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A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

The key factors shaping dog food purchases in Portugal

The Dog Food Market in Portugal: Literature Review on Consumer Behaviour and Brand Positioning

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## **Abstract**

This thesis explores Portuguese consumers' preferences for dog food, focusing on availability, health benefits, organic quality, price, and sustainability. Through interviews, perceptual mapping and conjoint analysis, price emerged as the most influential factor, with younger, eco-conscious consumers prioritizing health benefits and sustainability. Royal Canin leads in scientific innovation, while Advance and Purina struggle with differentiation. PorSi's value-for-money positioning is hindered by low trust and appeal. The ideal product – available, affordable, health focused, organic and sustainable - remains unavailable, as consumers expect high quality at the lowest price. This research reveals an opportunity for pet food brands to meet consumer expectations.

**Keywords:** Dog food industry, Purchase patterns of consumers, Pet food, Organic ingredients, Nutritional worth, Environmentally friendly, Current patterns in the market, Perception of a brand, Portugal's pet food industry

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

## **1. Introduction**

The pet food industry has undergone significant growth in recent years, driven by shifting consumer attitudes and increased pet ownership worldwide. Despite economic challenges as the COVID-19 pandemic, the sector demonstrated resilience, adapting to new demands, and maintaining a steady trajectory of growth ((Fernandes and Santos 2023, 78). Portugal is no exception to this trend, as the Portuguese Animal Information System (SIAC) reported that the country currently has over 4.19 million registered dogs, of which over 3 million are canines ("Country Report: Portugal" 2024)). This rise indicates a significant increase in pet ownership, as well as the growing importance of pets as integral members of households ("Country Report: Portugal" 2024).

While global research has provided insights into consumer behaviour and market positioning within the pet food industry, remains a gap in research that specifically focuses on Portugal's dog food markets. This thesis aims to address this gap by investigating the preferences of Portuguese consumers and the alignments with the offerings of key industry players such as Advance, PorSi (Intermarche's brand), Purina, and Royal Canin. The goal is to explore how factors such as product availability, health benefits, organic quality, sustainability, and price influence consumer choices.

Millennials and Gen Z increasingly base pet food choices on sustainability (LEK Consulting 2024). A recent Euromonitor International survey showed that, normally, pet owners are more concerned about climate change and actively pursue "green activities" to improve the environment, than non-pet owners (Euromonitor International 2024; Interzoo 2024). Consumer concern for sustainable pet food drives production, packaging, ingredient choices, as well as marketing. The 2023 EuroPet Market Trends survey showed that 64% of EU pet food consumers prefer paying more for products in biodegradable or recyclable packaging. This thesis explores how sustainability importantly influences Portuguese dog food consumer preferences and behaviour. Therefore, in this thesis, sustainability is regarded as one of the key

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factors influencing consumer preferences in the Portuguese dog food market, and this study will explore in depth how sustainability affects consumer behaviour in the Portuguese dog food market.

Furthermore, such research ideally suits Portugal's demographic and socioeconomic landscape. Portugal's unique demographic and socioeconomic landscape make it an ideal setting for such research. The country has seen a rise in urbanization and shifts in family structures such as smaller households and delayed parenthood, leading to increase reliance on pets for companionship (Torres 2022). Younger generations, specifically Millennials (born 1981-1996) and Gen Z (born 1997-2012) are leading the way in pet ownership, accounting for 33% of pet owners (American Pet Products Association 2023). This shift has fueled demand for premium health-conscious pet products that reflect care and quality (Pet Industry Data Book 2023). Portugal's market dynamics mirror global trends while offering unique regional insights, making it a valuable yet under-research markets compared to larger countries (Pet Industry Data Book 2023). Therefore, exploring consumer preferences, in Portugal, provides an opportunity to understand both evolving local needs and broader global patterns.

The study adopts a mixed-methods approach, combining perceptual mapping and conjoint analysis. These methods allow for detailed exploration of how consumers perceive competing brands and the trade-offs they make when choosing dog food. Perceptual mapping will visualize the positioning of brands into the consumers mind, relative to one another, based on key attributes. While conjoint analysis, will evaluate consumer preferences for specific product features. This comprehensive methodology enables an understanding of consumer decision making and processes, helping brands adapt their strategy to better meet market demands.

This thesis is structured to provide a cohesion exploration of Portuguese dog food markets. Following this introduction, a literature review will examine existing studies and consumer behaviour, brand positioning and trends within the pet food industry while identifying relevant gaps in Portugal. The research questions section outlines the specific factors under

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investigation, such as price sensitivity, health concerns and sustainability. The methodology section details the data collection and analysis techniques employed, while the discussion section presents findings and their implications for brands operating in this market. Finally, the thesis is concluded with practical recommendations for industry player and suggestions in future research.

## **2. Perceptual Map**

### **2.1. Objectives Of The Perceptual Map**

Perceptual mapping is applied across various marketing research, helping to bridge complex data with practical business application. Gigauri (2019, 45) identified the perceptual mapping as a valuable technique for translating consumer perception into a visual form, which helps in simplifying the interpretation and application in real-world scenarios. This tool is commonly used by both academic researchers and industry professionals, as it offers insight into market segments and identifies opportunities for innovation and differentiation (Gigauri 2019, 45).

In practice, businesses leverage Perceptual Map to uncover gaps in the market, identifying unmet consumer needs and spot strategic opportunities for entering new markets and repositioning existing product. This is especially useful in competitive environment, with low competition or to differentiate a product (Gigauri, 2019). By transforming raw data into actionable insights, perceptual maps help industries make more effective and informed strategic decisions.

The two common approaches are the Attribute Rating Method (AR) and the Overall Similarity Method (OS) (Dillon et al. 1990). The first mentioned method consists of consumers evaluating brands or products taking into considerations different attributes, for example, price, design, subscription model, quality, and others (Dillon et al. 1990). Conversely, the Overall Similarity Method shifts the focus away from specific attributes, instead focus on the consumer

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evaluation concerning the overall similarity or dissimilarity between brands (Dillon et al. 1990).

This method is particularly useful when the research seeks to understand holistic perceptions, especially when the key differentiating attributes cannot be explicitly identified (Dillon et al. 1990).

For this thesis, the Attribute Rating Method (AR) was chosen as the most suitable approach. This method enables the construction of perceptual maps that illustrate how consumers perceive dog food brands. By evaluating specific brand attributes such as science-based, trustworthy, and informative, this approach provides insight into the positioning of these brands in the minds of consumers. The Attribute Rating Method is particularly appropriate for this thesis, as it facilitates a structured analysis of the attributes defining the brands, thereby, contributing to a deeper understanding of consumer perceptions and behaviour within the dog food market.

## **2.2. Design Of The Perceptual Map**

To obtain valuable insights about how consumers perceive the selected dog food brands within the Portuguese market, we created a survey using Google Forms. Google Forms is a versatile and user-friendly tool which enables researchers to design surveys efficiently. Its features make it possible to quickly formulate questions within different sections, customize diverse response types, and disseminate the survey easily across several channels, including social media and email. Additionally, one of Google Forms' many notable features is the ability to transfer collected data to Google Sheets. This smooth integration makes data analysis and computations easier, allowing us to focus more on understanding the results rather than manually handling data. (Hsu and Wang 2017).

The survey was organised into different sections (Appendix). The first section is dedicated to screening questions, which were designed to qualify respondents. Participants

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were first asked if they currently own a dog or had owned one recently, if they answered negatively, their participation was immediately terminated. Subsequently, respondents were questioned if they usually buy dog food in Portugal. Those who say that they do not purchase dog food in the country were also directed to conclude the survey. These screening questions were essential in reducing the sample size and guaranteeing that only those with relevant and firsthand experience in buying dog food were included in the data collection. This approach is crucial to improving the validity and reliability of our findings.

In the second section of the survey, titled "Brand Familiarity and Attribute Ratings," only respondents who met the screening criteria by answering "yes" to both initial questions were invited to participate. This section began by assessing participants' familiarity with four selected dog food brands: Advance, PorSi, Purina, and Royal Canin. Evaluating brand familiarity was a critical step, as it provided essential context for interpreting the subsequent ratings of specific brand attributes. Participants were then, asked to evaluate each brand based on a series of defined attributes. For each attribute, a question was presented, and responses were collected using a five-point Likert scale. According to Carifio and Perla (2007), the five-point Likert scale effectively captures the intensity of respondents' ideas, allowing for a more nuanced analysis of consumer impressions. A strong negative association with the attribute is represented by a score of 1, and a significant positive association is represented by a score of 5. The structured approach of this section sought to guarantee a thorough and consistent comprehension of customer perceptions, which would subsequently be used to build the perceptual map.

### **3. Bonus Question**

#### **3.1. Sustainability Consideration In Our Study**

Sustainability has become an increasingly significant factor influencing consumer behaviour across various industries, including the pet food market. This trend reflects a growing

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awareness of environmental impacts and the desire for ethical purchasing decisions (Grunert et al. 2014). Our primary analysis evaluated key attributes such as price, health benefits, and sustainability in dog food selection. However, it did not directly address consumers' willingness to pay a premium for sustainable products—a critical distinction in understanding the depth of environmental responsibility in consumer preferences.

Research indicates that a significant segment of consumers is willing to pay more for products with sustainable attributes (Grunert et al. 2014). For instance, a meta-analysis of consumer studies on sustainability labels, found that consumers often demonstrate a preference for environmentally friendly products and are willing to pay a premium for these (Grunert et al. 2014). This willingness to pay is heavily influenced by factors such as perceived consumer effectiveness—the belief that individual actions can contribute to environmental preservation (Kovács and Keresztes 2019).

In the pet food industry specifically, sustainability considerations are gaining traction. Pet owners are increasingly aware of the environmental impact of their consumption behaviours, which has resulted in a growing demand for environmentally friendly production methods, sustainable ingredients, and recyclable packaging materials (Purina Institute 2024). However, studies suggest that the willingness to pay a premium for these sustainable products remains inconsistent, with only 12% to 16% of consumers globally expressing readiness to spend more on sustainably produced pet food (Pet Food Industry 2023).

The distinction between expressed preferences and actual purchasing behaviour is crucial. If consumers prioritise sustainability only when it incurs no additional cost, it suggests that sustainability functions as a secondary or conditional priority. Conversely, demonstrated willingness to pay more for sustainable products reflects a deeper commitment to environmental responsibility (Kovács and Keresztes 2022). Understanding this dynamic is essential for brands aiming to align their pricing and marketing strategies with consumer values. Positioning

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products with transparent communication about sustainable practices can enhance trust, loyalty, and the perceived value of sustainable offerings (Grunert et al. 2014).

### **3.2. Survey Development**

To explore consumers' willingness to pay a premium for sustainable dog food products, we utilised the same survey (Appendix) designed for the perceptual map analysis, which included a specific section dedicated to sustainability questions. While the survey's overall design, participant selection criteria, and data collection methodology were comprehensively explained in the earlier chapter focused on perceptual maps, this chapter concentrates exclusively on the analysis of the sustainability section.

The sustainability section of the survey was designed to evaluate consumer attitudes and behaviours, regarding sustainable dog food products. This section included four key questions, each targeting a distinct aspect of consumer decision-making. These questions were developed based on established guidelines for survey-based research to ensure clarity, reliability, and validity (Bryman 2016). Below, the questions and their purposes are presented in detail.

#### **Question 1 - Interest In Sustainable Products**

"Suppose your preferred dog food brand offered a sustainable product at a slightly higher price. Would you be interested in buying it?" - Respondents were required to choose between two options: Yes or No.

The purpose of this question was to gauge initial interest in sustainable dog food and determine whether sustainability resonates as a meaningful factor in consumers' purchasing decisions. Binary choice questions, such as this, are widely recognised for their clarity and effectiveness in capturing unambiguous responses (Fink 2017). By framing the question within the context of the respondent's current preferred brand, the survey minimised hypothetical bias

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that can occur when consumers are presented with unfamiliar scenarios (Krosnick and Presser 2010).

### **Question 2 - Current Price Paid for Dog Food**

"How much do you usually pay for a 10kg package of dry food?"

This open-ended question designed to gather insights into the average price consumers currently pay for dog food, within the sample. By collecting this data, the study aimed to establish a baseline for typical spending, which would serve as a reference point when analysing responses related to willingness to pay for sustainable options. Open-ended questions allow for greater accuracy and variability in responses, capturing real-world price trends without imposing pre-defined limits (Reja et al. 2003).

### **Question 3 - Willingness To Pay A Premium**

"How much more would you be willing to pay for this sustainable dog food compared to your current choice? (consider a 10kg package of dry food)." - Respondents selected one of the following options: €0; €2.5; €5; €7.5; €10; €12.5; €15; €20; Above €20.

The objective of this question was to quantify the additional monetary value consumers are willing to allocate to sustainability attributes. The multiple-choice format allowed for precise measurement of willingness to pay (WTP), while accommodating diverse consumer perspectives. This approach is aligned with contingent valuation theory, which emphasizes the importance of capturing economic preferences in hypothetical but realistic scenarios (Mitchell and Carson 1989). By offering a range of price increments, the question facilitated the identification of price sensitivity thresholds and detailed segmentation of consumer preferences (Louviere et al. 2010).

### **Question 4 - Willingness To Switch Brands**

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"Would you consider trying a different brand if it offers only sustainable dog food options?" - Respondents answered with a binary choice: Yes or No.

This question aimed to assess the potential for sustainability to act as a competitive advantage capable of influencing brand loyalty. Understanding consumers' willingness to switch brands provides valuable insights into the strength of sustainability as a differentiating factor in the marketplace. The usage of a binary response format enabled straightforward analysis of brand-switching tendencies, a critical aspect when evaluating market opportunities for sustainable innovations (Oliver 1999).

### **3.3. Scope Of The Analysis**

This chapter aims to achieve two primary objectives. The first objective is to identify the willingness of consumers to pay a premium for sustainable dog food products. By analysing the collected data, the chapter quantifies the additional monetary value consumers are prepared to allocate to sustainability compared to their current purchasing choices. This analysis offers a direct measure of the economic importance consumers place on sustainability, in the context of dog food consumption.

The second objective involves correlating willingness to pay with specific demographic factors, to provide a nuanced understanding of consumer behaviour. These factors include age, occupation, and income. The analysis examines how different age groups prioritise and assign value to sustainability, recognising that younger consumers, often more attuned to environmental concerns, may exhibit a higher willingness to pay (Euromonitor International 2023). It also considers the influence of professional background and employment status on spending behaviour, exploring whether occupation shapes consumer attitudes toward sustainable products. Furthermore, the study evaluates the relationship between income levels and willingness to pay, acknowledging that individuals with higher financial capacity are

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generally better positioned to prioritise ethical and environmental considerations in their purchasing decisions (Nguyen et al. 2020).

By integrating these demographic dimensions, this chapter offers critical insights into the drivers of consumer decisions regarding sustainable dog food products. These findings provide actionable knowledge for market segmentation and strategy development. Thus, this chapter not only quantifies the willingness to pay for sustainability but also elucidates the demographic and socioeconomic variables that influence consumer preferences, contributing to a comprehensive understanding of sustainability's role in consumer behaviour.

### **3.4. Data Analysis**

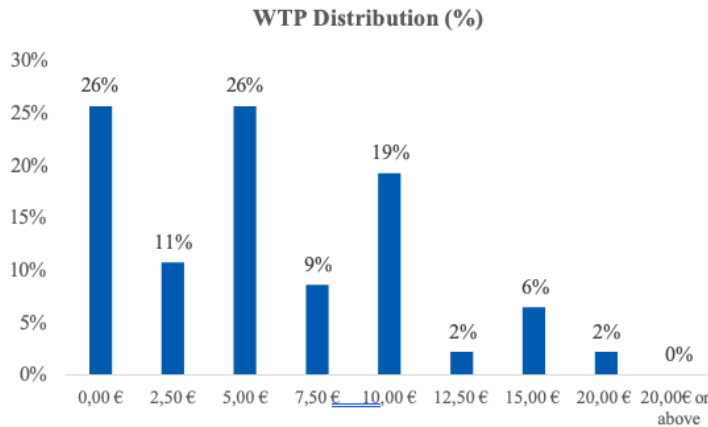
#### **3.4.1. Interest In Sustainable Products & Willingness to Switch Brands**

Our analysis reveals that 72% of respondents are willing to purchase a sustainable product at a slightly higher price from their preferred dog food brand. This demonstrates a considerable interest in supporting sustainable practices; however, it is important to note that the question does not specify the exact premium they would need to pay. The lack of a defined monetary value likely contributed to the positive response rate, as respondents may perceive the price increase as marginal.

In contrast, when asked if they would consider switching to another brand that exclusively offers sustainable options—without additional costs—the affirmative responses rose to 82%. This difference highlights two key insights: first, while many consumers value sustainability, they exhibit a lower willingness to pay a premium for it. Second, the higher willingness to switch brands for sustainability, suggests relatively low brand loyalty among respondents, with sustainability serving as a compelling factor in their decision-making. These findings emphasize the importance of offering affordable sustainable options to meet consumer expectations and leverage their willingness to change for environmentally conscious alternatives.

### 3.4.2. Identifying Willingness To Pay For Sustainability

#### Preferred Premium Amounts for a Sustainable Dog Food



The analysis of respondents' willingness to pay a premium for sustainable dog food revealed diverse consumer behaviours and preferences. Among the participants, 26% (12 respondents) indicated that they were not willing to pay any additional amount, selecting the €0 option. This group represents a significant portion of consumers who do not prioritise sustainability, when it comes at an additional cost. Conversely, another 26% of respondents expressed a willingness to pay €5 more for sustainable dog food, making it the most frequently selected premium amount. This suggests that a substantial share of consumers recognises the value of sustainability, but their willingness to pay is limited to a modest increase in cost. A smaller but notable group, 19% of participants, indicated a willingness to pay €10 more, highlighting a higher level of commitment to sustainability, within this segment. The remaining participants demonstrated varying degrees of willingness to pay, with 11% willing to pay €2.5 more, 9% willing to pay €7.5 more, and 6% willing to pay €15 more. Only two respondents, representing 2% each, selected €12.5 and €20 as their preferred premium amounts. Notably, no respondents selected the option of paying more than €20, suggesting an apparent ceiling in the willingness to pay for sustainability, within the surveyed population.

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The mean willingness to pay (WTP) of €5.75 for a sustainable option can be interpreted as a relatively low value, when compared to the average price paid by respondents for a 10kg package of conventional dry dog food, which is €40.55 (Appendix). This represents an average premium of approximately 14.2%, suggesting that while some consumers are willing to pay an extra for sustainability, the additional amount that they are willing to commit is relatively modest.

When contextualized against industry norms for sustainability premiums, the €5.75 mean is on the lower end of the spectrum. Research on consumer behaviour in sustainable product markets often shows that consumers are willing to pay a 20%–50% premium for eco-friendly or organic products (Essoussi and Zahaf 2008). In this case, the average WTP for sustainable dog food falls short of these benchmarks, suggesting that while sustainability is recognized as valuable, it is not a priority strong enough to drive higher financial commitments in this market segment. The standard deviation (€4.97) and variance (24.71) (Appendix) revealed significant variability in WTP among respondents, pointing to diverse financial capacities, personal priorities, and attitudes toward sustainability. This heterogeneity may be influenced by factors such as income disparities, differing levels of environmental consciousness, or variations in perceptions of the tangible benefits associated with sustainable products. Such diversity complicates market segmentation and highlights the challenge of designing pricing strategies that cater to all consumer groups.

The findings from the analysis of respondents' willingness to pay (WTP) for sustainable dog food products provide important insights into the Portuguese market. Although consumers are becoming more conscious of the significance of sustainability in their purchasing decisions, our findings suggest that this awareness does not yet correspond to a general willingness to pay a significant premium amount for sustainable products. One important finding is that 26% of respondents, a sizable portion of the sample, said they are unwilling to pay more for sustainable dog food. This substantial share of consumers reflects a significant level of price sensitivity,

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where affordability and practicality outweighing sustainability's perceived value. Such behaviour is consistent with findings in consumer research, where price is often cited as the most critical determinant of purchasing decisions, particularly for everyday products (Hughner et al. 2007). With sustainability being a secondary or non-prioritised attribute. This behaviour underscores a broader reluctance on the Portuguese market to pay for sustainability, when it comes with a higher price tag.

For businesses, this underscores the importance of developing strategies that integrate sustainability with affordability, ensuring that sustainable dog food products can be accessible to a broad range of consumers. Rather than framing sustainability as a luxury, companies can position it as an essential attribute that delivers meaningful benefits to the product, without significantly rising costs. Moreover, storytelling and education should play a pivotal role in marketing efforts. Brands can connect emotionally with consumers by highlighting real-world impacts of their choices (e.g. how purchasing sustainable dog food contributes to reducing carbon emissions, protecting ecosystems, or supporting ethical farming practices). Work in partnership with renowned influencers or veterinarians to establish a connection between sustainability and superior product quality, which promotes a better pet health can also resonate with consumers on a personal level, making the value proposition more persuasive. Finally, fostering trust and transparency is crucial. By providing clear information about the sustainability credentials of their products, such as certifications, sourcing methods, or environmental impact metrics, brands can build consumer confidence and demonstrate the tangible value of their offerings, which may help bridge the gap between awareness and financial commitment.

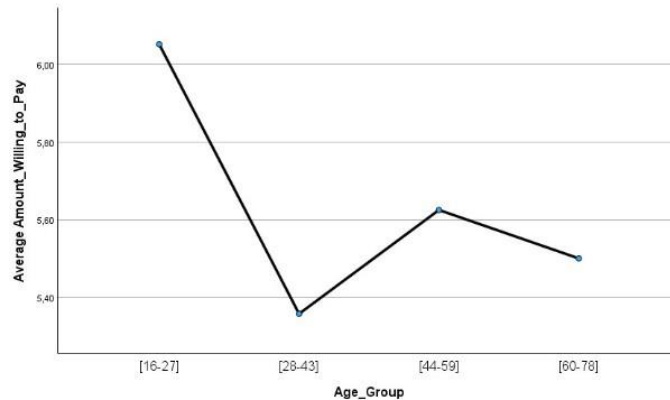
### **3.4.3. How Age Influences The Willingness To Pay More For A Sustainable Product**

The analysis of willingness to pay (WTP) for sustainable dog food reveals notable variations across different age groups, reflecting the influence of age on consumer preferences

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and financial commitment to sustainability. The data highlights both similarities and differences in the mean WTP, range of responses, and variability, within each age segment.

### Average Amount WTP by Age Group



Among respondents aged 16 to 27, the mean WTP was €6.05, the highest average across all age groups. This segment exhibited a range of responses from €0 to €15, with a standard deviation of €4.88 (Appendix). These results suggest that younger consumers are reasonably more inclined to pay a premium amount for sustainable products compared to older age groups. Given that younger generations are frequently distinguished by their increased concern for sustainability and social responsibility, the higher mean WTP may indicate a greater understanding and prioritization of environmental issues. However, the heterogeneity within this group, as indicated by the standard deviation, highlights a diversity of financial capacities or different priorities among younger respondents. Adult respondents aged between 28 and 43 reported a mean WTP of €5.36, the lowest average among all groups. The range of responses in this segment was narrower, from €0 to €10, with a standard deviation of €4.19. The lower mean and reduced range of WTP in this age group may reflect competing financial priorities, such as family expenses or career-related investments, which limit their willingness to allocate additional resources toward sustainable products. Despite this, the standard deviation indicates some level of diversity in attitudes, with a small proportion of respondents willing to pay closer to the upper end of the range. The middle-aged group, aged 44 to 59, exhibited a mean WTP of

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€5.63, with responses ranging from €0 to €15 and a standard deviation of €4.61. This group's mean WTP is slightly higher than that of the 28–43 age group, suggesting a moderate willingness to pay for sustainability. The broader range of responses and moderate standard deviation indicate varying attitudes within this segment, potentially reflecting differences in financial stability, environmental awareness, and personal priorities. Older adults aged 60 to 78 reported a mean WTP of €5.50, with responses ranging from €0 to €20. This group had the highest standard deviation, at €8.36, indicating significant variability in their willingness to pay. While the mean WTP is comparable to other age groups, the wide range and high standard deviation suggest that some older consumers are willing to make substantial financial commitments to sustainability, while others remain unwilling to pay any premium. This variability may be influenced by factors such as disposable income, retirement status, and individual attitudes toward environmental issues.

This analysis reveals that age is not a straightforward determinant of willingness to pay for sustainability. Consumer behaviour is shaped by a combination of generational perspectives, life-stage priorities, and individual financial circumstances. Younger customers, however, are more inclined to place a higher priority on sustainability due to social and environmental values, whereas middle-aged and adult consumers weigh these considerations against their immediate financial obligations.

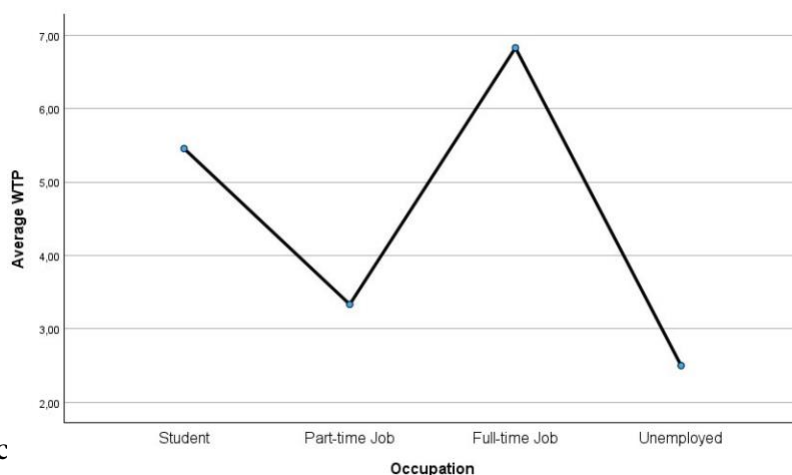
Research highlights a significant generational gap in sustainable consumption, with younger consumers demonstrating a stronger preference for sustainable products compared to older generations (Statista n.d.). Younger generations, specifically Millennials and Generation Z, are progressively prioritising sustainability in their consumer preferences driven by a heightened awareness of environmental issues and a desire to align purchases with their personal values. This shift reflects a deeper understanding of how consumption habits impact the planet, with many young consumers willing to pay a premium for brands that show commitment to sustainability. (First Insight n.d.). Older generations generally show a less

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consistent commitment to sustainability. While many seem to be aware of environmental issues and may support sustainable practices, their purchasing decisions often prioritise factors like price, convenience, and brand loyalty over eco-consciousness. Studies suggest that older generations tend to be slower to adopt sustainable products due to a lack of familiarity with newer options or scepticism about their efficacy and cost (Statista n.d.). This group is also more likely to adopt sustainable practices when they see direct financial or practical advantages.

### 3.4.4. How Occupation Influences The Willingness To Pay More For A Sustainable Product

**Average Amount WTP by Occupation Group**



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capacity to prioritise sustainability. The data highlights both similarities and differences in the mean WTP, range of responses, and variability, within each occupational category.

Among students, the mean WTP was €5.45, with responses ranging from €0 to €15 and a standard deviation of €4.16 (Appendix). This group demonstrates moderate willingness to pay a premium for sustainable products, likely influenced by their heightened awareness of environmental issues and a sense of social responsibility, often observed in younger demographics. However, the relatively high variability, as indicated by the standard deviation, reflects differences in financial resources as students often have limited or inconsistent income sources. Respondents working part-time reported a WTP at €3.33, with responses

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ranging from €0 to €10. This lower average suggests that part-time workers may have more restricted budgets and competing financial priorities, which limit their ability to pay a premium for sustainability. Those with full-time employment exhibited the highest mean WTP at €6.76, with responses ranging from €0 to €20 and a standard deviation of €5.45. This higher average suggests that full-time workers are generally more financially stable and, therefore, more willing to allocate resources toward sustainable purchases. The broader range of responses and moderate standard deviation, however, indicate variability within this group, reflecting differences in individual priorities, disposable income, and attitudes toward sustainability. Unemployed respondents reported the lowest variability and range in WTP, with a mean of €2.50, and responses ranging from €0 to €5. This group's limited financial resources and lack of stable income likely contribute to their low willingness to pay a premium for sustainable products. The narrow range and lower standard deviation suggest a more uniform reluctance within this segment, emphasizing the critical role of economic stability in shaping consumer behaviour.

From this analysis, we concluded the expected outcome, that individuals with stable employment, such as those in full-time jobs, are willing to pay a higher premium for sustainable dog food. However, students also exhibit a great WTP, which can be attributed to this occupational group being predominantly composed of young people, who are often more environmentally conscious and prioritise sustainability.

People with stable employment are often more willing to pay a premium for sustainable products, as financial security allows them to prioritise values such as environmental and social responsibility over cost alone. A study shows that consumers with steady incomes are more likely to view sustainable choices as long-term investments rather than immediate expenses (Deloitte 2022). These individuals often perceive their financial stability as an opportunity to support ethical practices, such as eco-friendly production or fair trade, aligning their purchasing power with their principles. Additionally, stable employment provides disposable income,

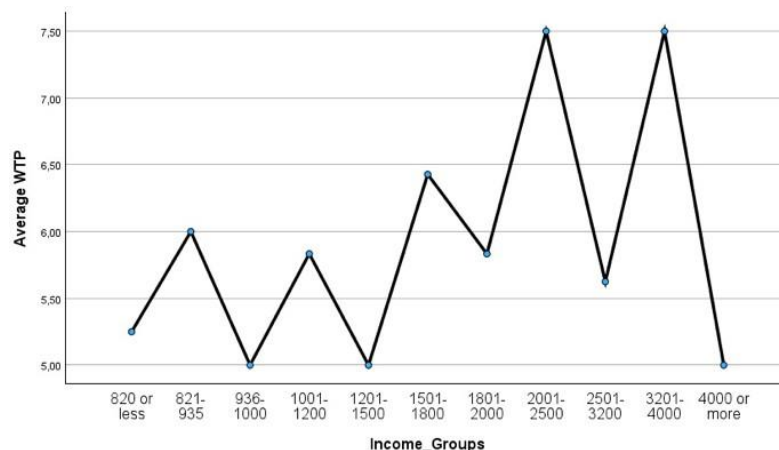
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which makes the slightly higher cost of sustainable goods less prohibitive. This trend underscores how economic factors, such as job stability, significantly influence the ability and willingness of consumers to make eco-conscious decisions, in their everyday lives.

People who are unemployed or have a part-time job may still care deeply about sustainability, but their ability to prioritise eco-friendly options in their purchasing decisions is often constrained by financial situations. For this group, affordability and immediate necessity often take precedence over ethical or environmental considerations (World Economic Forum 2022). Still, research shows that unemployed individuals may still engage in sustainable practices that do not incur extra costs, such as reducing waste, reusing items, or buying second-hand goods (Statista n.d.). While their purchasing power may be limited, their concern for the environment is not necessarily diminished; rather, it is expressed in ways that align with their economic circumstances.

### 3.4.5. How Income Influences The Willingness To Pay More For A Sustainable Product

#### Average Amount WTP by Income Group



The analysis of willingness to pay (WTP) for sustainable dog food shows distinct patterns across different income groups, exposing the influence of financial capacity and disposable income when it comes to consumer behaviour. The data highlights notable

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differences in the mean WTP, range of responses, and heterogeneity, within each income segment.

Respondents with income levels between €2001- €2500 and €3201- €4000 exhibited the highest mean WTP at €7.50, with responses ranging from €5 to €10 (Appendix). This indicates that consumers in these income brackets are more willing to pay a premium for sustainable products. The narrower range of responses suggests a more consistent willingness among individuals in these groups, potentially driven by their financial stability and capacity to prioritise sustainability in their purchasing decisions.

The income group earning €1501 to €1800 demonstrated a mean WTP of €6.43, with a standard deviation of €4.53 and a range of responses from €0 to €12.50. The relatively high mean presented by this group, suggests a moderate prioritisation of sustainability. The broader range of responses and variability indicate differing financial priorities, within this segment.

Individuals earning €821 to €935 reported the third-highest mean WTP of €6.00, with responses ranging from €2.50 to €10. The fact that individuals which belong to this group are willing to pay an amount like that of higher-income groups, might indicate a strong personal commitment to sustainability or a careful prioritization of their limited financial resources.

The groups with the lowest mean WTP included those earning €936 to €1000, €1201 to €1500, and €4000 or more, with responses ranging broadly from €0 to €10, €0 to €15, and €0 to €20, respectively. These segments showed more significant variability, suggesting diverse attitudes within the groups. For higher-income individuals (earning €4000 or more), this variability may reflect differing prioritisation of discretionary spending, with some willing to invest heavily in sustainability, while others remaining less inclined.

The results of this analysis indicate that there is no clear positive correlation between income and willingness to pay a premium for sustainability. While it might be expected that individuals with higher salaries would allocate more resources toward sustainable products, this pattern is not consistently observed. Our findings reveal that willingness to pay a premium for

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a sustainable option is influenced by factors beyond income level, which may include individual priorities, spending habits, perceptions of sustainability, social and culture factors. These results underscore the complexity of consumer behaviour, proposing that financial capacity alone does not determine the value that individuals place on sustainable options. Instead, a variety of personal and contextual factors play a significant role in determining these decisions.

People with higher incomes are not necessarily the ones most willing to pay a premium for sustainable options, because their purchasing decisions are influenced by diverse factors, beyond financial capacity. Research suggests that while higher-income individuals often have the means to afford sustainable products, they may prioritise other attributes, such as brand prestige, convenience, or personal preferences, over sustainability (PwC 2024). Additionally, some high-income consumers may exhibit scepticism about the effectiveness of sustainable options, or view sustainability as a secondary concern when compared to quality or luxury.

In contrast, people with lower or middle incomes who value sustainability as a personal or ethical priority might demonstrate a stronger willingness to allocate their limited resources toward environmentally friendly products, even if it means sacrificing the consumption in other areas (Deloitte 2022). This shows that attitudes and values toward sustainability often outweigh mere financial capacity in influencing consumer behaviour.

#### **4. Conclusion**

The pet food market has seen significant growth in recent years, driven by changing consumer preferences and increasing pet ownership. This growth has intensified competition, pushing brands to adopt distinct strategies and positioning to meet diverse consumer needs. This thesis provides significant findings that contribute to the understanding of the pet industry, addressing existing gaps in the Portuguese market. By combining interviews with perceptual mapping and conjoint analysis, we explored how these attributes affect consumer perceptions, behaviours, purchasing decisions, and brand preferences.

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Through conjoint analysis, we were able to examine Portuguese consumers' choice of dog food, focusing on the key attributes that influence their decisions. From the attribute perspective, the five attributes most valued by Portuguese consumers are availability, health benefits, organic quality, price, and sustainability. Our findings align with existing literature, as the results reveal that price is the primary attribute considered by consumers. However, for Royal Canin, health benefits attribute is a priority attribute, with consumers preferring to choose dog food with health benefits. Another important factor is sustainability and organic quality, which emerges as a highly significant consideration. The same applies to organic ingredients, which play a significant role in enhancing product attractiveness. Although they receive less attention than other factors, consumers also tend to choose products with full availability and those produced with organic ingredients.

These results provide a reference for the optimization of products, suggesting that the focus should be on price, health benefits, and sustainability to meet the needs of major consumer groups. Moreover, throughout the study of the main attributes, it was possible to identify the “perfect” combinations of those attributes. However, it is evident that in the real world, combining the highest-scoring attributes with the lowest price would be unfeasible for brands. Despite the unrealistic scenario presented by conjoint analysis, its application was crucial to understanding the impact of the attributes used in our analysis. Moreover, through analysis using the simulator, we were able to predict consumer preferences in different market scenarios.

The perceptual analysis, conducted in this thesis, explored four prominent pet food brands - Advance, PorSi, Purina, and Royal Canin, understanding where Portuguese consumers associate these brands with nine diverse attributes, including innovation, trust and attractiveness.

Our findings are capable of providing a valuable foundation for the selected brands to craft well-informed and consistent strategies tailored to their unique strengths and market positioning. Additionally, these findings highlight key areas where each brand can improve,

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whether by enhancing their product development processes, investing in more innovative solutions, or refining their marketing strategies to more effectively communicate their value propositions.

Sustainability is playing an increasingly pivotal role in shaping consumer behaviour across various industries, including the pet food market. Our findings highlight the growing importance of this factor, particularly among younger generations, who demonstrate the highest appreciation for sustainability and a greater willingness to pay a premium for such products. However, despite this trend, our results reveal that Portuguese consumers, as a whole, are not yet prepared to translate their concern for sustainability into a willingness to pay higher prices for sustainable dog food options.

Overall, our thesis provides important insights into the key attributes influencing the decision to purchase dog food among Portuguese consumers, highlighting the importance of a deeper understanding of consumer behaviour and preferences. It is a comprehensive solution that balances functionality, cost performance and environmental awareness. It can appeal to consumers who are concerned about the long-term health of their pets. By building consumer trust in the brand, the perfect product can also form a long-term emotional connection and resonance with consumers, consolidate its market position, and win long-term loyalty and support from consumers.

Ultimately, this thesis provides practical and guiding insights for companies, policy makers and researchers to contribute to relevant discussions and drive product optimization and development in the dog food market. In the context of today's increasing focus on sustainable development, it provides guidance for dog food industry practice and brand strategy. Additionally, our research addresses a gap by providing further and distinct investigation into consumer preferences in the Portuguese dog food market, providing new perspectives and insights into this underexplored industry.

## **5. Managerial Implications**

The research provided valuable findings into consumer behaviour and preferences, in the Portuguese pet food market, that can be translated into actionable strategies. Those implications relate to the study outcomes by investigating the attributes in consideration, including availability, health benefits, organic quality, price, and sustainability.

Price is considered a significant factor for consumers, still, there is a consumer segment willing to pay a premium for products that deliver enhanced value through attributes such as health benefits, sustainability and organic quality. Having in mind those different consumer segments, companies should consider implementing tiered pricing strategies to attract and retain a wide range of consumer segments (Nagle and Müller 2017, 45). Consequently, higher-income consumers who focus on superior quality and personalised features can buy premium product lines, while more affordable options can attract cost-conscious buyers while maintaining essentials. Thus, for companies to capture a broader market share it is crucial to balance quality and price while considering the diverse needs of the Portuguese pet food market (Springer 2013).

The results revealed the increasing relevance of health benefits in dog food. Considering that finding, companies should develop and prioritize products that respond to certain dog health needs such as digestive health, joint care, and weight management. Focusing on the pet owners' segment who highly value their pet's well-being, products enriched with functional nutrients and tailored formulations can impress those consumers. Furthermore, marketing strategies should emphasize these health-related attributes, effectively communicating their value to consumers and reinforcing those products' role in enhancing pet's quality of life (Kotler and Keller 2016).

Additionally, the findings underscored the growing importance of sustainability as a determinant factor in the dog food market. To meet the expectations of environmentally conscious consumers, companies must integrate sustainable practices throughout their

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operations. Those practices include implementing recyclable packaging, minimising carbon footprint and source ingredients ethically. This not only constitutes a response to the eco-conscious demand but can serve as a key differentiator. In addition, transparently communicating those sustainable efforts can empower consumer trust and foster long-term loyalty (Verhoef and Bügel 2017; Nuttavuthisit and Thøgersen 2017). Thus, dog food brands should optimise brand positioning to attract target customers more effectively.

While these attributes are important, another relevant factor is product availability, impacting the business success as highlighted by the research findings. To satisfy the different consumer expectations, companies must invest in comprehensive distribution networks that seamlessly combine online and offline channels (Verhoef, Wagner, and Herhausen 2021; Piotrowicz and Cuthbertson 2019). E-commerce popularity constitutes an opportunity to attract tech-savvy consumers who value convenience. At the same time, maintaining a strong presence in physical stores responds to the traditional buyers' expectations (Grewal, Roggeveen, and Nordfält 2017). A carefully designed distribution strategy not only improves accessibility but also minimises the risk of customer attrition due to stock shortages, fostering trust and reliability (Verhoef, Wagner, and Herhausen 2021; Piotrowicz and Cuthbertson 2019).

Simultaneously, organic considerations are becoming increasingly influential in driving consumer purchasing decisions. Consequently, leveraging certifications and transparent labelling is crucial to bolster consumer confidence and brand credibility (Jahn, Schramm, and Spiller 2005; Wognum et al. 2011). By positioning themselves as champions of responsible and organic resources, companies can foster lasting loyalty and build ethical relationships with the audience (Verhoef and Bügel 2017; Nuttavuthisit and Thøgersen 2017).

Additionally, our analysis reveals valuable insights into consumer perceptions and preferences in the Portuguese pet food market, focusing with four selected brands. By understanding the unique strengths and challenges of Advance, Por Si, Purina and Royal Canin

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we would like to propose specific solutions to enhance their positioning, meet consumer needs, and capitalize on market opportunities effectively.

Royal Canin demonstrate a strong position, emphasizing it as a trusted choice for discerning pet owners. To sustain this leadership, the brand should continue prioritizing veterinary-endorsed, evidence-based formulations while investing in advanced products that address niche health concerns, such as aging pets and breed-specific needs. It's crucial to emphasize its premium quality by integrating clear messaging around scientific excellence, quality assurance, and veterinary trust. Campaigns should focus on storytelling that highlights tangible outcomes, such as improved health, vitality, and pet longevity, creating an emotional connection with consumers while reinforcing the brand's role as a reliable solution for their pets' well-being.

Advance seems to hold a positive position in the market but falls short of Royal Canin, to bridge this gap, Advance should focus on enhancing product innovation by introducing a wider range of flavours and formulations tailored to specific health needs. Improving the brand's scientific credibility is also essential, the brand could highlight its commitment to science-based production through transparent communication of its research and product development processes. Collaborating with veterinarians and nutritionists to endorse and validate its products can build trust and position the brand as a more credible alternative. Additionally, increase familiarity among consumers is crucial, which can be achieved through targeted marketing campaigns focusing on its key strengths, such as balanced nutrition and functional health benefits.

Purina should address weaker perceptions around scientific credibility and premium quality, two attributes that are particularly important in the actual pet food market. By expanding its portfolio of health-oriented formulations, including those targeting specific nutritional needs or health concerns, Purina can align itself more closely with consumer expectations in these areas. This approach should be supported by transparent and informative communication, which can help reinforce trust and reliability. To differentiate itself further in a crowded market, where we

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found brands like Advance and Royal Canin, Purina should also aim to establish greater distinctiveness. Which may include offer sustainable options, like refillable packaging or upcycled ingredients, to further enhance its appeal to sustainability-focused consumers.

Finally, in order to improve its brand perception, PorSi should focus on enhancing product value by developing cost-effective yet credible formulations that address basic pet health needs, such as balanced nutrition, digestive support, and weight control. To bridge the gap in reputation and trustworthiness, PorSi must implement targeted marketing campaigns that emphasize its practicality, reliability, and strong price-to-value ratio. Highlighting its ability to provide essential nutrition at an affordable price will resonate with budget-conscious consumers.

## **6. Study Limitations**

Despite the valuable insights gained from this research, several limitations must be acknowledged to provide context for the results. These study limitations reflect the inherent challenges of conducting consumer research and indicate factors to be improved in future research.

### **Market Fluctuations**

Market dynamics are inherently fluid, as highlighted by the Brookings Institution (2018), markets often experience short-term volatility, emphasizing the importance of considering temporal perspective when analysing market behaviours (Brookings Institution, 2018). In the present thesis, the results are based on cross-sectional data, which can only reflect the preferences of consumers in the specific time under investigation, and consumer behaviour may change with changes in social values, market trends, and brand marketing strategies, resulting in a lack of dynamic perspective.

### **Secondary Data Bias**

The use of secondary data, such as articles and academic papers, can distort the evidence base. Substantial gaps and limitations in datasets may introduce biases in research findings (Baldwin, Murray, and Widaman 2022). Moreover, secondary data may also lack granularity or relevance to certain markets, impacting the accuracy of the analysis and conclusions (Gaffney and Matias 2018).

### **Online Survey Distribution Bias and Survey Scope**

The use of online survey distribution channels including Google Forms, social media platforms, and messaging apps like WhatsApp, introduces potential biases in the sample population. While these online channels are effectively reaching a larger audience, they may overrepresent younger, tech-savvy individuals who are frequent internet users (Statista, 2023). Consequently, this survey distribution method can inadvertently exclude older and less digital consumer groups, resulting in sample population bias. These imbalances limit the generalisability of findings across all market segments. Consequently, the conducted surveys may not include the diversity in the Portuguese dog-owning population. Variations in regional, cultural, and socio-economic factors may not be fully represented in the surveys, limiting the generalizability of the results.

### **Brand Scope**

Consumer behaviour in the dog food market is notably varied, shaped by a wide array of brands beyond the selected ones with an increase of pet food brands (Statista 2023). Although, the selected brands are major players in the Portuguese market, excluding smaller competitors may result in a less comprehensive understanding of consumer preferences. By not including a broader range of brands, the survey results can be impacted by the perceptions and preferences of consumers who usually buy other brands' products. Furthermore, this thesis solely explores the Portuguese market, not including other global markets. Following a comparative analysis could have contextualised the results, emphasizing unique or universal trends in Portuguese

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consumer behaviour. Additionally, it could provide insights that would complete and better justify some findings.

### **Narrow Focus on Dog Food**

Considering adjacent pet categories including treats and accessories, could result in a more holistic approach of consumer behaviour. Despite the substantial growth of the dog food market, certain segments can be considered niche segments (Expert Market Research 2023). This constitutes a constraint in gathering a substantial number of responses from consumers. This limitation brings difficulties in achieving a representative sample size, potentially impacting the generalisability of insights and conclusions drawn from the research.

Additionally, one complexity of the dog food market lies in the fact that the buyer (pet owner) is not the final consumer. Thus, analysing attributes including flavour and texture is a challenge as the preferences of the pet cannot be directly assessed by the owner. Relying on indirect factors such as pets' reactions or veterinary recommendations can introduce bias and an additional layer of complexity.

### **Lack of Emotional and Psychological Analysis**

Even considering emotional and psychological insights from past studies, this research focuses solely on tangible attributes such as availability, health benefits, organic quality, sustainability, and price. Understanding consumer behaviour requires analysing emotional and psychological factors, which provide a more holistic view of consumer decision-making processes (Springer n.d.). In the pet food market context, factors like the emotional bond between owners and their pets can provide valuable insights that influence consumer decisions and, consequently, allow a more comprehensive understanding of consumer preferences.

### **Lack of Exploration of Emerging Trends**

The research did not explore some emerging trends including vegan or insect-based dog food (Verified Market Reports 2023; Allied Market Research 2020). Analysing those innovations could allow a forward-looking perspective on the market while investigating new

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consumer preferences. Moreover, factors, such as flavour, packaging design, or brand loyalty, were not thoroughly examined. Including these dimensions could provide a more comprehensive understanding of consumer preferences.

### **Market share**

In addition to the previous, conjoint interviews are designed to capture consumer preferences for specific attributes and levels included in the survey, if all brands have the same availability. However, as highlighted by Orme and Johnson, (Orme 2008) in the real world, not all consumers have the same awareness and knowledge of each brand. For example, advertising or promotions can significantly influence consumer behavior. Moreover, while conjoint analysis reflects potential preferences for a product, it does not necessarily mean that consumers can purchase that product. As such, while conjoint analysis is a useful tool for predicting preference shares, it cannot predict market shares, as it does not capture all factors that can affect consumer behavior.

### **Drawbacks of Similar Attributes**

A significant drawback of this thesis was the high correlation among the evaluated attributes, with  $r > 0,95$ . From one perspective, it shows that respondents evaluated the attributes uniformly, but on the other hand, it led to an overarching perception of brand quality. While this consistency emphasizes the coherence on consumer perceptions, it also introduced an analytical challenge, as Principal Component Analysis (PCA) could only identify one significant dimension, restricting the ability to uncover nuanced differences between brands.

## **7. Future Research Suggestions**

Considering the outlined limitations, future research could achieve a more thorough understanding of the dog food market by addressing these constraints.

Current research uses static data, while consumer behaviour may adjust dynamically due to changes in social trends, market trends, and brand strategies. Thus, future studies could

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adopt longitudinal research methods to observe the evolution of consumer preferences over different periods.

Secondly, the sample size should be larger to cover more consumer groups, especially consumers of different ages, incomes, and geographical regions, ensuring the results reflect the Portuguese market diversity. Also, expanding primary data collection methods could diminish the usage of secondary sources, and consequently, minimise biases.

Additionally, including a wide variety of brands, pet food product categories and emerging trends, could provide a more comprehensive view of consumer preferences. To strengthen findings on consumer preferences, future studies should incorporate emotional and psychological factors. This would shed light on how the bond between pet owners and their pets' influences purchasing decisions.

To conclude, future research could explore other potential drivers of consumer preferences, such as environmental awareness, education, and cultural or social influences, to better understand the factors underpinning consumer decisions in the dog food market.

## **1. Literature Review**

### **1.1. Insights Into Consumer Preferences In The Dog Food Market**

Previous research studies and academic papers have explored and provided different insights into consumer behaviour and preferences within the dog food market (Boya, Dotson and Hyatt 2015; Tesfom and Birch 2010). Those research studies investigated factors such as purchasing decisions and behaviour, the impact of cultural and economic aspects and how the consumer prioritizes the various dog food attributes (Boya, Dotson and Hyatt 2015; Tesfom and Birch 2010).

In the dog food market, consumer preferences and behaviour have been extensively studied, providing critical findings into purchasing decisions and the various factors influencing them. For instance, market segmentation has notably become a relevant area of focus, with studies emphasizing how the relationship between owners and their pets shapes the prioritization of factors including health, price, organic content, and convenience (Boya, Dotson and Hyatt 2015). These insights are consistent with Kotler et al. (2017), who underlined the importance of psychographic segmentation in understanding consumer choices across sectors. In the pet industry context, this approach has proven significant value, as consumers' emotional attachment to pets often impacts their purchasing priorities (Boya et al. 2015; Kotler et al. 2017). Building on the importance of consumer preferences, motivations and dietary practices play a pivotal role in influencing dog food choices (Morgan et al. 2022). In the UK, studies have shown that raw meat diets are frequently preferred by owners who value naturalness and quality, mentioning benefits such as behavioural improvements and coat condition as primary motivations for their choices (Morgan et al. 2022). Conversely, consumers who do not opt for raw meat diets tend to value advice from veterinarians with the aim of balancing safety and cost-efficiency (Freeman et al. 2013). Additionally, Xiao, Wang, and Li (2021), documented how Chinese urban consumers place

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significant importance on the quality of food ingredients, regardless of where they purchase the products, underscoring a global trend where ingredient transparency is increasingly vital for earning consumer trust (Xiao et al. 2021). The prioritization of health-conscious purchasing decisions is further corroborated by research conducted in Thailand (Tengpongsathon and Sarun 2012). Studies utilizing the Analytical Hierarchy Process (AHP) methodology demonstrated that consumers give priority to attributes including ingredient quality, nutritional value, brand reputation and safety, highlighting an increasing emphasis on pet health and well-being (Tengpongsathon and Sarun 2012). Similarly, Lahner et al. (2020) revealed that brand reliability and health benefits highly influence consumer trust, further substantiating these findings (Lahner et al. 2020).

The demand for specialized and high-quality products has been further validated, Freeman et al. (2013) noted consumer choices increasingly focus on nutritional content, safety, and ingredient transparency. Consonantly, Lahner et al. (2020) underlined the crucial role of health-oriented attributes including organic certification and grain-free formulations, when responding to consumer expectations, while shaping consumer trust and loyalty.

Furthermore, visual elements such as kibble size, shape and colour significantly affect consumer perceptions in markets like Poland, as those characteristics are often associated with essential nutrients and natural ingredients (Baquero et al. 2018). Similarly, Wilkins et al. (2019) emphasized the visual branding relevance in fostering customer trust and acceptability within the pet food industry, demonstrating the complex interplay of factors impacting consumer decision-making (Baquero et al. 2018; Wilkins et al. 2019).

Variations in preferences and expectations among pet owners are evident when considering commercial and home-prepared diets. For instance, Michel et al. (2008) found that dog owners express high concern over the processing and nutritional content of commercial dog food, leading many to opt for home-prepared meals. On the other hand, cat owners exhibit a stronger preference for commercially prepared diets (Michel et al. 2008).

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These findings echo research by Buff et al. (2014), who noted that consumer scepticism about processed pet food often results from concerns over food safety and ingredient transparency, emphasizing the significant role trust plays in guiding consumer decisions (Michel et al. 2008; Buff et al. 2014). In the Portuguese context, studies revealed valuable insights into the dynamics shaping consumer preferences. For instance, Torres (2022) investigated socioeconomic factors impacting pet ownership and explored the relationship nature between pet owners and their pets. Additionally, the study uncovered a higher preference for physical shopping over online options, with veterinary advice serving as a key determinant in shaping purchasing decision-making (Torres 2022). Complementing these findings, a study explored customer satisfaction in the emerging pet food subscription-based online services market (Lima et al. 2024). By employing a quantitative approach, the study determined relevant attributes such as online service quality, nutritional content, sustainable packaging, and perceived health benefits as core factors affecting customer satisfaction (Lima et al. 2024). These studies provide a nuanced understanding of the evolving Portuguese pet food market, underscoring the importance of exploring in more detail valuable attributes, to foster customer loyalty and achieve sustainable growth (Torres 2022; Lima et al. 2024).

### **1.2.Consumer Perceptions Behaviour**

The consumer perception concept has been a central point in marketing and psychology for decades, constituting a cornerstone for understanding how consumers react to products, brands and services. One of the pioneering and most impactful studies in this field is "The Theory of Buyer Behaviour" by John A. Howard and Jagdish N. Sheth (1969). This study introduced a comprehensive model that investigates the intrinsic processes influencing consumer decision-making, highlighting the pivotal role of perception in shaping behaviour (Howard and Sheth 1969). By integrating psychological and social influences, the research

established a foundation framework for gaining insight into the way consumers perceive and process information and, consequently, guide their purchasing decisions (Howard and Sheth 1969).

Customer perception encompasses the opinions, feelings, and beliefs customers hold about a brand, directly impacting their behaviour toward products and their purchase decision process. (Zendesk 2014). Perception is a psychological process by which consumers select, organize and interpret sensory information to construct meaningful insights into environment, ultimately influencing their attitudes and decisions (Schiffman and Kanuk 2000). This interpretative process is impacted by a multitude of factors such as prior events, cultural norms and emotional states (Howard and Sheth 1969). Behaviour encompasses the actions and decisions driven by these perceptions, providing concrete indicators of the underlying cognitive and emotional mechanisms at play (Ajzen 1991). For instance, Hobbs et al. (2019) emphasized that for companies to meet the changing needs of consumers, they must be aware of consumers' value perception of different product attributes (Hobbs et al. 2019). Therefore, a company's ability to accurately analyse and interpret consumer value perceptions and expectations that influence consumer decisions, is critical to increase brand loyalty and successfully capture and maintain the expanding share of the pet food market (Hobbs et al. 2019).

In the realm of consumer behaviour, emotions play an important role alongside cognitive processes, as emphasized by the dual-process theory of decision-making (Kahneman 2011). This theory posits that decision-making involves two distinct systems: system 1 is intuitive, fast and emotionally driven, while system 2 is more deliberate and analytical (Kahneman 2011). In concrete, while consumers might evaluate pet food options based on attributes like price, nutritional content or ingredient transparency, emotional factors such as a sense of care, brand trust and responsibility towards their pets can become the decisive influence (Freeman et al. 2013). Understanding these psychological dimensions is relevant, specifically when

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analysing markets where emotional attachment to the product extends beyond its functional utility (Jyrinki and Leipamaa-Leskinen 2005). For instance, in the pet food market, pets are often considered family members, consequently, purchasing decisions are imbued with a sense of responsibility and care utility (Jyrinki and Leipamaa-Leskinen 2005). This anthropomorphic view emphasizes the influence that emotions have in those purchasing choices, placing trust at the forefront of aspects enhancing brand loyalty (Michel et al. 2008; Buff et al. 2014). Thus, eliciting positive emotional reactions, while providing clear and rational justifications for purchasing decisions is crucial to develop strategies that resonate with consumers (Freeman et al. 2013; Wilkins et al. 2019).

Social Identity Theory further deepens the comprehension of consumer behaviour, revealing how group affiliations influence individual choices (Tajfel and Turner 1986). Purchasing decisions are often used by consumers to express their membership to particular social groups, whether these resonates with values like sustainability, local sourcing, or luxury (Jyrinki and Leipamaa-Leskinen 2005). This phenomenon is present in the pet food market, for example, in the growing demand for organic, grain-free, or ethically sourced goods, as consumers align their purchasing habits with broader values (Lahner et al. 2020). Additionally, studies suggest that this phenomenon, not only strengthens personal and social identities, but also deepens emotional connections with brands (Freeman et al. 2013; Lahner et al. 2020).

Kapferer's Brand Identity Prism is a different strategic framework that provides valuable insights when analysing consumer perceptions and behaviour concerning brands. This model, developed by Jean-Noël Kapferer, consists of six interconnected facets that collectively shape how consumers experience and relate to a brand (Kapferer 2003). Being aligned with the model facets and following a practical application, we can consider that organic and sustainable product attributes can be tied to the brand culture, allowing brands to express their beliefs and values (Kapferer 2003). For example, the high-end brand dog food

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Royal Canin conveys high- quality and high-end positioning through high prices, establishing an emotional connection with consumers who are willing to invest in their pet's health and pursue high quality (Friederike Paetz 2021).

In addition, cognitive and rational factors also play an important role in shaping consumer behaviour. The Theory of Planned Behaviour highlights the importance of attitudes, subjective norms, and perceived behavioural control in influencing decision-making (Ajzen 1991). Within the pet food market context, attitudes may be influenced by perceived health benefits and ingredients transparency, while societal expectations surrounding responsible pet ownership relate to subjective norms (Freeman et al. 2013; Ajzen 1991). Product availability and price impact the perceived behavioural control, this determines how easily consumers can translate preferences into actions (Ajzen 1991; Schiffman and Kanuk 2000).

### **1.3.Recognising Consumer Behaviour When Purchasing Dog Food**

Understanding dog owners' behaviour is crucial for creating effective and relevant customisation and ensuring successful marketing tactics (NCBI 2021). According to research conducted by the National Centre for Biotechnology Information (NCBI 2021), price, quality of ingredients and brand reputation are the variables most likely to influence consumers' purchasing decisions. Price remains a major factor; however, it is notable that consumers are increasingly gravitating towards natural and organic components, demonstrating an evident shift towards healthier options (ResearchGate 2020). Hobbs et al. (2019) also emphasised that pet food customers increasingly value health and ingredient characteristics, significantly affecting consumers' trust in brands that meet those preferences (Hobbs et al. 2019).

Health and nutrition emerge as major considerations when choosing dog food (Research Gate 2020). ResearchGate (2020) and ScienceDirect (2023) studies demonstrated that pet owners place a high priority on nutritional content, covering topics like coat health,

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weight control, and digestive health (Research Gate 2020; ScienceDirect 2023). Additionally, nutritional factors, including microbiological safety and digestibility are of increasing significance (ScienceDirect 2023). Growing concerns over potentially harmful ingredients (artificial preservatives and excess heavy metals) and contaminants like mycotoxins in certain dog food products have heightened consumer awareness, driving increased demand for safer and health-conscious products. Natural components are strongly preferred over synthetic additives, since many consumers believe that natural dog food is healthier and safer (ResearchGate 2020; ScienceDirect 2023).

In line with increasing consumer awareness of sustainability, there is a growing demand for eco-conscious options. United Nations News (2022) reported an increasing demand for recycled dog food, which utilises leftover fish and shrimp to produce premium pet food products (United Nations News 2022). This trend highlights the environmental concerns experienced by consumers during the purchasing process (United Nations News 2022). Furthermore, ScienceDirect (2023) research stated that vegan dog diets are also gaining popularity, largely due to their association with reduced risks of certain dog health problems (ScienceDirect 2023). This trend is contributing to broader product categories, within the pet food market (ScienceDirect 2023).

The market for high-end and organic products increasingly expands, driven by changes in consumer preferences (Straits Research 2023). These trends highlight the increasing importance of organic and ethical factors, alongside considerations including price, and health benefits (Straits Research 2023). In addition, consumer behaviour can also be influenced by psychological factors. Some consumers may be attracted to "organic" or "sustainable" labels, as it is aligned with their pursuit of health and environmental protection values (Straits Research 2023). This brand association, not only influences purchasing behaviour, but also enhances brand loyalty (Williams et al. 2020).

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Considering the extensive variety of available options in the market and the significance of choosing the right product, the purchasing process emerges as an increasingly complex task, intensifying the challenge for pet owners (Pet Food Industry 2023). A 2023 study by the Pet Food Industry revealed that nearly 50% of dog owners perceive the selection of suitable dog food as an important decision (Pet Food Industry 2023). This complexity underscores the challenges faced by dog owners when navigating the market, especially when ranking and balancing diverse product attributes such as price, health, sustainability, and availability (Pet Food Industry 2023).

Household income plays an important role in shaping consumer behaviour, Williams et al. (2020) found that household spending on pet supplies increases with income (Williams et al. 2020). Pet owners who earn more than \$55,000 annually spend, on average, \$164 more on pet supplies than pet owners whose household income is less than \$55,000 annually (Williams et al. 2020).

A different study led by Tesfom and Birch (2010) compared pet owners' behaviour when purchasing dog food and when purchasing human food (Tesfom and Birch 2010). The researchers highlighted that dog owners exhibit greater brand loyalty towards dog food compared to their loyalty towards human food brands (Tesfom and Birch 2010). Concerning price sensitivity, dog owners tend to be more price tolerant in the context of dog food and are less likely to focus solely on the cheapest options. Dog owners prioritise buying healthy dog food for their pets more than for themselves (Tesfom and Birch 2010).

Lifestyle and psychological factors also impact purchasing decisions. Jyrinki and Leipamaa-Leskinen (2005) revealed a connection between viewing pets as extensions of oneself and pet food consumption behaviour (Jyrinki and Leipamaa 2005). This underlines that pets are not merely animals, but are regarded as family members, reflecting their owner's lifestyles and values (Jyrinki and Leipamaa 2005). Thus, dog owners' lifestyle, including

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preferences for health, sustainability and premium options, has a direct influence on purchasing behaviour (Jyrinki and Leipamaa 2005).

#### **1.4.Brand Positioning & Marketing Tactics**

The dog food market has become a fast development and ever-changing industry, ranging from high-end organic brands to the popularisation of broad categories of products (Yu 2020). In this highly competitive environment, strong brand positioning and effective marketing skills are crucial to distinguish a brand from many competitors (Wattanasen and Udomkit 2016). In addition, consumer behaviour is complex and rapidly evolving (Wattanasen and Udomkit 2016). When choosing dog food, consumers are not only concerned about price and ingredients, but also about health benefits, availability, and sustainability (Wattanasen and Udomkit 2016). Consumers' purchase decision-making process is multi-layered, brands need to facilitate consumers' access to key information through marketing tactics, while winning consumers' trust (Yu 2020). Effective marketing strategies help dog food companies attract new customers and retain existing ones, by highlighting unique selling points and meaningful values (Yu 2020).

Social media marketing has become an essential part of empowering companies to engage with pet owners (Gadekar, Bhimrao and Sarode 2023; Maitri et al. 2023). Since social media platforms permit pet food companies to connect with target clients in an instant, directly personalised touch (Gadekar, Bhimrao and Sarode 2023; Maitri et al. 2023). Yuan (2024) found that social media marketing, search engine marketing, display advertising and content marketing showed significant effects in helping pet stores optimise their business capabilities, emphasizing the importance of digital marketing in enhancing brand awareness and operations (Yuan 2024). According to a 1997 study by Duhan, Johnson, Wilcox and Harrell, social media mentions and recommendations from friends significantly influence customer confidence and purchase decisions (Duhan et al. 1997). For pet food brands, it can

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not only effectively widen and expand brand exposure through short videos, graphics, and other related product live broadcast activities on social media for publicity, but also accurately deliver the product to users according to behaviours, interests, other factors, to improve user conversion rate (Gadekar, Bhimrao and Sarode 2023). According to the study of Gadekar, Bhimrao, and Sarode (2023) analysing the influence of digital media marketing on the purchase behaviour of pet food users, social media marketing promotes the best transaction choice of products and improves the quality and diversity of products. It also provides consumers with a variety of choices and availability, helping brands more precisely meet user needs, while increasing competition in the industry and driving the development of more innovative marketing strategies (Gadekar, Bhimrao and Sarode 2023).

According to Stoica and Hickman (2023), from the perspective of social identity theory, the role of professional service providers (PSP) in recommending brands to consumers is crucial (Stoica and Hickman 2023). Professionals who have extensive product expertise but are only involved in a very small number of sales are more likely to gain the trust of consumers, such as veterinarians (Stoica and Hickman, 2023). The study found that recommendations from professionals can not only improve brand credibility and spread positive word-of-mouth for the brand, but also provide consumers with a more reliable basis for choice and build consumers' trust in the brand (Stoica and Hickman 2023). However, it is not enough to rely on social media channels for marketing, Stoica and Hickman (2024) further pointed out that Gen Z consumers are flexible in choosing suitable shopping channels, according to the nature and credibility of the source of advice (Stoica and Hickman 2024). If the importance and risk of goods are high, consumers are more inclined to shop in physical stores to seek professional advice (Stoica and Hickman 2024). This study suggests that Gen Z's purchase behaviour may differ significantly across channels depending on their information source and trust preferences (Stoica and Hickman 2024). This behaviour pattern provides important implications for pet food brand marketing strategies, in concrete, the

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application of social media marketing and professional guidance should be balanced according to different consumer purchasing conditions, to meet different consumer's needs (Stoica and Hickman 2024). Royal Canin collaborates with veterinary organisations globally to promote prescription food. Their approach emphasises precise nutritional planning and provides consumers access to professional veterinarians and dietitians for guidance. (Yu,2020). Advance also offers high-quality products developed by the brand's veterinary team and is committed to developing high quality products that help dog immunity through collaboration with research centres and international universities (Advance: Expert Nutrition for Dogs and Cats | Advance Affinity n.d.).

Shannon Brown's research explores how causal marketing can help pet retailers create deeper connections with consumers (Brown 2015). According to the book, causal marketing can stimulate emotional resonance among consumers by associating pet supply brands with a sense of social responsibility, consequently, those consumers who are attracted to the same values reinforce their brand loyalty and increase sales (Brown 2015). The study highlighted that causal marketing is effective in the pet industry, where nearly 75% of consumers of pet supplies would recommend brands that support good causes (Brown 2015). This is related to the fact that pet owners usually have a high degree of concern for environmental protection, animal welfare, and social welfare (Brown 2015). By supporting relevant public welfare activities, pet retailers can not only strengthen the brand's social image and convey values, but also establish a stronger connection and resonance with target consumers at the emotional level, which is a win-win situation for consumers and companies (Brown 2015).

The key to brand positioning is to attract the attention of consumers and ensure that they can clearly identify themselves with the unique value of the brand (Keller 1993). For consumers, well-known brands like Advance, Purina and Royal Canin are often associated with reliability and quality assurance, giving the impression that they are more concerned

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about pet health (Keller 1993). If consumers have high health requirements for their dogs, trusting a brand often means choosing it as a long-term product supplier (Chaudhuri and Holbrook 2001). Customer loyalty is mostly driven by brand awareness, research shows that consumers are more likely to trust well-known companies, which encourages repeat purchases (Keller 1993; Chaudhuri and Holbrook, 2001).

New entrants face the challenge of building brand awareness and credibility to compete effectively in the market (Keller 1993). In concrete, PorSi is an emerging brand, a private label launched by Portuguese retailer Intermarche in 2019, covering the food and non-food sectors, as well as several other categories in addition to pet food (Expert Market Research 2023).

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## Appendix

### Survey design – Preliminary Interviews for consumers

Section	Question
<b>1. Dog Food Purchase Behavior</b>	1. Can you walk me through your decision-making process when purchasing dog food?
	2. What aspects of dog food are most important to you, and why?
	3. How has your approach to buying dog food changed over time, if at all?
	4. What sources of information do you rely on when making decisions about your dog's nutrition?
	5. Can you describe an instance where you switched dog food brands? What prompted the change?
	6. How much does price matter to you when choosing dog food?
	7. How much do the health benefits of dog food affect your choices?

<b>2. Attributes</b>	8. How important is it for you that your dog food contains organic ingredients?
	9. How much does a brand's commitment to sustainability influence your buying decisions?
	10. How much does the premium status of the product influence your decision?
<b>5. Preferences</b>	11. What type of dog food format do you prefer to buy?

	12. If you had to choose, which two factors would you say are most important when picking dog food?
<b>6. Additional Insights</b>	13. How much does brand trust or familiarity with a brand affect your choice when buying dog food?
	14. How much does the availability or convenience influence your decision when choosing dog food? 15. What could dog food brands do better to meet your expectations around these attributes?
	16. What are your thoughts on the relationship between dog food and a pet's overall health and well-being?
	17. How do you evaluate the quality of a dog food brand or product?
	18. What improvements or changes would you like to see in the dog food industry?
	19. How do you balance your dog's preferences with nutritional considerations when selecting food?
	20. What are the brands that you recall when talking about dog food?
	21. Which dog food brands do you buy?

**Survey design – Preliminary Interviews for professionals**

Section	Question
<p><b>1.Screening Questions</b></p>	1. Do you have or recently had a dog?
	2. Do you buy dog food in Portugal?
<p><b>2.Brand Familiarity and Attribute Ratings</b></p>	3. Which of the following dog food brands are you familiar with? Please select all that apply.
	4. Science-Based: From 1 to 5 (1 being the lowest and 5 the highest) how science-based is the brand for you?
	5. Innovation: From 1 to 5 (1 being the lowest and 5 the highest) how innovative is the brand for you?
	6. Premium: From 1 to 5 (1 being the lowest and 5 the highest) how premium is the brand for you?
	7. Nutritive Balanced: From 1 to 5 (1 being the lowest and 5 the highest) how nutritive-balanced is the brand for you?
	8. Trustworthiness: From 1 to 5 (1 being the lowest and 5 the highest) how trustworthy is the brand for you?
	9. Attractiveness: From 1 to 5 (1 being the lowest and 5 the highest) how attractive is the brand for you?
	10. Reputation: From 1 to 5 (1 being the lowest and 5 the highest) how good reputable is the brand for you?
	11. Informative From 1 to 5 (1 being the lowest and 5 the highest) how informative is the brand for you?

	12. Flavour Variety: From 1 to 5 (1 being the lowest and 5 the highest) how flavour varied is the brand for you?
<b>3.Sustainability</b>	13. Suppose your preferred dog food brand offered a sustainable product at a slightly higher price. Would you be interested in buying it?
	14. How much do you usually pay for a 10kg package of dry food?
	15. How much more would you be willing to pay for this sustainable dog food compared to your current choice? (consider a 10kg package of dry food)
	16. Would you consider try a different brand if it offers only sustainable dog food options?
<b>4.Demographics</b>	17. How old are you?
	18. What is your current occupation? (Please select the option that best describes your situation)
	19. What is your current monthly gross base salary? (Please select the range that best applies)

**Conjoint analysis - levels**

<b>Attributes</b>	<b>Levels</b>
Price	20 €
	40 €
	80 €

Sustainability	High-Sustainability
	Moderate-Sustainability
	Low-Sustainability
Availability	Pet Stores, Online Platforms, Veterinary, Supermarket
	Pet Stores, Online Platforms, Veterinary and not in Supermarket
	Pet Stores, Online Platforms and not in Veterinary neither Supermarket
Health Benefits	With Specific Health Benefits
	Without Specific Health Benefits
Organic	Organic
	Non-Organic

### Survey Design – Perceptual Mapping and Bonus Question

Section	Question
<b>1.Screening Questions</b>	1. Do you have or recently had a dog?
	2. Do you buy dog food in Portugal?
<b>2.Brand Familiarity and Attribute Ratings</b>	3. Which of the following dog food brands are you familiar with? Please select all that apply.
	4. Science-Based: From 1 to 5 (1 being the lowest and 5 the highest) how science-based is the brand for you?

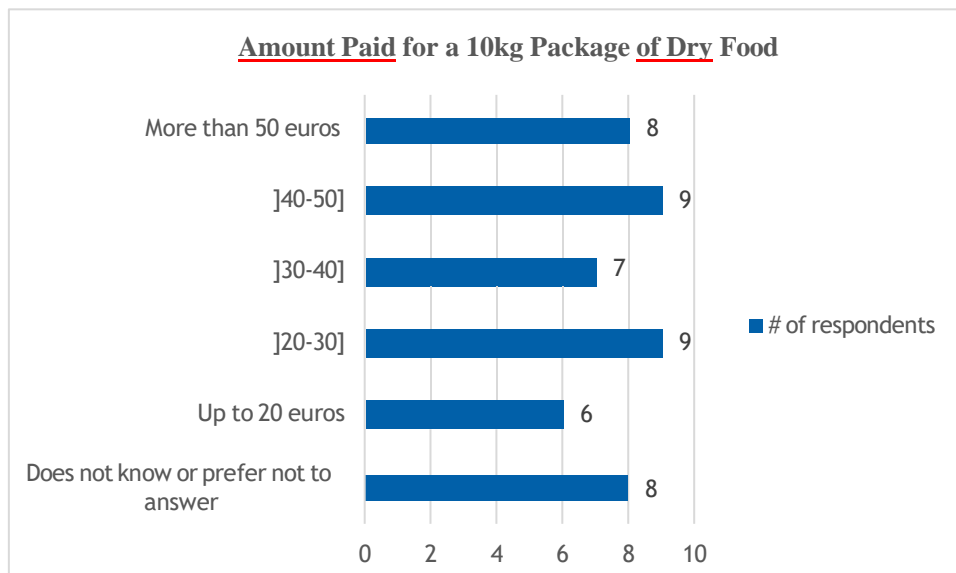
	5. Innovation: From 1 to 5 (1 being the lowest and 5 the highest) how innovative is the brand for you?
	6. Premium: From 1 to 5 (1 being the lowest and 5 the highest) how premium is the brand for you?
	7. Nutritive Balanced: From 1 to 5 (1 being the lowest and 5 the highest) how nutritive-balanced is the brand for you?
	8. Trustworthiness: From 1 to 5 (1 being the lowest and 5 the highest) how trustworthy is the brand for you?
	9. Attractiveness: From 1 to 5 (1 being the lowest and 5 the highest) how attractive is the brand for you?
	10. Reputation: From 1 to 5 (1 being the lowest and 5 the highest) how good reputable is the brand for you?
	11. Informative From 1 to 5 (1 being the lowest and 5 the highest) how informative is the brand for you?
	12. Flavour Variety: From 1 to 5 (1 being the lowest and 5 the highest) how flavour varied is the brand for you?
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	15. How much more would you be willing to pay for this sustainable dog food compared to your current choice? (consider a 10kg package of dry food)
	16. Would you consider try a different brand if it offers only sustainable dog food options?
	17. How old are you?
<b>4.Demographics</b>	18. What is your current occupation? (Please select the option that best describes your situation)
	19. What is your current monthly gross base salary? (Please select the range that best applies)

### Willingness to Pay a Premium for a Sustainable Dog Food: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
WTP	47	,00	20,00	5,7447	4,97043	24,705
Valid N (listwise)	47					

### Distribution of the Amount Usually Paid for a 10kg Package of Dry Food



**Willingness to Pay a Premium for a Sustainable Dog Food - Distribution for Age Groups: Descriptive Statistics**

**Descriptives**

Amount_Willing_to_Pay								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
[16-27]	19	6,0526	4,88164	1,11993	3,6998	8,4055	,00	15,00
[28-43]	7	5,3571	4,19041	1,58383	1,4817	9,2326	,00	10,00
[44-59]	16	5,6250	4,60977	1,15244	3,1686	8,0814	,00	15,00
[60-78]	5	5,5000	8,36660	3,74166	-4,8885	15,8885	,00	20,00
Total	47	5,7447	4,97043	,72501	4,2853	7,2041	,00	20,00

**Willingness to Pay a Premium for a Sustainable Dog Food - Distribution for Occupation Groups: Descriptive Statistics**

**Descriptives**

WTP								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Student	11	5,4545	4,15605	1,25310	2,6625	8,2466	,00	15,00
Part-time Job	6	3,3333	4,08248	1,66667	-,9510	7,6176	,00	10,00
Full-time Job	27	6,7593	5,45148	1,04914	4,6027	8,9158	,00	20,00
Unemployed	3	2,5000	2,50000	1,44338	-3,7103	8,7103	,00	5,00
Total	47	5,7447	4,97043	,72501	4,2853	7,2041	,00	20,00

**Willingness to Pay a Premium for a Sustainable Dog Food - Distribution for Income Groups: Descriptive Statistics**

**Descriptives**

WTP								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
820 or less	10	5,2500	4,77988	1,51153	1,8307	8,6693	,00	15,00
821-935	5	6,0000	3,79144	1,69558	1,2923	10,7077	2,50	10,00
936-1000	3	5,0000	5,00000	2,88675	-7,4207	17,4207	,00	10,00
1001-1200	3	5,8333	3,81881	2,20479	-3,6531	15,3198	2,50	10,00
1201-1500	3	5,0000	8,66025	5,00000	-16,5133	26,5133	,00	15,00
1501-1800	7	6,4286	4,53163	1,71280	2,2375	10,6196	,00	12,50
1801-2000	3	5,8333	8,03638	4,63980	-14,1301	25,7968	,00	15,00
2001-2500	2	7,5000	3,53553	2,50000	-24,2655	39,2655	5,00	10,00
2501-3200	4	5,6250	3,75000	1,87500	-,3421	11,5921	,00	7,50
3201-4000	2	7,5000	3,53553	2,50000	-24,2655	39,2655	5,00	10,00
4000 or more	5	5,0000	8,66025	3,87298	-5,7531	15,7531	,00	20,00
Total	47	5,7447	4,97043	,72501	4,2853	7,2041	,00	20,00