on the map, with limited proximity to the main attributes, meaning that the brand does not stand out in any of the dimensions, being perceived as a more neutral brand regarding the attributes explored.

Finally, we have the third perceptual map (Figure 3) - the one that focuses on the responses of individuals who consume non-alcoholic beer indeed, where the first component explains 62.32% of the variance while the second represents 26.06%, ensuring that both explain 88.38% of the total variance ([Table 12](#) – Appendix). Here, we can also observe some differences regarding the first two maps since now we only have one group of different brands that share

similar profiles, Moretti and Nastro Azzurro and then all the three remaining brands, Heineken, Beck's and Peroni occupy different positions in the map.

Here, three main attribute groups can be defined: group 1 - Iconic, Sports Night, Healthy, Social Moment, Sobriety and Relaxing; group 2 - Tasty and Pairs with Food; group 3 - only with Innovative; and group 4 - only with Party. Many attributes are negatively correlated, like Party and Tasty or Party and Pairs with Food. There is also the case where the attributes are almost uncorrelated, such as Party and Healthy or Party and Social Moment ([Table 15](#) – Appendix).

In this case, we can conclude that we have 1 group of brands that share similar profile attributes: Moretti and Nastro Azzurro and three unique brands, Heineken, Beck's and Peroni. Both Moretti and Nastro Azzurro are perceived as being brands that offer qualities associated with a Balanced Lifestyle but not with Vibrant Socializing, reflecting a focus more on moderation and balance. Heineken occupies a unique position since it is the only brand strongly associated with both dimensions. On the other hand, Peroni is a brand that lacks significant associations with both dimensions. Finally, Beck's is associated with Vibrant Socializing but not with a Balanced Lifestyle.

a) Discussion

All the three perceptual maps developed clearly reflect the diverse individuals' perceptions and preferences, especially in the Italian market. They emphasize the comparison between those who have and have never tried non-alcoholic beer. We observed how the different brands are perceived by the different consumer segments and how their position either aligns or diverges with respect to expectations and emerging trends in the market.

In the first perceptual map, the one that includes all the dataset, Heineken stands out for the most versatile brand, with Heineken 0.0 representing a strong positioning that includes both Vibrant Socializing and Balanced Lifestyle. The ability of the brand in appealing to consumers

that are looking for an entertaining social experience without the disadvantages that alcohol presents is in line with the growing tendency towards moderation, specifically among younger generations and individuals that are characterized by being health conscious. This position is also the reflection of how strong and big Heineken is in the global market, being a brand that is commonly associated with high-energy events such as sporting activities and social gatherings, without forgetting to promote a message of well-being that its alcohol-free beer offers.

In contrast, brands like Moretti, Beck's and Peroni are perceived as being brands more adequate to relaxed socializing and moderation, as seen in their position located closer to the X-axis. Moretti, the brand that is really connected with the Italian brewing traditions, associates itself with consumers that are looking for more authenticity and a calmer, family-friendly social environment. This makes Moretti a great choice for individuals who prioritize moderation and the idea of having a beer in a more intimate or cultural significant settings, like family dinners or social gatherings with some friends, representing a calmer social experience. Beck's, on the other hand, doesn't have a clear identity in this context. While it's well-known for positioning itself with a youthful and fun image, its neutral positioning in the perceptual map shows that it still hasn't succeed in achieving a niche that deeply connects with either of the dimensions. This indicates a potential gap in the brand's strategy, as it's not able to establish a strong emotional connection with Italian consumers, as other brands were. Even though Peroni holds a similar position to Beck's, it's not that disconnected from the dimensions. Despite its strong association with the Italian elegance and tradition, there is margin to improve. It can achieve a more modern lifestyle appeal and/or energetic socializing position so that it can make sure that is able to cover the needs of the contemporary consumers.

Nastro Azzurro occupies a unique position, suggesting that the focus is more on sophistication, modern designs and mindfulness rather than exuberant social activities. It is perceived as a

more reserved and stylish choice, being a good choice for individuals that prioritize more premium quality and moderation.

The differences in positions become even more evident when we compare consumers and non-consumers of non-alcoholic beer. When we move into the second perceptual map, the one with the non-consumers' responses, the dynamics shift. Heineken and Moretti are still grouped but with different positions since here Heineken is really perceived as a brand that reflects a Balanced Lifestyle but not associated with Vibrant Socializing. One possible explanation for this is the fact that Heineken is a global brand well-known for its marketing and so, by developing campaigns that align with these ideas, they will probably impact the perception of those who have never tried non-alcoholic beer.

On the other hand, Nastro Azzurro and Peroni form a new cluster in this map, indicating that, for non-consumers, these brands convey a similar image of vibrancy, something that didn't happen in the previous perceptual map. Here, Nastro Azzurro maintains its characteristics of being more sophisticated and tastier, but both are associated with celebration and lively events, which may represent a positive point for consumers that may be hesitant to try non-alcoholic beer.

Beck's, as expected, occupies a more neutral position, with no strong association to either of the dimensions, meaning that it cannot distinguish itself regarding the vision of non-consumers. It is associated with simplicity and functionality, not being able to form a strong connection with the dimensions, possibly representing a disadvantage when attracting new consumers.

When moving into the third perceptual map, the one with the responses for consumers, we also see that the dynamics change. Moretti and Nastro Azzurro are now positioned together, being strongly associated with a Balanced Lifestyle but not with Vibrant Socializing. This means that, for consumers, these brands are more aligned with moderation and relaxed, mindful consumption rather than the high-energy social scene. Moretti was able to find its niche in the

Italian market, reflecting consumers that prioritize calm and social moments, focusing on authenticity and quality but also on health-consciousness. Nastro Azzurro shares a similar position, but it is often seen as a more sophisticated choice as mentioned previously, reflecting the brand personality that Nastro Azzurro aims to illustrate with its market efforts.

Heineken, in contrast, is the only brand that firmly occupies both dimensions. The brand can benefit from strong consumer loyalty due to the brand's enduring reputation for versatility. This means that the brand has successfully achieved both health-conscious individuals but also those that view beer as part of their social life. This adaptability has allowed Heineken to become the leader in the non-alcoholic beer category in Italy, with a solid positioning globally.

Peroni, on the other hand, is seen as weakly positioned in both dimensions, suggesting that, despite its strong heritage as an alcoholic beer brand in Italy, its non-alcoholic version was not able to capture a distinctive identity. Regular consumers don't perceive Peroni as being either particularly healthy nor as a good representation of vibrant and fun social experiences.

As in the other maps, Beck's has a more neutral position being able to represent a little bit of the Vibrant Socializing dimension but not in a strong way, meaning that the brand has not been able to differentiate itself clearly in this market and create a stronger emotional connection with consumers.

As expected, the distinct differences that we stated regarding how consumers and non-consumer of non-alcoholic beer perceive the exact same set of brands illustrates that prior experience retains an important role in shaping these perceptions. Among consumers, their perception reflects experience-driven associations in the sense that direct interaction with the product fosters a strong and more emotional connection with brands. Moretti and Nastro Azzurro are commonly perceived as symbols of moderation and a balanced lifestyle, reflecting direct connection with the sensory and emotional characteristics of the brands, allowing for a deeper appreciation of their values. Heineken, as mentioned, is the only brand that is able to

combine attributes of a balanced lifestyle and vibrant socializing in a consistent way, demonstrating the capability of the brand in appealing to consumers who value not only dynamic social experiences but also well-being. On the other side, Beck's and Peroni seem to be perceived as more neutral brands, with Peroni having some difficulties in aligning its brand personality with modern consumption trends while Beck's is also missing a strong emotional connection with consumers.

Among non-consumers, perceptions shift in a notable way. Here, brand perceptions are often based on external factors like advertising, brand heritage, and social narratives. However, the fact that these respondents haven't directly tried the product to classify it means that these perceptions remain surface-level, with limited connections to some attributes. Heineken can maintain its alignment both with a balanced lifestyle and vibrant socializing, but it lost a notable portion of its association with the latter. This may be caused by the overreliance of the brand in marketing campaigns that have a higher focus in highlighting wellness messaging instead of dynamic social experiences. Moretti, surprisingly, is positioned as a brand that is positively perceived in both axes, meaning that non-consumers perceive Moretti as a versatile brand, possibly reflecting the strong ties that it has to the Italian culture and tradition, which can still impact those who have not tried non-alcoholic beer. Nastro Azzurro and Peroni constitute a cluster, being brands that are perceived as vibrant and suited for celebratory occasions, meaning that non-consumers classify brands as festive and energetic based on overall reputation instead of direct experience. Regarding Beck's, it remains as a more neutral brand, highlighting even more the constant disconnection that it has with the market.

For brands that are already positioned in the market, the perceptual maps reflect both strengths and opportunities, allowing brands to refine and strengthen its positioning. Brands like Beck's, which demonstrated a neutral positioning both dimensions, face a fundamental challenge. The brand is lacking differentiation and emotional connection with consumers, meaning that it

needs to establish itself with a more distinct identity. One key strategy could be based on targeting a specific consumer group but in a more effective way, either focusing on health-conscious individuals or those that are looking for more energetic social experiences. Beck's can take advantage of focusing on attributes like innovative and iconic so that it can align itself with youthful and dynamic lifestyles. Marketing campaigns could give emphasis to these qualities, by collaborate with influencers or digital experiences that are attractive to younger consumers.

Brands like Peroni show some potential to enhance its alignment with vibrant socializing, meaning that it could adjust its messaging so that it can appeal to modern consumers and create a deeper connection with youthful and energetic audiences. The brand can still take advantage of the positive association that it detains with Italian elegance and tradition at the same time it promotes a more contemporary position through product innovations and associations with social events.

Even brands that have stronger positions, such as Moretti and Nastro Azzurro, can still improve their position. The fact that Moretti is already associated with a balanced lifestyle could represent an opportunity to highlight even more its authenticity and health-conscious image. In more practical terms, it can promote initiatives such as local sourcing, offering organic options or highlighting sustainable practices. On the other hand, Nastro Azzurro can take advantage of its premium sophistication and associate it with more socially vibrant attributes such as party or sports night so that it is able to capture a wider audience.

For new brands that aim to enter the non-alcoholic beer market, there is a clear opportunity in positioning themselves, filling the gap between both dimensions in a way that resonates equally with both segments. Since those attributes are critical in shaping consumer preferences and appeal, new entrants should focus on health-conscious messaging while promoting the energetic and social aspects of beer consumption, attracting a broader consumer base that also

includes non-experienced consumers. These new brands can develop innovative marketing campaigns that are able to reflect the ability of a non-alcoholic beer as a product that fits not only active and social settings (such as sports or entertainment events), but also, moments of more relaxation (such as family gatherings or self-care routines). Moreover, the brands should adopt an image that is able to communicate authenticity and modernity at the same time, appealing to a segment that is looking for mindfulness and enjoyment simultaneously.

4.2 Conjoint Analysis Results

The analysis of the sample allowed us to understand how the different demographic variables are related to the frequency of consumption of consumers and to understand the habits of different age groups and genders towards non-alcoholic beer. The research can now focus on understanding what characteristics of non-alcoholic beer influence consumers' choice of the respective brands.

The analysis will be carried out by first considering the entire sample $n=178$, and subsequently the two segments of consumers and non-consumers previously explained. The structure of the analysis follows a progressive approach, moving from a macro to a micro context. In the initial phase, the aim is to identify the distribution of brand's preferences by consumers within the overall sample. Subsequently, an analysis of each brand is conducted to examine the influence of each attribute on consumer choices, as well as the various levels of preference for each attribute.

This approach allows for an understanding of how consumers behave and approach non-alcoholic beer and examine each segment, identifying distinctive elements in preferences and selection criteria across the different groups. The analysis of results will offer a clear view of the correlation between consumer choices and product attributes, understanding different characteristics of brands and their ability to meet the preferences expressed by different segments.

4.2.1 Brand Preferences

We analyzed the distribution of brand preferences to obtain a macro view of the evaluations expressed by the respondents, allowing us to understand how brands are positioned in terms of preferences. The results were graphically represented with a violin plot, a useful tool for visualizing data distribution on multiple levels. The graph combines the information of a box plot with the distribution density, highlighting not only the central position (the median, indicated by a diamond in the center of the violin) but also the variation and density of preferences along the range of values. In a violin plot, the shape's width represents the density of the data: wider sections indicate a more significant number of preferences concentrated in that area, while narrower sections show areas with fewer responses. This descriptive analysis allows us to quickly understand the variability within each brand and among the brands analyzed, highlighting which brands have a more uniform distribution. A brand with a wide distribution on one side may indicate that consumers strongly evaluate some combinations of attributes negatively or positively. Conversely, a brand with a more uniform distribution indicates a more stable or balanced perception by respondents. A recent study on violin plots points out that “with the addition of the density trace to the box plot, violin plots provide a better indication of the shape of the distribution”. (Hintze, Jerry, Nelson, 1998)

Thanks to this approach, we can identify the preferred brands and the variability of evaluations for each combination of characteristics, providing a solid basis for further investigation or optimization strategies. The analysis of the distribution of brand preferences is based on a ranked list of product concepts as preferred by customers, a methodology that allows the classification of product concepts based on the preferences expressed by consumers. Each concept represents a specific combination of characteristics and price levels, and their evaluation is based on a single numerical value, called “Value to Customers,” which summarizes the perceived value by the respondents. This value is calculated as the average of

the part-worth utilities for each combination of attributes, considering the set of the respondents' answers. The partial utilities (part-worth) represent the contribution of each single attribute to the overall preference for a combination. The value is scaled with a mean equal to zero, where positive numbers indicate a preference above the average and negative numbers are below the average.

To explain the graphs in more detail and understand the density distribution of the combinations for the respective brands, we calculated the percentiles (Q1, Q3) and the interquartile range (IQR) for each dataset. “The interquartile range is a statistical measure well suited to describe the variability of the data at hand, both at the population level and for sample data”. (Greco L, 2023) (Table 16 - Appendix). The interpretation of the graphs shows that Heineken emerges as one of the best-rated brands, with a positive median of 4.10, indicating an overall good preference among consumers. The interquartile range (IQR), equal to 7.88, suggests a moderate dispersion of opinions, confirmed by the symmetrical shape of the violin chart, where the central part is well concentrated around the median. Compared to other brands, Heineken presents a limited variability, with a higher density of preferences in the positive range, highlighting a more uniform and favorable perception. In contrast, Beck's is among the least appreciated brands, with a negative median of -4.73. The IQR of 10.33 shows more significant variability than Heineken, indicating more dispersed opinions. From the violin chart, a less dense distribution can be seen, with a greater width towards the negative values. This reflects a less uniform perception, with some consumers evaluating it negatively and a few appreciating it moderately. Moretti has a balanced opinion among consumers since its median, which is 0.33, is close to neutral, suggesting that consumer opinions are balanced between positive and negative. However, the IQR of 11.93, the highest among the five brands, reveals a high dispersion of preferences. The violin plot shows a broader distribution than Heineken, with a less pronounced central density. This indicates that Moretti does not polarize preferences, but

is a brand with highly variable perceptions, probably linked to different consumer segments. Peroni, with a median of -0.68, is slightly in negative territory. Its IQR, equal to 9.32, shows an intermediate variability between Heineken and Moretti. From the plot, the distribution of preferences appears more balanced than Beck's, with a slightly higher density near the median, but with a clear imbalance towards the less favorable opinions. This suggests that Peroni has an overall negative perception, but less extreme than Beck's. Finally, Nastro Azzurro has a positive median of 0.38, like Moretti, but with an IQR of 8.17, which indicates a slightly more contained dispersion. From the violin plot, a relatively uniform distribution can be seen, with a higher central density than Peroni and Beck's. Nastro Azzurro seems to position itself as a brand with more balanced and less polarized perceptions, with a moderate level of appreciation from consumers.

4.2.2 Attributes per Brands

Once we understand how consumers' preferences are distributed among the various brands, it becomes essential to deepen the analysis identifying the individual attributes and the relative specific levels associated with each brand that have influenced consumers' choices, allowing us to go beyond the simple understanding of general preferences, focusing on the pivotal factors that guide the decision-making process. Hence, the goal of this analysis is to identify which attributes and levels of attributes are the most relevant to consumers' choices.

1. Heineken

The analysis of the characteristics of Heineken offers significant insights into the drivers that influence purchasing choices. The most influential attributes are Labels (27.9%), Price (21.5%) and Flavors (20%), followed by Packaging (11.7%), Formats (11%) and finally Category (7.9%) ([Table 17](#) and [Table 22](#) - Appendix). These data indicate that consumers prioritize emotional and practical elements over the simple characteristics of the product. The label, with

a dominant weight, shows how consumers are sensitive to emotional messages and brand coherence due to Heineken's strategy of communicating the values of conviviality in social and sports contexts, with Emotional Appeal (+7.5%) being the most appreciated level. Price is the second most important attribute, making us understand the price sensitivity tendency of the sample, with a clear preference for the lowest price of 0.8€ (+12.9%), while higher prices reduce the value perceived. Flavors, the third key element, sees a preference for complex (+7.5%) and light (+6.2%) profiles, while the medium taste (-13.8%) is less appreciated. Packaging also has a significant impact, with a strong preference for glass (+10.4%), probably perceived as more qualitative than cans (-10.4%). Format has a similar impact, with the 500 ml format (+8.2%) preferred over the smaller one of 330 ml (-8.2%). Finally, although less relevant than the other attributes, the Category shows a slight preference for Lager (+2.7%) compared to Ale (-2.7%).

2. Beck's

Beck's results follow a similar path to Heineken's regarding attribute ranking, but different with respect to the weight of each individual attribute: Labels (26.3%), Price (22.6%) and Flavors (16.9%), followed by Packaging (13.6%), Formats (11.8%) and finally Category (8.8%) ([Table 18](#) and [Table 23](#) - Appendix).

Labels represent the dominant factor and, by studying it more deeply, Emotional Appeal (+8.1%) had the greatest impact, demonstrating the importance of an emotional bond between the consumer and the product. However, aspects such as Product Transparency (-16.8%) and Analytical Appeal (-1.9%) had a negative influence, indicating that consumers do not consider these rational elements as relevant. Price, as seen for Heineken, shows a strong preference for the lowest price, €0.8 (+19.7%), while higher prices, such as €1.6 (-18.7%), negatively influence choices. In terms of Taste, consumers show a preference for complex flavors (+7.3%), while medium (-6.0%) or light (-1.2%) flavors are less successful, highlighting the

research of consumers for more complex aromas probably associated with the perception for Beck's as a strong and masculine brand. Packaging, although having a lower influence than other attributes, shows a preference for cans (+5.8%) compared to glass (-5.8%), suggesting that practicality and convenience can be decisive factors in this context, making Beck's more suitable for informal contexts. As for formats, consumers prefer the larger format (500 ml, +4.3%) compared to the smaller one (330 ml, -4.3%), indicating a preference for larger quantities. Finally, Category is the least relevant attribute, with a slight preference for Lager (+0.5%) compared to Ale (-0.5%).

3. Moretti

Moretti highlights a different ranking, compared to the previous one: Price (23.6%), Labels (23%) and Flavors (20.2%), followed by Formats (11.9%), Category (11.8%), and finally Packaging (9.6%), ([Table 19](#) and [Table 24](#) - Appendix).

The results of the dominant Price attribute show that, among consumers, the price range €0.8 (+15.7%) is preferred, while higher prices, such as €1.2 (-14.2%) and €1.6 (-1.6%), discourage consumers, highlighting a strong sensitivity to price. Consumers who assign a high value to economic convenience derives from the fact that Moretti is often seen as an Italian traditional beer closely linked to sports, in particular football, and to moments of conviviality. Finally, the Label attribute has Product Transparency (+9.6%) as a significant driver, indicating that consumers appreciate clarity and authenticity in the information provided by the brand. Brand Consistency (+6.1%) also contributes positively, underlining the importance of a consistent and recognizable brand image, as previously mentioned, to the strong brand image of Moretti in Italy. On the opposite, Analytical Appeal (-11.8%) and Emotional Appeal (-3.8%) have a negative impact. Moving on to Flavors, consumers show a strong preference for complex flavors (+7.2%), while light (+2.4%) and medium (-9.6%) are less appreciated. Format levels indicate that the larger 500 ml, (+5.1%) is preferred suggesting that consumers perceive a

greater value in the larger formats, perhaps associated with better convenience combined to a specific price. Among the category levels, Ale (+8.2%) is preferred over Lager (-8.2%), indicating a clear trend favoring this type. Packaging shows a slight preference for cans (+2.7%) compared to glass, being linkable to the perceived convenience of cans, which respond better to transport and use needs.

4. Peroni

Peroni resumes the ranking followed by Heineken and Beck's with: Labels (25.9%), Price (23.7%) and Flavors (19.2%), followed by Packaging (12.2%), Formats (9.5%) and finally Category (9.4%) ([Table 20](#) and [Table 25](#) - Appendix).

The analysis of consumer preferences data for Peroni highlights significant aspects that guide their choices. Among Labels levels, Brand Consistency (+10.1%) is the most appreciated element, highlighting the importance of a consistent and recognizable brand image in Italy, as also seen with Moretti. However, aspects such as Product Transparency (-11.0%) and Analytical Appeal (-1.7%) have a negative impact, while Emotional Appeal (+2.6%) shows a marginally positive influence. As for Flavors, a clear preference emerges for light (+7.1%) and medium flavors (+3.6%), while complex flavors (-10.6%) are less appreciated. This indicates that consumers prefer simple and easily recognizable flavors, having an easy-to-consume product suitable for different contexts. In terms of packaging, Peroni sees a clear preference for glass (+6.8%) compared to cans. As for the brands seen previously, the lowest price, 0.8€ (+14.8%), is clearly preferred, while higher prices, such as 1.2€ (-1.3%) and 1.6€ (-13.6%), negatively influence preferences. Formats, with a weight of 9.5%, show a preference for the 500 ml format (+1.4%) compared to the 330 ml (-1.4%), indicating a slightly higher perceived value in the larger formats. Category indicates a moderate influence of the type of beer on decisions. Among the levels of this attribute, Ale (+8.2%) is clearly preferred over Lager (-8.2%), suggesting a greater attractiveness for this type.

5. Nastro Azzurro

Finally, Nastro Azzurro's ranking is formed by: Labels (24.5%), Price (22.8%) and Flavors (21.5%), followed by Formats (11.2%), Packaging (10.7%), and finally Category (9.3%), ([Table 21](#) and [Table 26](#) - Appendix).

Analyzing the levels of Labels, Emotional Appeal (+7.3%) and Brand Consistency (+6.5%) emerge as the main drivers, indicating that consumers give great importance to emotionally engaging and consistent brand communication, further strengthened by clear communication from Nastro Azzurro on authenticity and Italian quality using 'Mais Nostrano' as a key ingredient, which creates a strong emotional bond with the consumer. Conversely, Product Transparency (-7.8%) and Analytical Appeal (-6.1%) are less influential. Price, with a weight of 22.8%, sees the lowest price €0.8, (+17.9%) as clearly preferred, while the highest price (€1.6, -19.9%) is decidedly penalized, reflecting a strong sensitivity to cost by Nastro Azzurro consumers. Flavors emphasize light (+5.2%) and complex (+2.9%), while medium flavors (-8.1%) have a negative impact, in line with Nastro Azzurro purpose to offer light and refreshing beers. Formats account for 11.2% and see a slight preference for the larger format (500 ml, +5.5%) compared to the smaller 330 ml, (-5.5%). In terms of Packaging, unlike expectations, respondents prefer cans (+5.2%) over glass. Among the levels of Category, Ale (+6.3%) is preferred over Lager (-6.3%), showing a greater attraction towards Ale-style beers.

4.2.3 Ranked Combination of Products

This section aims to analyze the ranking of consumers' most preferred product concepts. According to Conjointly, each report presents a "ranked list of customers' most preferred product concepts," representing a selection of feature and price combinations that describe product concepts. For each combination, the "Value to Customers" column provides a single number, calculated as the average of the part-worth utility scores across respondents for that specific feature and price combination and it is scaled with 0 as the mean utility. The

combination in the top position represents the most preferred concept among respondents. As an example, our respondent expressed a preference for: Moretti lager, light flavors in a glass bottle of 500 ml, a label that expresses detailed and complete information about product characteristics and production processes (product transparency), achieving a Value to Customers of 21.4. From the previous descriptive analysis, we found that the three main attributes that significantly influenced consumer preferences are: Label, Price, and Flavors.

To better understand how these attributes impact Value to Customers, we analyzed those data using a linear regression. This statistical method allowed us to quantify the influence of each attribute and its levels on the dependent variable (Value to Customers). Linear regression is particularly suitable in this context because it shows the correlation between the independent variables (attributes and levels) and the dependent variable (Value to Customers) and it allows to measure the relative contribution of each attribute in percentage terms, providing useful and actionable insights. As highlighted by Green and Srinivasan (1978), “linear regression is a robust tool for estimating the importance of attributes in modeling preferences, since it effectively explains variations in consumer utilities based on partial utility data”.

Starting from the linear regression formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$$

In this model, β_0 represents the intercept, or the average value of Y when all the independent variables (X_i) are at the reference level, while β_i are the coefficients that indicate the impact of the independent variables on the dependent variable. Each coefficient β_i measures the variation in Y when the variable X_i changes by one unit, keeping the other variables constant. To determine the relative influence of an independent variable or a level on the "Value to Customers" in percentage terms, we used the following formula:

$$\text{Percentage Change on Value to customers} = \frac{\beta_i}{\beta_0} \times 100$$

This formula allows us to calculate how much a particular level of a variable (X_i) influences Y compared to the base value represented by the intercept. The percentage change expresses the effect of each level in proportion to the average predicted value of the "Value to Customers," making it possible to compare the importance of different levels and attributes directly.

The analysis conducted through linear regression ([Table 27](#) - Appendix) highlights how independent variables (Brand, Flavors, Price and Label) influence the Value to Customers in % ([Table 28](#) - Appendix), taking as reference an intercept equal to 6.0175.

Looking at the brand's attributes, Heineken records a positive coefficient of 3.7863, translating into an increase of 62.95% of the perceived value compared to Moretti, showing a significant preference by consumers. On the contrary, with a negative coefficient of -1.2419, Peroni reduces the perceived value by 20.64%, indicating a more negative perception. Beck's stands out for the greatest penalization, with a coefficient of -5.0713, which leads to a reduction of 84.31%, positioning itself as the least appreciated brand. On the other hand, Nastro Azzurro has a coefficient of 0.0616, equivalent to a marginal increase of 1.02%, suggesting a rather neutral perception compared to Moretti. For the Flavors attribute, "Complex" records a coefficient of -2.0178, which reduces the perceived value by 33.54% compared to the "Light" reference. This suggests that consumers perceive complex flavors as less desirable. "Medium", with a coefficient of -2.9034, involves a decrease of 48.28%, showing that even intermediate flavors do not meet the favor of the sample analyzed. This trend indicates a clear preference for simpler, more familiar flavors and is probably perceived as lighter or more versatile. On the Price front, the impact is particularly marked. The "1.6€" level compared to "0.8€" records a

coefficient of -9.7581, leading to a reduction in the perceived value of 162.14%, signaling a strong economic sensitivity. Even "1.2€", with a coefficient of -7.5398, reduces the perceived value by 125.28%, demonstrating that consumers are very cost-conscious and clearly penalize higher prices. The Label attribute emerges as particularly relevant in consumer choices. "Brand Consistency" shows the highest coefficient, equal to 4.5493, which increases the perceived value by 75.63%, suggesting that brand consistency is a crucial factor in product perception. "Emotional Appeal" follows with a coefficient of 3.1093, equivalent to an increase of 51.67%, highlighting how emotional messages positively impact consumer perception. "Analytical Appeal" has a negative coefficient of -0.4325, which slightly reduces 7.19%, indicating that rational or technical approaches are less relevant for the sample analyzed than consistent and emotional messages. This result highlights how consumers are more influenced by communication elements that evoke emotional involvement and reliability rather than by analytical and informational aspects.

a) Discussion

Our marketing analysis provides an in-depth overview of consumer preferences for non-alcoholic beers, highlighting significant distinctions between regular consumers and non-consumers. It also identifies common characteristics that can be used to optimize market strategies and product development. Thus, this survey uses sophisticated analytical tools to break down the decision-making process of consumers and identify the most important factors influencing their perceptions and preferences. In particular, the data collected provide a solid basis for the development of targeted, results-oriented strategies, providing useful information to determine what distinguishes regular consumers from non-consumers. In a competitive environment where differentiation is key, managers can use data-driven approaches to optimize resources and maximize the impact of their strategies.

1. Segmentation and Targeting

The analysis shows how important it is for regular consumers to maintain the premium positioning through messages that emphasize the uniqueness and quality of the product. Glass packaging is highly valued, with scores of +10.4% for Heineken and +6.8% for Peroni. The 500 ml format, with scores of +8.2% for Heineken and +5.5% for Nastro Azzurro, is considered more convenient and satisfying than the smaller formats. Furthermore, complex taste profiles, as demonstrated by the results of Heineken (+7.5%) and Moretti (+7.2%), offer added value to this consumer segment, which likes sophisticated and high-quality products. Therefore, communication campaigns should emphasize these premium characteristics, highlighting the sophistication and superiority of the product.

On the other hand, it is crucial to promote more accessible and immediate products, which can lower barriers to entry. An important factor in attracting new customers is competitive pricing, as demonstrated by Beck's (+19.7%) and Nastro Azzurro (+17.9%). The light flavor, particularly preferred by brands such as Peroni (+7.1%) and Nastro Azzurro (+5.2%), is also a winning choice to position itself as an affordable and flexible option. Converting new customers and inviting them to try the products can be facilitated with targeted promotional strategies, such as initial discounts or event-related discounts.

1. Product Portfolio

Features that both sectors share, such as glass packaging and the 500 ml format, are essential components to be incorporated into the product portfolio. Glass packaging is considered a symbol of quality and sophistication, with scores of 10.4% for Heineken and 6.8% for Peroni. The 500 ml format is cheaper and more satisfying for both Heineken (+8.2%) and Nastro Azzurro (+5.5%).

To attract non-consumers, it would be useful to introduce lighter flavor options, presenting itself as an affordable option for new customers. Although complex taste profiles are more appreciated by regular consumers, as demonstrated by Heineken (+7.5%) and Moretti (+7.2%), taste education strategies could be used to gradually introduce complex taste profiles to non-consumers, thus improving the perception of quality and sophistication.

2. Price and Promotions

Non-consumers are very sensitive to price, which proves to be a crucial factor. To avoid disincentives to purchase for regular consumers, it is crucial to maintain competitive prices for basic products, while premium options, justified by features such as glass packaging or complex design, can maximize revenues. The 0.8€ price is positively received by regular customers (+12.9% for Heineken, +15.7% for Moretti), but higher prices, such as 1.6€, have a negative impact (-9.7% for Nastro Azzurro, -13.6% for Peroni).

Marketing to non-consumers, such as trial offers or combination packages, can facilitate purchase. Prices perceived as excessive (such as 1.2€ and -7.5% for Beck's) act as a deterrent, while competitive prices such as 0.8€ generate strong preference. Offers that reduce the perceived risk could increase market penetration by incentivizing the first purchase.

3. Brand Communication

For both segments, the label is the most important attribute, offering a powerful visual communication tool. For conventional consumers, labels emphasizing brand consistency receive high scores, as demonstrated by Peroni (+10.1%) and Moretti (+6.1%). Long-term loyalty depends on the perception of quality and authenticity resulting from a consistent brand image. In addition, the emotional attractiveness of labels (+7.5% for Heineken and +7.3% for Nastro Azzurro) helps to reinforce emotional associations with products.

For non-consumers, labels with authentic and transparent messages are key to establishing trust and attracting new customers. For example, Nastro Azzurro scores positively for its emotional

appeal (+7.3%) and for the use of ingredients indicated as unique (such as Mais Nostrano), which reinforce the sense of authenticity and quality, making it an aspirational choice even for those who have never tried the product.

This analysis underlines how important balancing the needs of regular and non-consumers is for success. Maintaining a premium positioning while breaking down barriers to entry through targeted pricing, communication and product development strategies enables the company to optimize resources, maintain customer loyalty and attract new customer.

5. Conclusions

5.1 Limitations

The study developed a mixed-methods approach since qualitative and quantitative methodologies were used to answer our research question regarding perceptions and attributes related to non-alcoholic beer, focusing on the Italian market. Even though the methodology selected provided significant insights, it is also important to mention some limitations that may impact our results. The qualitative component, comprising 20 interviews (15 consumers and 5 experts), was a strategy applied to enrich our analysis. It allowed us to capture detailed insights into consumer attitudes and also industry perspectives. However, the fact that the sample is quite small may limit the generalizability of these findings since it doesn't include a wide range of opinions across broader groups.

Moving on to the quantitative methods, the perceptual map was a valuable tool in addressing our research question, allowing us to identify key dimensions and visualize how the brands analyzed were positioned in the market, highlighting brand strengths and market gaps. However, it simplifies complex consumer perceptions only into two dimensions, meaning that some relevant factors may be potentially omitted.

The scope of the attributes was mainly focus on the product for is meaning that some macroeconomic influences may not be well reflected such as social trends or regulatory shifts, factors that can also have a crucial role in shaping consumer behavior. Even though this method allows for testing potential real-life situations that may indeed happen, the survey still relies on hypothetical scenarios, meaning that actual purchasing behavior in real-life may diverge.

Another notable limitation is related with the sample composition and representativeness across both surveys. Firstly, the survey for the perceptual map achieved 172 answers, while the one for the conjoint analysis gathered 178 answers. Even though the final number of answers is quite similar, the composition of each of the samples is different. For the perceptual map, most respondents were men (55.8%) while for the conjoint analysis were women (42.1%), possibly leading to some inconsistencies with respect to the comparative interpretation of the results. Moreover, in both analysis we observed that the largest group corresponded to respondents between 18-24 years old, with 52.3% and 50% of the sample regarding the perceptual map and conjoint analysis, respectively. This means that other age groups were not as well represented as this one, reflecting an over dependence of the results on one specific age group.

Besides that, it is also important to mention that, even though our study had the objective of comparing two segments separately – consumers and non-consumers -, the number of responses achieved in each of them is not evenly distributed. In the perceptual map, more than one third of the sample (36.4%) stated that they “never” drink non-alcoholic beer, 19.1% rarely consume it and 43.9% correspond to moderate and frequent consumers. For the conjoint analysis, the percentage of the non-consumers is similar (36.5%), with a slightly higher number of occasional consumers (20.2%) and the remaining corresponding to moderate and frequent consumers (43.3%). This imbalance between both segments may end up affecting the equality between the analytical depth of both.

6. Future Research

Future research should address the previously identified limitations, simultaneously taking advantage of the strengths of the methodological framework used. With this, it is important to ensure greater representativeness, so future studies should include both large and more diverse samples, demographically and geographically. By extending the scope beyond predominantly Italian respondents, the research would uncover cross-cultural variations concerning consumer preferences. So, a more global perspective on the non-alcoholic beer market would be achieved. Moreover, it could be interesting to include longitudinal designs to track how perceptions and preferences change over time, exploring the evolution of the non-alcoholic beer market and possible changes or adaptations in brands' strategies, providing valuable insights regarding long-term impact. Regarding the perceptual map, exploring more advanced techniques in future research could be interesting, including multidimensional scaling or machine learning algorithms. By doing this, additional layers of consumer perception could be captured. Regarding the conjoint analysis, incorporating behavioral data into the research process could be advantageous in the sense that observational studies, point-of-sale data, or experimental approaches could be used as a complement. Simulating the purchase situations in the real world could enhance the predictive power of this method and improve the level of accuracy of the analysis.

Finally, future research could also give more emphasis to marketing and communication strategies and how effective are they in shaping perceptions, with a particular focus on non-consumers. Exploring different perspectives such as advertising, sponsorships and influencer marketing and their influence on different segments could represent a more practical guidance for different brands and how they should position themselves.

7. Appendix

TABLE 3 Perceptual Mapping Overview

	Attribute	Description	Scale
<p>This survey aims to gather insights on consumer preferences and attitudes toward non-alcoholic beer.</p> <p>Each of these attributes has been evaluated in reference to 5 brands of non-alcoholic beer (Heineken 0.0, Beck's blue, Peroni libera 0.0, Moretti zero and Nastro Azzurro Zero).</p>	Iconic	By iconic is understood: strong brand recognition, timeless appeal, and cultural influence in the non-alcoholic beer sector.	1 - Very low association 3 - Medium association 5 - Very high association
	Innovative	By innovative is understood: use of modern brewing techniques, introduction of unique flavors, and focus on creativity in product development.	1 - Very low association 3 - Medium association 5 - Very high association
	Healthy	By healthy is understood: low-calorie content, natural ingredients, and alignment with wellness trends.	1 - Very low association 3 - Medium association 5 - Very high association
	Social Moment (FamilyFriends)	By social moment is understood: suitability for sharing in gatherings, fostering connection, and enhancing social occasions with family and friends.	1 - Very low association 3 - Medium association 5 - Very high association
	Sense of Sobriety	By sense of sobriety is understood: alignment with mindful drinking habits, offering an alcohol-free alternative for responsible enjoyment.	1 - Very low association 3 - Medium association 5 - Very high association
	Relaxing	By relaxing is understood: evoking a sense of calm, enjoyment, and unwinding after a busy day.	1 - Very low association 3 - Medium association 5 - Very high association
	Perfect for sport night	By perfect for sport night is understood: a suitable beverage for enjoying live games or sports events, contributing to the atmosphere without alcohol.	1 - Very low association 3 - Medium association 5 - Very high association

Perfect for a party	By perfect for a party is understood: a fun and inclusive option that complements celebrations and lively gatherings.	1 - Very low association 3 - Medium association 5 - Very high association
Tasty	By tasty is understood: high-quality flavor profile, appealing to a wide range of palates, and providing satisfaction akin to alcoholic beers.	1 - Very low association 3 - Medium association 5 - Very high association
Pairs with food	By pairs with food is understood: a versatile complement to meals, enhancing culinary experiences across different cuisines.	1 - Very low association 3 - Medium association 5 - Very high association

TABLE 4 Scree Plot – Entire Dataset

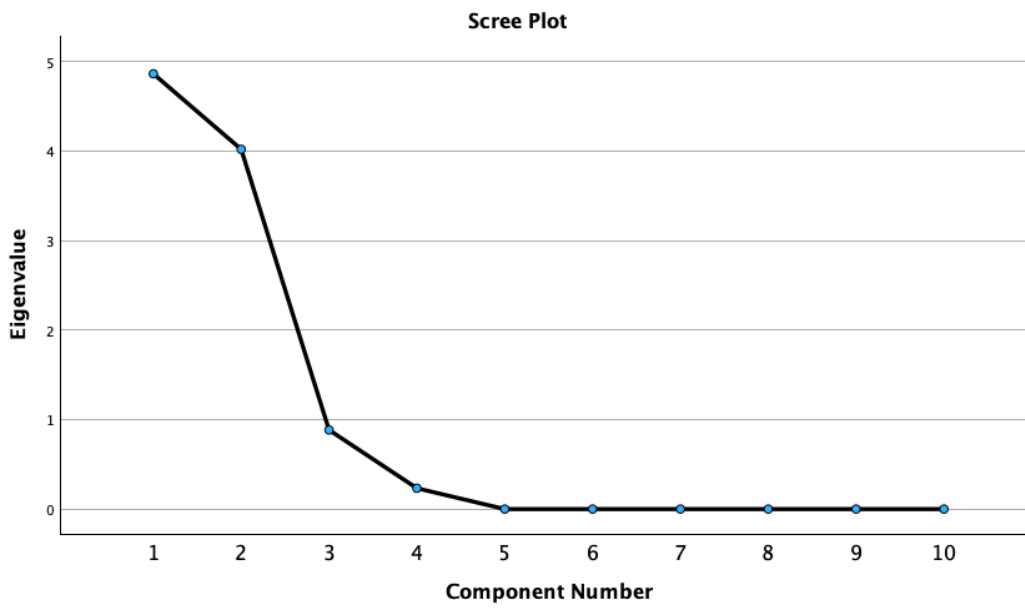


TABLE 5 Scree Plot – Non-Consumers

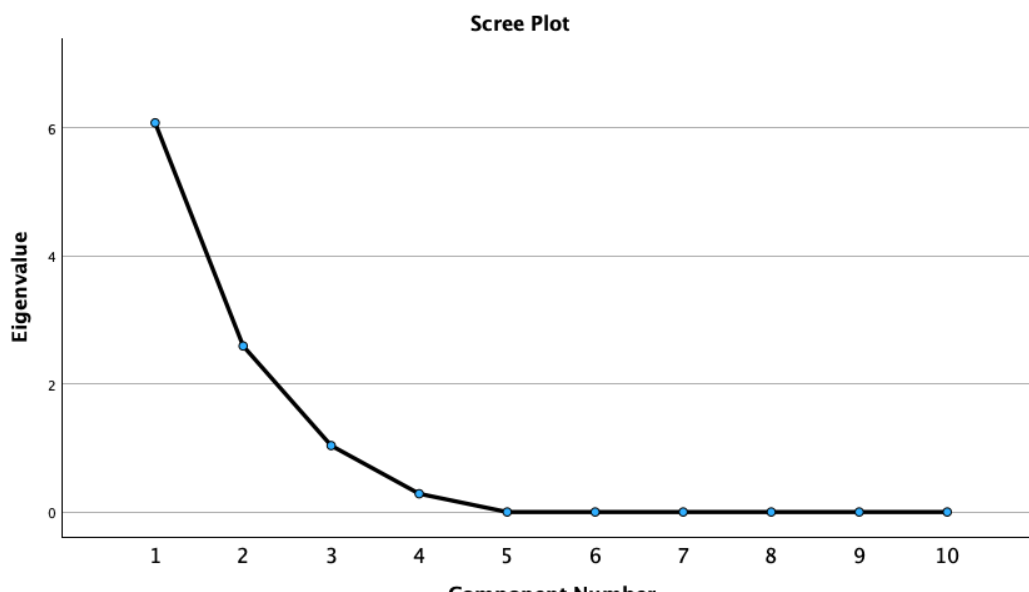


TABLE 6 Scree Plot – Consumers

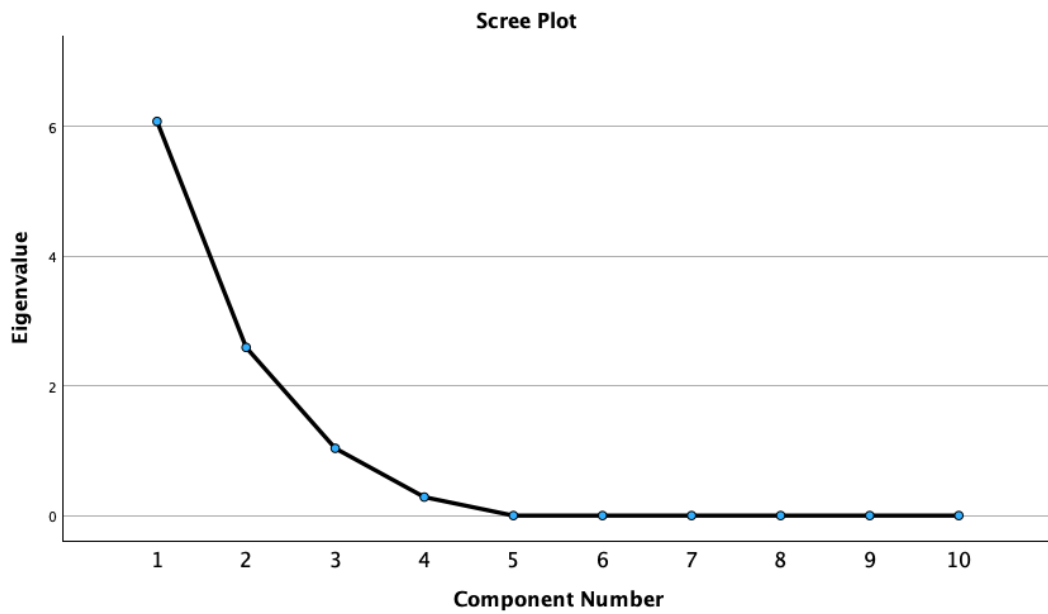


TABLE 7 Rotated Component Matrix – Entire Dataset

Rotated Component Matrix^a

	Component	
	1	2
Healthy	.947	.121
Tasty	.913	-.105
Relaxing	.912	-.119
Pairs_Food	.894	-.437
Social_Moment	.770	.425
Sobriety	.754	.571
Party	-.343	.938
Innovative	.044	.931
Sport_Night	-.077	.901
Iconic	.365	.898

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

TABLE 8 Rotated Component Matrix – Non-Consumers

Rotated Component Matrix^a

	Component	
	1	2
Iconic	.973	.003
Innovative	.927	-.259
Party	.895	-.389
Sport_Night	.879	-.305
Sobriety	.809	-.121
Healthy	-.169	.955
Relaxing	-.287	.900
Pairs_Food	-.526	.812
Social_Moment	.521	.800
Tasty	-.413	.683

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

TABLE 9 Rotated Component Matrix – Consumers

Rotated Component Matrix^a

	Component	
	1	2
Tasty	.983	-.101
Sobriety	.976	.159
Healthy	.900	.183
Relaxing	.869	.031
Social_Moment	.868	.135
Pairs_Food	.853	-.517
Sport_Night	.783	.290
Iconic	.708	.622
Party	-.181	.983
Innovative	.343	.901

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 3 iterations.

TABLE 10 Total Variance Explained – Entire Dataset

Total Variance Explained

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.864	48.637	48.637	4.779	47.795	47.795
2	4.020	40.197	88.834	4.104	41.039	88.834

Extraction Method: Principal Component Analysis.

TABLE 11 Total Variance Explained – Non-Consumers

Total Variance Explained						
Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.082	60.823	60.823	4.863	48.628	48.628
2	2.595	25.948	86.771	3.814	38.142	86.771

Extraction Method: Principal Component Analysis.

TABLE 12 Total Variance Explained – Consumers

Total Variance Explained						
Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.371	63.708	63.708	6.232	62.323	62.323
2	2.467	24.672	88.379	2.606	26.056	88.379

Extraction Method: Principal Component Analysis.

TABLE 13 Correlation Matrix – Entire Dataset

Correlation Matrix ^a											
	Iconic	Innovative	Healthy	Social_Moment	Sobriety	Relaxing	Sport_Night	Party	Tasty	Pairs_Food	
Correlation	Iconic	1.000	.800	.418	.721	.772	.132	.764	.708	.315	-.077
	Innovative	.800	1.000	.261	.259	.671	.041	.729	.872	-.195	-.386
	Healthy	.418	.261	1.000	.639	.875	.932	-.062	-.202	.744	.776
	Social_Moment	.721	.259	.639	1.000	.676	.517	.480	.118	.833	.531
	Sobriety	.772	.671	.875	.676	1.000	.677	.326	.285	.530	.397
	Relaxing	.132	.041	.932	.517	.677	1.000	-.196	-.409	.701	.872
	Sport_Night	.764	.729	-.062	.480	.326	-.196	1.000	.868	-.084	-.421
	Party	.708	.872	-.202	.118	.285	-.409	.868	1.000	-.428	-.717
	Tasty	.315	-.195	.744	.833	.530	.701	-.084	-.428	1.000	.872
	Pairs_Food	-.077	-.386	.776	.531	.397	.872	-.421	-.717	.872	1.000

a. This matrix is not positive definite.

TABLE 14 Correlation Matrix – Non-Consumers

Correlation Matrix ^a											
	Iconic	Innovative	Healthy	Social_Moment	Sobriety	Relaxing	Sport_Night	Party	Tasty	Pairs_Food	
Correlation	Iconic	1.000	.850	-.215	.577	.707	-.353	.859	.890	-.263	-.561
	Innovative	.850	1.000	-.364	.204	.929	-.427	.833	.881	-.710	-.630
	Healthy	-.215	-.364	1.000	.611	-.207	.984	-.417	-.528	.595	.907
	Social_Moment	.577	.204	.611	1.000	.206	.474	.234	.188	.511	.306
	Sobriety	.707	.929	-.207	.206	1.000	-.231	.571	.649	-.676	-.391
	Relaxing	-.353	-.427	.984	.474	-.231	1.000	-.532	-.635	.541	.954
	Sport_Night	.859	.833	-.417	.234	.571	-.532	1.000	.980	-.513	-.759
	Party	.890	.881	-.528	.188	.649	-.635	.980	1.000	-.558	-.830
	Tasty	-.263	-.710	.595	.511	-.676	.541	-.513	-.558	1.000	.626
	Pairs_Food	-.561	-.630	.907	.306	-.391	.954	-.759	-.830	.626	1.000

a. This matrix is not positive definite.

TABLE 15 Correlation Matrix – Consumers

		Correlation Matrix ^a									
		Iconic	Innovative	Healthy	Social_Moment	Sobriety	Relaxing	Sport_Night	Party	Tasty	Pairs_Food
Correlation	Iconic	1.000	.726	.708	.789	.776	.499	.745	.479	.685	.262
	Innovative	.726	1.000	.552	.306	.506	.457	.453	.828	.209	-.156
	Healthy	.708	.552	1.000	.625	.966	.944	.550	.022	.844	.691
	Social_Moment	.789	.306	.625	1.000	.801	.540	.943	-.031	.884	.645
	Sobriety	.776	.506	.966	.801	1.000	.911	.732	-.019	.935	.757
	Relaxing	.499	.457	.944	.540	.911	1.000	.528	-.119	.786	.758
	Sport_Night	.745	.453	.550	.943	.732	.528	1.000	.138	.748	.503
	Party	.479	.828	.022	-.031	-.019	-.119	.138	1.000	-.279	-.662
	Tasty	.685	.209	.844	.884	.935	.786	.748	-.279	1.000	.881
	Pairs_Food	.262	-.156	.691	.645	.757	.758	.503	-.662	.881	1.000

a. This matrix is not positive definite.

TABLE 16 Conjoint Analysis Attribute Preference

Descriptives	Heineken	Beck's	Moretti	Peroni	Nastro Azzurro
Median	4,10	-4,73	0,33	-0,68	0,38
Q1	-0,18	-6,34	6,46	-4,79	-3,76
Q3	7,70	3,99	-5,47	4,53	4,41
IQR	7,88	10,33	11,93	9,32	8,17

TABLE 17 Attribute Preference – Heineken

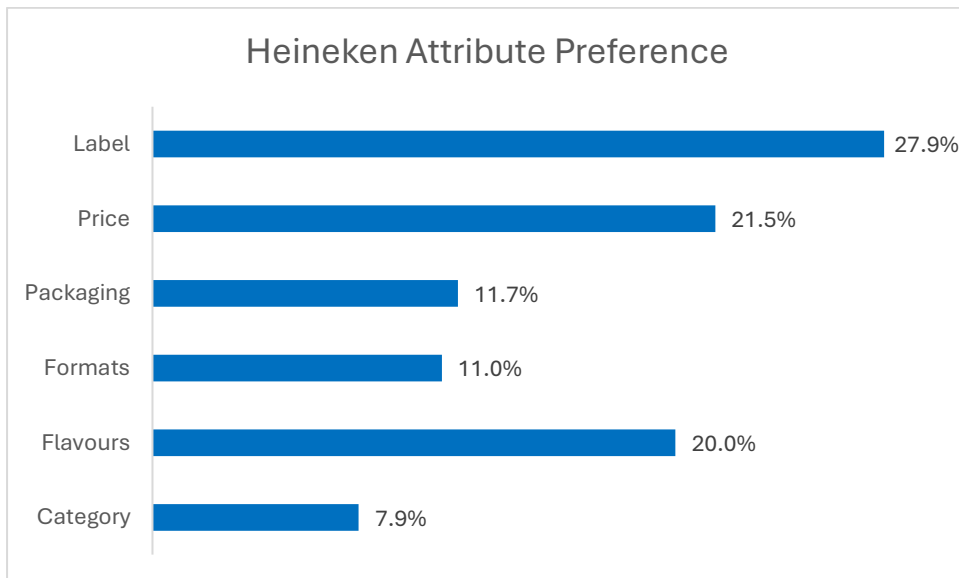


TABLE 18 Attribute preference – Beck's

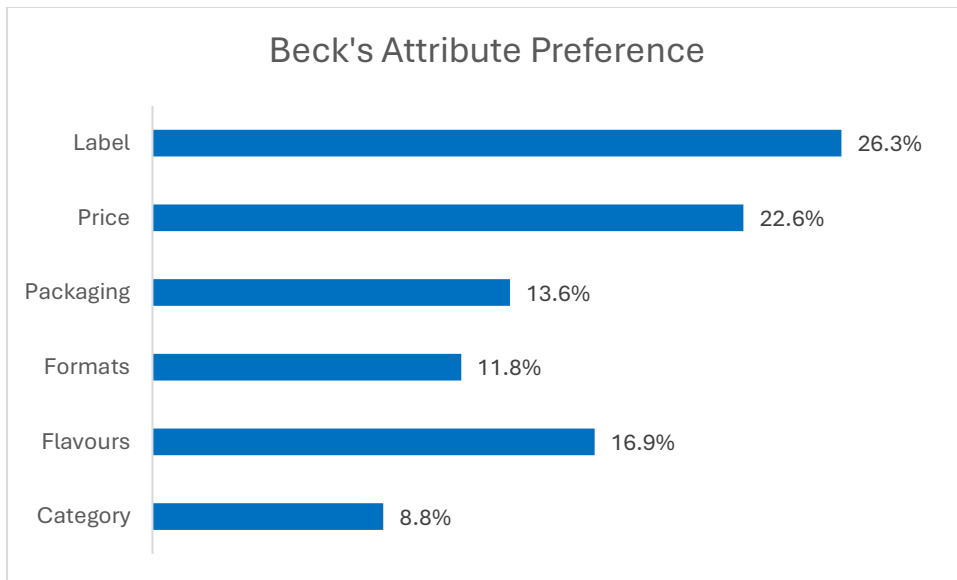


TABLE 19 Attribute Preference – Moretti

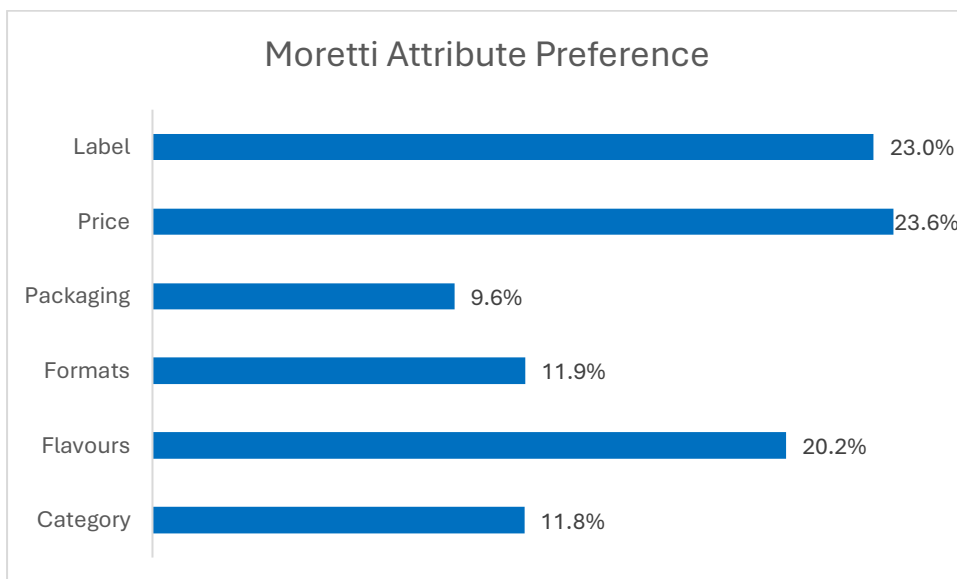


TABLE 20 Attribute Preference – Peroni

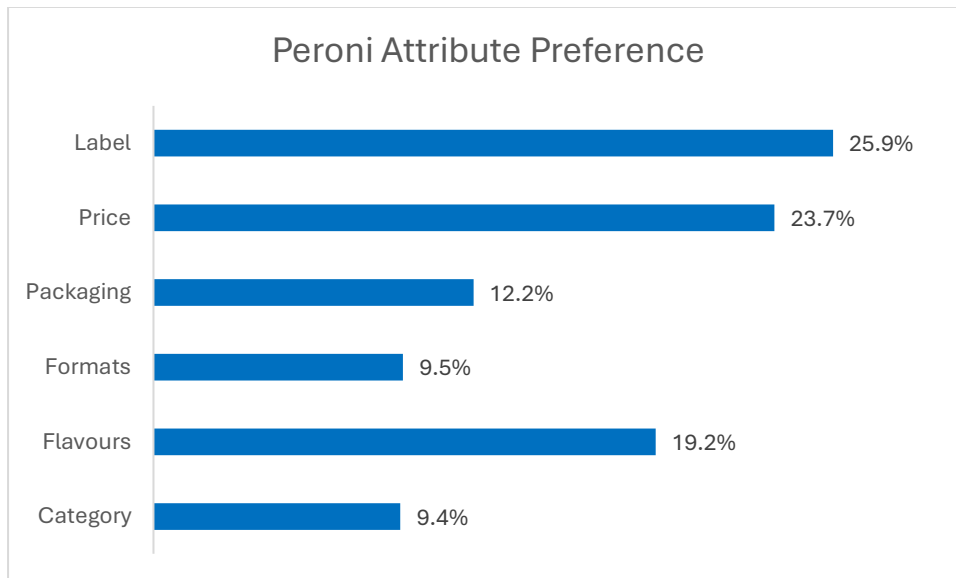


TABLE 21 Attribute preference – Nastro Azzurro

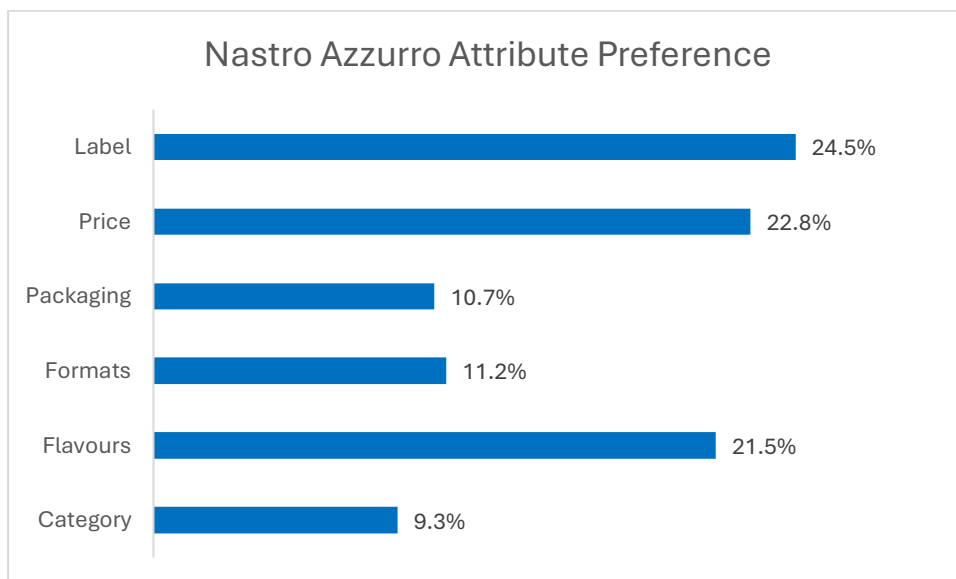


TABLE 22 – Preference for Levels Heineken

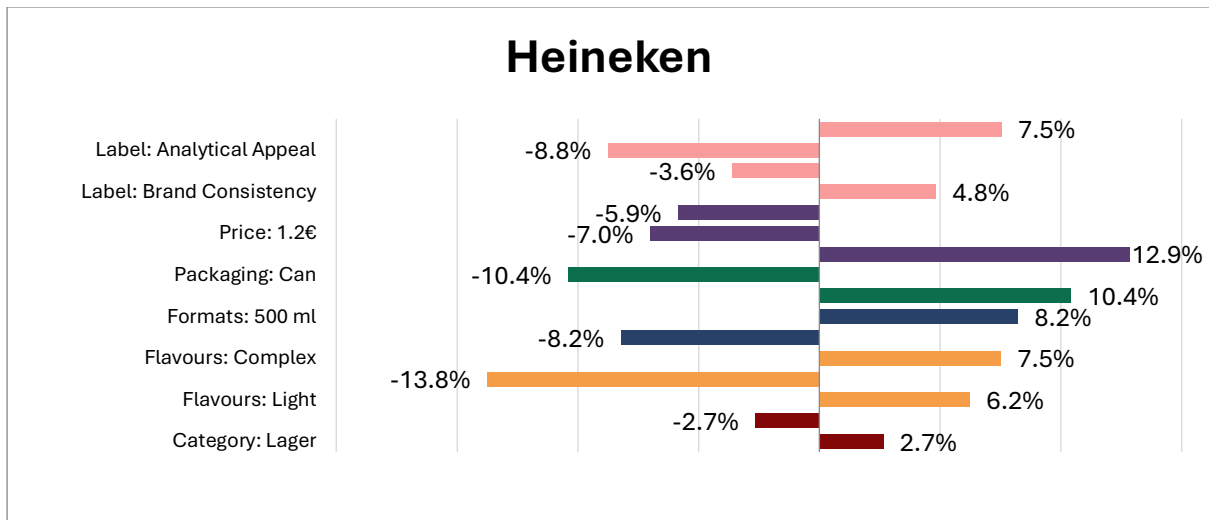


TABLE 23 - Preference for Levels Beck's

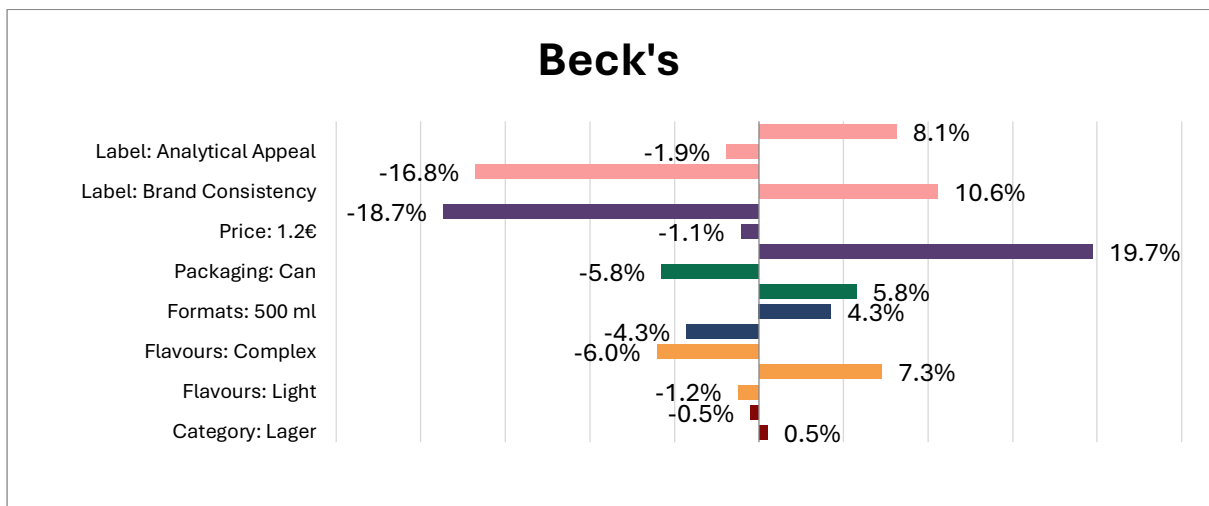


TABLE 24 - Preference for Levels Moretti

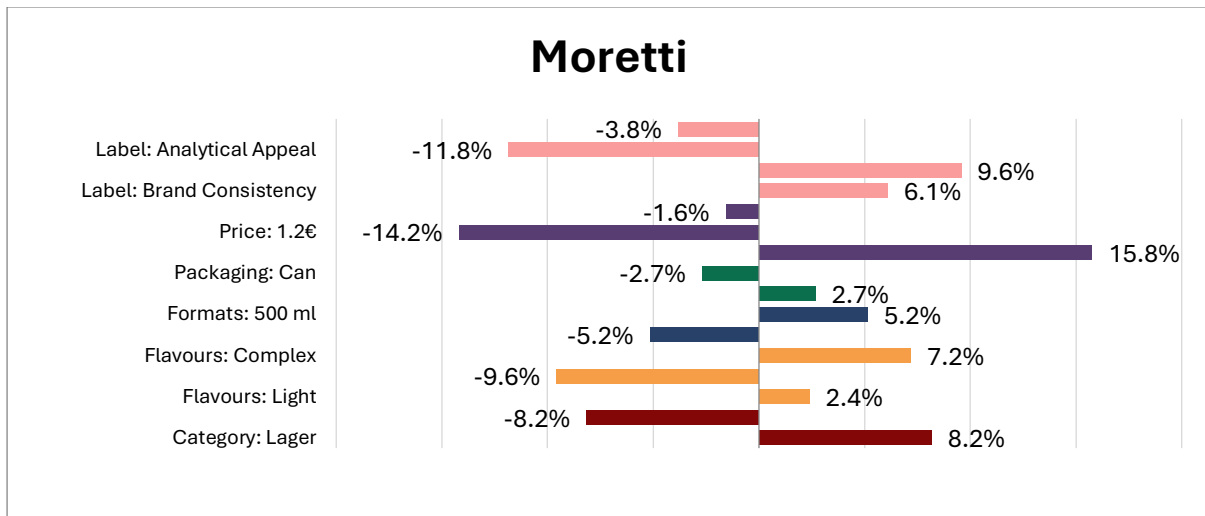


TABLE 25 - Preference for Levels Peroni

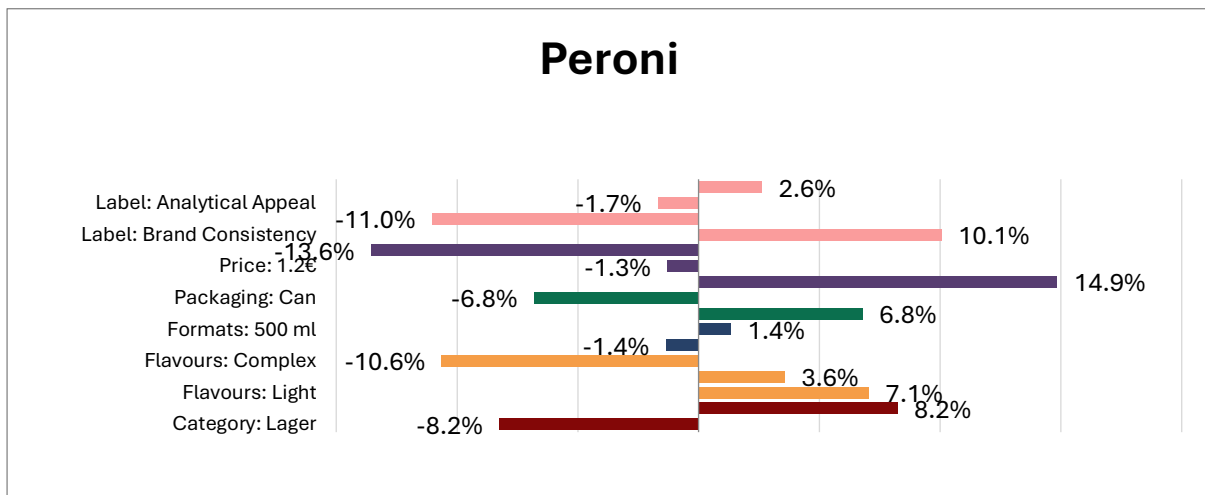


TABLE 26 - Preference for Levels Nastro Azzurro

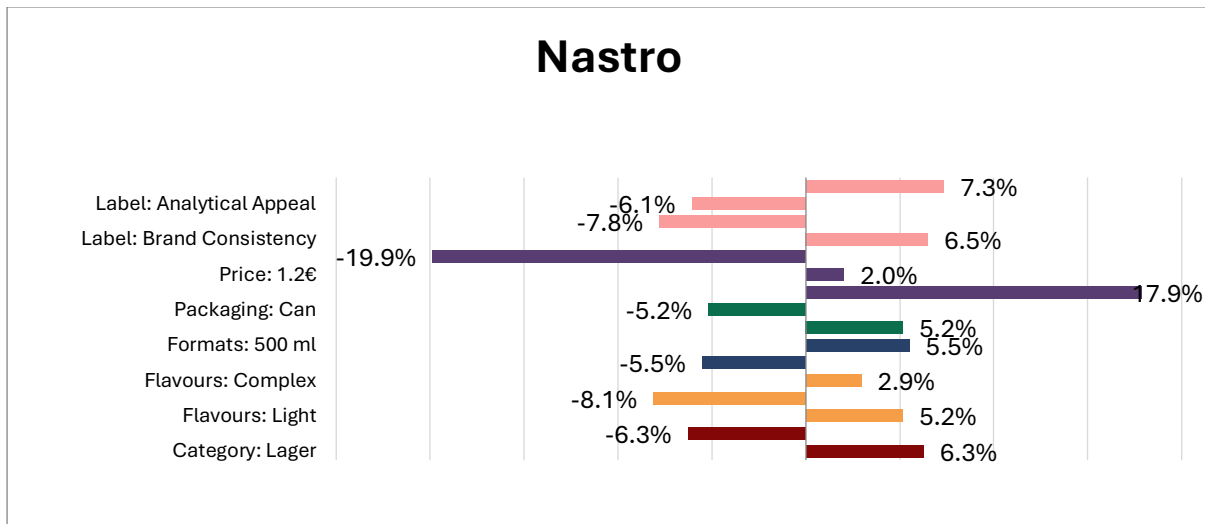


TABLE 27 – Ranked Combination of Products Linear Regression

Linear Regression

Model Fit Measures

Model	R	R ²
1	0.748	0.560

Model Coefficients - Value to customers

Predictor	Estimate	SE	t	p
Intercept ^a	6.0175	0.490	12.270	<.001
Brand:				
Heineken – Moretti	3.7863	0.457	8.279	<.001
Peroni – Moretti	-1.2419	0.457	-2.715	0.007
Nastro Azzurro – Moretti	0.0616	0.457	0.135	0.893
Beck's – Moretti	-5.0713	0.457	-11.089	<.001
Flavours:				
Complex – Light	-2.0178	0.396	-5.095	<.001
Medium – Light	-2.9034	0.323	-8.978	<.001
Price:				
1.6€ – 0.8€	-9.7581	0.354	-27.546	<.001
1.2€ – 0.8€	-7.5398	0.354	-21.284	<.001
Label:				
Emotional Appeal – Product Transparency	3.1093	0.409	7.601	<.001
Brand Consistency – Product Transparency	4.5493	0.409	11.122	<.001
Analytical Appeal – Product Transparency	-0.4325	0.409	-1.057	0.291

^a Represents reference level

TABLE 28 – Percentage change on Value to customers

Attributes	Levels	% Variation
Brand	Heineken vs Moretti	+62.95%
Brand	Peroni vs Moretti	-20.64%
Brand	Nastro Azzurro vs Moretti	+1.02%
Brand	Beck's vs Moretti	-84.31%
Flavours	Complex vs Light	-33.54%
Flavours	Medium vs Light	-48.28%
Price	1.6€ vs 0.8€	-162.14%
Price	1.2€ vs 0.8€	-125.28%
Label	Emotional Appeal vs Product Transparency	+51.67%
Label	Brand Consistency vs Product Transparency	+75.63%
Label	Analytical Appeal vs Product Transparency	-7.19%

References

Age Gate - Peroni. Peroni. 2019. <https://peroni.it/>.

"Alcohol Labelling." *Food Safety*. European Commission. 2023. https://food.ec.europa.eu/food-safety/labelling-and-nutrition/food-information-consumers-legislation/alcohol-labelling_en.

American Marketing Association. "American Marketing Association." *Ama.org*. 2019. <https://www.ama.org/>.

APA PsycNet. Psycnet.apa.org. n.d. <https://psycnet.apa.org/record/2003-07493-014>.

Aquilani, Barbara, Tiziana Laureti, Stefano Poponi, and Luca Secondi. "Beer Choice and Consumption Determinants When Craft Beers Are Tasted: An Exploratory Study of Consumer Preferences." *Food Quality and Preference* 41 (2015): 214–24.

<https://doi.org/10.1016/j.foodqual.2014.12.005>.

Barcelo, L., H. Bentz, S. Gauzelin, and Halmstad. "The Influence of Beer Packaging on Customer Perception and Purchase Decision." Europe Strategic Marketing with Independent Project, 30 credits, 2017. <http://www.diva-portal.org/smash/get/diva2:1110876/FULLTEXT01.pdf>.

BCG. "Sober Curious? The Non-Alcoholic Drinks Industry Is Toasting." *BCG Global*. January 29, 2024. <https://www.bcg.com/publications/2024/sober-curious-non-alcoholic-drinks-industry-is-toasting>.

Bellut, Kerstin, and Elke K. Arendt. "Chance and Challenge: Non-Saccharomyces Yeasts in Nonalcoholic and Low Alcohol Beer Brewing – A Review." *Journal of the American Society of Brewing Chemists* 77, no. 2 (2019): 77–91. <https://doi.org/10.1080/03610470.2019.1569452>.

Bellut, Kerstin, and Elke K. Arendt. "Chance and Challenge: Non-Saccharomyces Yeasts in Nonalcoholic and Low Alcohol Beer Brewing – A Review." *Journal of the American Society of Brewing Chemists* 77, no. 2 (2019): 77–91. <https://doi.org/10.1080/03610470.2019.1569452>.

Bhaduri, Gagan, and Nadia Stanforth. "To (or Not To) Label Products as Artisanal: Effect of Fashion Involvement on Customer Perceived Value." *Journal of Product & Brand Management* 26, no. 2 (2017): 177–89. <https://doi.org/10.1108/jpbm-04-2016-1153>.

Carvalho, F. R., P. Moors, J. Wagemans, and C. Spence. "The Influence of Color on the Consumer's Experience of Beer." *Frontiers in Psychology* 8 (2017). <https://doi.org/10.3389/fpsyg.2017.02205>.

Chaya, C., C. Eaton, L. Hewson, R. F. Vázquez, V. Fernández-Ruiz, K. A. Smart, and J. Hort. "Developing a Reduced Consumer-Led Lexicon to Measure Emotional Response to Beer." *Food Quality and Preference* 45 (2015): 100–112. <https://doi.org/10.1016/j.foodqual.2015.06.003>.

Chrysochou, P. "Drink to Get Drunk or Stay Healthy? Exploring Consumers' Perceptions, Motives, and Preferences for Light Beer." *Food Quality and Preference* 31 (2014): 156–63. <https://doi.org/10.1016/j.foodqual.2013.08.006>.

Creswell, J. W. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 4th ed. Sage Publications Ltd, 2014.

Deliza, R., and H. J. H. MacFie. "The Generation of Sensory Expectation by External Cues and Its Effect on Sensory Perception and Hedonic Ratings: A Review." *Journal of Sensory Studies* 11, no. 2 (1996): 103–28. <https://doi.org/10.1111/j.1745-459x.1996.tb00036.x>.

Deliza, R., H. J. H. MacFie, and D. Hedderley. "Information Affects Consumer Assessment of Sweet and Bitter Solutions." *Journal of Food Science* 61, no. 5 (1996): 1080–84. <https://doi.org/10.1111/j.1365-2621.1996.tb10936.x>.

Fernqvist, F., and L. Ekelund. "Credence and the Effect on Consumer Liking of Food – A Review." *Food Quality and Preference* 32 (2014): 340–53. <https://doi.org/10.1016/j.foodqual.2013.10.005>.

Gómez-Corona, C., H. B. Escalona-Buendía, M. García, S. Chollet, and D. Valentin. "Craft vs. Industrial: Habits, Attitudes, and Motivations Towards Beer Consumption in Mexico." *Appetite* 96 (2016): 358–67. <https://doi.org/10.1016/j.appet.2015.10.002>.

Greco, Luca, George Luta, and Rand Wilcox. 2023. "On Testing the Equality between Interquartile Ranges." *Computational Statistics*, September. <https://doi.org/10.1007/s00180-023-01415-8>.

Gray, Jennifer R., Susan K. Grove, and Suzanne Sutherland. *Burns and Grove's The Practice of Nursing Research: Appraisal, Synthesis, and Generation of Evidence*. Saunders, 2016.

Green, Paul E., and V. Srinivasan. "Conjoint Analysis in Marketing: New Developments with Implications for Research and Practice." *Journal of Marketing* 54, no. 4 (1990): 3–19. <https://doi.org/10.2307/1251756>.

Hintze, Jerry L., and Ray D. Nelson. 1998. "Violin Plots: A Box Plot-Density Trace Synergism." *The American Statistician* 52 (2): 181. <https://doi.org/10.2307/2685478>.

"In Marketing, Perception Is Referred to as the Meaningful Information, Awareness, Impressions, and Opinions That the Consumers Have for the Products, Services, Reputation, and Values of a Firm." April 28, 2022. Bartleby.com. <https://www.bartleby.com/subject/business/marketing/concepts/perception-in-marketing>.

Louviere, Jordan J., David A. Hensher, and Joffre Dan Swait. *Stated Choice Methods: Analysis and Applications*. Cambridge University Press, 2000.

Meillon, Sylvie, Chloé Urbano, Gaël Guillot, and Pascal Schlich. "Acceptability of Partially Dealcoholized Wines: Measuring the Impact of Sensory and Information Cues on Overall Liking in Real-Life Settings." *Food Quality and Preference* 21, no. 7 (2010): 763–773. <https://doi.org/10.1016/j.foodqual.2010.07.013>.

Moss, Rachel, Shannon Barker, and Maureen B. McSweeney. "An Analysis of the Sensory Properties, Emotional Responses, and Social Settings Associated with Non-Alcoholic Beer." *Food Quality and Preference* 98 (2021): 104456. <https://doi.org/10.1016/j.foodqual.2021.104456>.

Nisha, Shraddha. "The Non-Alcoholic Beer Industry: Rising Trends and Future Directions." July 12, 2024. The Non-Alcoholic Club. <https://thenonalcoholicclub.com/blogs/news/the-non-alcoholic-beer-industry-rising-trends-and-future-directions>.

"Non-Alcoholic Beer - Italy." Statista. <https://www.statista.com/outlook/cmo/alcoholic-drinks/beer/non-alcoholic-beer/italy>.

"Non-Alcoholic Beer - Worldwide." Statista. <https://www.statista.com/outlook/cmo/alcoholic-drinks/beer/non-alcoholic-beer/worldwide>.

Piqueras-Fizman, Betina, and Charles Spence. "Sensory Expectations Based on Product-Extrinsic Food Cues: An Interdisciplinary Review of the Empirical Evidence and Theoretical Accounts." *Food Quality and Preference* 40 (2015): 165–179. <https://doi.org/10.1016/j.foodqual.2014.09.013>.

Ramsey, Ian, Viorica Dinu, Richard Linforth, G. E. Yakubov, Simon E. Harding, Qian Yang, Rebecca Ford, and Ian Fisk. "Understanding the Lost Functionality of Ethanol in Non-Alcoholic Beer Using Sensory Evaluation, Aroma Release, and Molecular Hydrodynamics." *Scientific Reports* 10, no. 1 (2020). <https://doi.org/10.1038/s41598-020-77697-5>.

"What Is Labelling?" *Triton Store*. Accessed 2024. <https://tritonstore.com.au/what-is-labelling/>.

"The Marketing and Consumption of No- and Low-Alcohol Drinks in the UK." *Institute of Alcohol Studies (IAS)*, March 2022. <https://www.ias.org.uk/wp-content/uploads/2022/03/The-Marketing-and-Consumption-of-No-and-Low-Alcohol-Drinks-in-the-UK-March-2022.pdf>.

"Chemical and Sensory Evaluation of Beers Brewed with Different Hop Varieties." *MDPI Fermentation* 8, no. 4 (2022): 80. <https://www.mdpi.com/2306-5710/8/4/80>.

Statista. "Non-Alcoholic Beer Market: Key Facts and Figures." 2023. <https://www.statista.com>.

Heineken. "Our Beers: Heineken 0.0." 2024. <https://www.heineken.com>.

Gutjar, S., Dalenberg, J. R., de Graaf, C., de Wijk, R. A., Palascha, A., Renken, R. J., and Jager, G. "What Reported