



Effectiveness of Health vs. Sustainability Messaging in Marketing Organic Pet Food

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ABSTRACT

The organic pet food market is growing at a fast pace because of the humanization of pets as well as changes in consumer behaviour, with pet owners being increasingly likely to buy products claiming health and/or sustainability benefits. This study sought to determine what the most effective marketing communication strategy for organic dry dog food is, in terms of influencing purchase intentions, by comparing the outcomes of health-focused, sustainability-focused and dual-benefit (health + sustainability) marketing messages. Following a between-subjects experimental design, online survey participants (Portuguese dog owners and caregivers) were randomly exposed to mock-ups of product packaging featuring one of these message types, and their perception of message effectiveness, overall product evaluation, purchase intention, socio-demographic characteristics and consumption profile were assessed. Results revealed that exposure to the health-focused message led to higher product liking and purchase intention than to the sustainability-focused message. Meanwhile, exposure to the dual-benefit message improved the perception of message effectiveness but did not outperform health-focused communications in driving buying intentions. Moreover, findings highlight the mediating role of perceived message effectiveness and the moderating influence of a consumer-specific factor: the health needs of pets. These insights provide actionable guidance for marketers aiming to design more effective communication strategies that resonate with diverse consumer values in the organic pet food sector.

Keywords: Marketing Communication, Organic Pet Food, Health, Sustainability, Dry Dog Food, Perceived Message Effectiveness, Purchase Intentions, Niche Market Positioning

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SUMÁRIO

O mercado de alimentos orgânicos para animais de estimação está a crescer rapidamente, impulsionado pela humanização dos animais de estimação e pelas mudanças no comportamento dos consumidores. Os donos demonstram uma tendência crescente para produtos que reivindicam benefícios para a saúde e/ou sustentabilidade. Este estudo procurou determinar qual a estratégia de comunicação mais eficaz para ração seca orgânica para cães, avaliando o impacto de mensagens centradas na saúde, sustentabilidade e na combinação de ambas, a gerar intenções de compra. Seguindo um desenho experimental entre grupos, os participantes do inquérito online (donos cuidadores de cães, portugueses) foram aleatoriamente expostos a protótipos de embalagens com um dos três tipos de mensagem. Posteriormente, foram avaliados a eficácia da mensagem, avaliação geral do produto, intenções de compra, características sociodemográficas e o perfil de consumo dos participantes. Os resultados revelaram que a exposição à mensagem focada na saúde leva a uma maior apreciação do produto e intenção de compra em comparação à mensagem focada na sustentabilidade. Por outro lado, a exposição à mensagem que contém os dois benefícios melhorou a percepção da eficácia da mensagem, mas não superou a mensagem focada na saúde na condução das intenções de compra. Além disso, os resultados destacam o papel mediador da percepção da eficácia da mensagem e a influência moderadora de um fator específico do consumidor: as necessidades de saúde dos animais. Estas conclusões orientam profissionais de marketing a desenvolver estratégias de comunicação mais eficazes, alinhadas aos valores diversificados dos consumidores de alimentos orgânicos para animais.

Palavras-chave: Comunicação de Marketing, Alimentos Orgânicos para Animais de Estimação, Saúde, Sustentabilidade, Ração Seca para Cães, Eficácia Percebida da Mensagem, Intenções de Compra, Posicionamento em Mercados de Nicho

Título da dissertação: “Eficácia das mensagens de saúde versus sustentabilidade no marketing de alimentos orgânicos para animais de estimação”

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The path to finish this thesis has been filled with obstacles, development, and several moments of reflection. Looking back, I can appreciate the ups and downs that molded my experience and see how much I've learnt along the way.

As I conclude this chapter of my life, I'd want to take a minute to convey my heartfelt thanks to the exceptional people who have been there for me throughout.

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GLOSSARY

RQ	Research Question
H	Hypothesis
Sd	Standard Deviation
EI	Emotional Intelligence

CHAPTER 1: INTRODUCTION

1.1 Background and Problem Statement

Marketing, sustainability, and consumer behavior are increasingly intertwined, especially as customers become more aware of the ethical and environmental consequences of their choices. In today's competitive marketplace, the increasing knowledge of health, environmental sustainability, and socially responsible behaviors is gradually influencing consumer decision-making, which poses substantial challenges and opportunities for businesses (Parashar et al., 2023). Marketing managers, branding agencies, and general managers must understand how these trends can be leveraged to influence consumer behavior (Kotler & Keller, 2016). This increased knowledge has led to changes in the way products are marketed, particularly in the food business (Zinkhan & Carlson, 2013).

As competition increases, marketers must refine their strategies to provide more targeted and effective messaging communication strategies. In line with this, there is a growing trend for businesses to emphasize either the health benefits or the environmental benefits of products in marketing communications, thereby targeting different motivations among consumers. According to Green and Peloza (2014), there are currently two main approaches in green advertising: self-benefit appeals, which talk about the personal benefits a consumer accrues from using the product, and others-benefit appeals, which are more concerned with the larger social or environmental consequences of consumption. This distinction allows marketers to target individuals based on whether they are motivated by personal health or the greater good.

In recent years, these consumer values have not only impacted mainstream food markets but have also significantly influenced the pet food market, which has seen considerable growth (Statista, 2024). There is a boom in the diversity of the pet products and services available in the market, alongside an increase in the share of household income dedicated to pet care, with both trends being driven by the increasing presence of pets in households (Zhang et al., 2022).

Indeed, the pet food market has expanded significantly in recent years thanks to the growing consumer awareness and demand for products that fulfill both health and environmental standards (Technavio, 2024). This movement is primarily driven by the humanization of pets, where pets are treated as family members, and is leading a trend toward premium pet care (Euromonitor International, 2024). Pet owners are increasingly more willing to pay more for high-quality, natural, and organic pet food that reflects their beliefs (Anne Scott Livingston,

2022). Simultaneously, sustainability has become an important factor, with manufacturers focusing on environmentally eco-friendly packaging and ethically produced components (Technavio, 2024). This combined emphasis on pet health and environmental responsibility is transforming marketing strategies, as businesses strive to appeal to both health-sensitive and environmentally conscious customers.

In the case of organic pet food, two prominent marketing messaging strategies highlighting health benefits versus environmental benefits and present distinct advantages and challenges. Health-focused messages leverage the growing trend of humanizing pets, as owners view pets as family members deserving of high-quality, nutritious, and health-promoting products (Forbes, 2018). This presents an opportunity for positioning organic pet food products as essential for protecting the health and well-being of pets, much like the way consumers prioritize the health of their own families, thereby tapping into the emotional connections between consumers and their pets (Kotler & Keller, 2016). However, this messaging strategy may struggle to differentiate organic products from conventional alternatives. In contrast, environmentally focused messages cater to the rising consumer demand for sustainability, with environmental-conscious consumers being more likely to prefer products that are perceived to have a smaller ecological footprint (Kim & Lee, 2023). But such messages may risk alienating consumers who prioritize pet health over sustainability or who are skeptical of greenwashing tactics (Drury & Lehner, 2021). The ability of each type of message to drive purchasing decisions likely depends on various factors, including the consumer values, level of brand awareness, and the context in which the food product is being sold.

Evaluating the relative effectiveness of health-focused versus environmentally focused marketing messages on the consumers' purchase intentions of organic pet food is therefore relevant to pet food brands. Previous research studying the effects of health vs environmental benefit communication on (human) food consumption investigated whether marketing messages centered on health benefits were more effective in influencing consumers' willingness to purchase sustainable products than those focusing on environmental protection (Green & Peloza, 2014). But findings have been so far inconclusive as to which type of benefit is more persuasive (Visser et al., 2015), with some studies suggesting that health-focused messages resonate more with individual consumer priorities and others arguing that environmental messages are more effective (White & Simpson, 2013). Despite this body of work, relatively few studies have specifically examined the case of the organic food market, which may require

distinct advertising strategies compared to other sustainable product categories (Yang et al., 2015). To this respect, research suggests that organic products might require a more nuanced approach to benefit communication due to their dual association with both health and environmental benefits, (Hughner et al., 2007; Aertsens et al., 2009). As the organic food industry evolves, marketers must therefore come to better understand the varying impact of these marketing messages to enhance customer engagement and increase sales (Smith & Paladino, 2010).

There is a lack of empirical evidence regarding the effectiveness of health-focused versus environmentally focused messaging in the organic pet food market. Examining the actual offer of pet food products available today in the market, it becomes clear that brands selling organic dry dog food typically adopt a dual-messaging strategy, promoting two distinct benefits in simultaneous: the advantages for pet health and the increased environmental sustainability. Still, some companies do emphasize only one benefit in association with the organic claim, namely the potential health benefits of organic food ingredients. Contrary to traditional approaches that often assume that consumers will prioritize one benefit over another, research suggests that the decision-making process is more complex, with multiple factors influencing responses to advertising (White & Simpson, 2013). As consumers differ in their values and priorities, a single marketing strategy may not be effective across all segments (de Boer et al., 2007). Altogether, this poses important questions to brands: will a dual-messaging strategy work better than highlighting a single benefit (and which – health or sustainability)? And does the effectiveness of these approaches vary across different segments of consumers?

1.2 Aim and Scope

The primary aims of this study were to evaluate what type of product benefit communication – health-focused, sustainability focused or a combination of both –, is most effective in increasing consumer purchase intentions and whether this varies across different consumer segments. This should provide actionable insights for marketers to optimize their message strategies and enhance consumer engagement, ultimately boosting sales.

To achieve the aim of the study, the following research questions were addressed:

RQ1: *Which type of marketing message (health-focused or sustainability focused) is more effective in increasing consumer purchase intentions for organic dry dog food?*

RQ2: *Does a dual-messaging strategy (combining health and sustainability benefits) increase consumer purchase intentions more than single-focus messages?*

RQ3: *Does effectiveness of the message type change according to the behavioral characteristics of consumers?*

By investigating health-focused versus sustainability message effects in the context of the organic dry dog food market, this study contributes to close a gap present in extant marketing literature. It is important to note, however, that the analysis did not extend to other product categories such as organic wet pet food, organic food products designed for pets other than dogs, non-organic pet food, or organic products outside the pet food industry. Moreover, the study centered on consumer purchase intentions generated by these messages in the Portuguese market, likely targeting those individuals already engaged or interested in organic pet food. Consumer responses were analyzed based on demographic, psychographic, and consumer-specific factors. This research did not explore the effectiveness of other marketing strategies, such as pricing or promotions, nor did it delve into the impact of other marketing communication elements beyond the content of the messaging itself.

1.3 Research Methods

To answer the research questions and achieve the objectives of this dissertation, an explanatory research approach was adopted by collecting and analyzing primary data. This was gathered through an online survey designed to assess consumer responses to different marketing messages by the administration of a between-subject experimental design. Namely, one of three mock-ups of a dry organic dog food product package, each displaying several word and visual communication elements emphasizing health benefits, sustainability benefits or both health and sustainability benefits, was randomly presented to survey participants as experimental stimulus. Subsequently, their evaluations of the stimulus and product, and their product purchase likelihood were measured as dependent variables. Next, several measures of past buying behaviour and motivations were administered and finally socio demographic information was recorded. Resulting data was treated quantitatively, with survey responses being statistically analyzed to determine the effect of each type of message on consumer purchase intentions and whether effects were moderated by consumer behavior characteristics.

The methodological choice to use primary data collection through a consumer survey was justified by the need to gather real-time responses that reflected current consumer attitudes and

preferences. This methodological approach is supported by similar studies in the field of marketing that have used consumer surveys and between-subjects design to evaluate message effectiveness, such as the work by Green and Peloza (2014) on green advertising and by Visser et al. (2015) on marketing strategies for sustainable products.

1.4 Relevance

The topic of this dissertation topic aligns well with the current research needs of both academia and the business sector, especially in what respects the marketing of organic products. Developing an effective marketing message strategy and aligning with consumers' values in today's society is getting progressively more difficult, as consumers exhibit an increasing concern about the health and environmental impacts of their choices (White et al., 2019), This demands that marketers pay very close attention to their marketing messaging strategies. In particular, as the organic pet food market is expected to grow in the upcoming years (Statista, 2024), brands in this market that seek a competitive advantage must gain a good grasp on how to genuinely connect with pet owners' values.

The results of this dissertation provide important insights to organizations seeking to improve the effectiveness of their marketing communications further and increase organic brands' engagement and sales, by providing advice on how to develop more compelling, value-aligned messages about product benefits. This offers a framework for marketers in the pet food sector, by giving practical strategic suggestions grounded on the assessment of the effectiveness of various message types and the identification of consumer-specific factors driving responsiveness. Furthermore, by applying an experimental methodology to measure message efficacy, the study not only contributes to fill the gap in the understanding of the effectiveness of distinctive marketing messages but also creates a reproducible process for future studies in comparable areas. Personally, developing this research broadened my understanding of marketing message strategies, while equipping me with significant data collecting and analytical abilities that can be applied to a variety of industries.

1.5 Dissertation outline

This dissertation is divided into five sections, analyzing the effectiveness of marketing messages in the organic pet food industry. Chapter 1 describes the research topic, including the background, problem statement, and key research questions. Chapter 2 conducts a literature review, focusing on market analysis, marketing communication, positioning, and consumer-specific factors. Chapter 3 describes the methodology, covering the research approach and

design, data collection, and the statistical analysis. Chapter 4 analyzes and discusses the findings, linking them to existing literature and addressing the research questions. Finally, chapter 5 concludes with a summary of findings, recommendations for future research, and the acknowledgement of limitations.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Pet Food Market: Growth and Trends

The global pet food market has experienced significant growth over the past decade. According to Statista (2024), this market is predicted to earn \$151.10 billion in sales in 2024 and rise at a Compound Annual Growth Rate (CAGR) of 5.26% from 2024 to 2029. One of the most important trends driving the pet food industry is the rising humanization of pets (Euromonitor International, 2024). Pet owners are increasingly referring to themselves as "pet parents", viewing pets as important members of the family that fulfill duties comparable to those of children, siblings, or partners (Bouma et al., 2021). This has led to the establishment of strong emotional connections between consumers and their pets, which have been shown to have a direct influence on pet food purchase decisions (Meyer & Forkman, 2014).

The strengthening of emotional connections between pets and their owners is driving an important trend in the pet food industry: the premiumization of pet food. Pet owners are increasingly demanding premium pet food products that correspond to their own nutritional preferences, often preferring high-quality, organic or natural food ingredients that they would choose for themselves (Fortune Business Insights, 2024). According to a survey conducted by Chewy, an American online retailer of pet food and other pet-related products, 73% of "pet parents" indicated that their pets' health is as much of a priority as their own, and 70% reported making food choices for their pets in the same way they do for themselves (Wall, 2021). Another 80% of respondents expressed health worries about their dogs, prompting them to explore higher-quality food (Wall, 2021). The COVID-19 pandemic significantly accelerated this trend, leading to a 29% increase in pet owner spending on premium pet food products in 2020 alone (Sprinkle, 2021). These trends are especially widespread among Millennials and Gen X consumers (Wall, 2021).

Pet food premiumization is also linked to greater consumer concerns about environmental sustainability and animal welfare. Pet owners are as worried about the sources and quality of their pets' food as many consumers are today regarding the food they buy for themselves (Donaldson, 2024). The emotional connection that exists between "pet parents" and their pets drives them to demand transparency from brands, including specific information on ingredient sourcing, manufacturing procedures and ethical standards (Beaton, 2019). Pet owners are especially drawn to brands that stress organic, sustainably sourced ingredients or ethical production methods, which align with their own ethical values (Hotz, 2019). According to Euromonitor International's Global Lifestyles Survey, over 70% of pet owners worldwide

describe being "worried about climate change" and actively "trying to have a positive impact on the environment through everyday actions." These environmental concerns are much higher among pet owners than non-pet owners, indicating a large development opportunity for pet food produced with sustainable ingredients (Hariya, 2022).

2.1.1 Organic Pet Food Market

Organic production refers to a sustainable agricultural system that not only respects the environment and animal welfare but also carries that out through every stage of the food supply chain (European Parliament, 2018). Thus, organic pet food serves a dual demand, offering nutritional advantages for pets while also aligning with consumers' ethical and sustainable beliefs. Following the overall growth trends in the pet food market, the organic pet food segment has emerged as a dynamic and rapidly growing niche, valued at approximately USD 2.32 billion in 2023, and projected to reach USD 5.46 billion by 2032, expanding at a CAGR of 9.7% (IMARC Group, 2023).

The organic pet food market is thus expanding significantly, as established, well-known industry giants are entering a space formerly controlled by smaller niche companies (Hariya, 2022). While specialty brands initially shaped the organic pet food landscape, the category's growing popularity has promptly encouraged major players such as Nestlé, Mars Inc., and Hill's Pet to launch organic lines in response to consumer demand for health and sustainable-oriented pet food products (Market.us, 2023). In addition to major players' brand expansions, we can see private-label organic products also increasing. Zooplus for instance, introduced their own organic brand, Zooplus BIO, recently. This shift in making organic pet food more accessible is mainstreaming the product category, which can be expected to drive further growth (Hariya, 2022).

Despite its promising growth, the organic pet food market faces challenges in consumer understanding and positioning (Nguyen et al., 2021). Many pet owners lack a clear understanding of what "organic" truly means, emphasizing the need for brands to communicate how their products align with consumer demands for healthy and sustainable products to stand apart from conventional options (Vermeir & Verbeke, 2006). Effective branding and education can potentially bridge this gap, showcasing the health, sustainability and ethical advantages of organic pet food. By crafting messages that resonate with these values, companies can better convey the unique benefits of organic offerings, helping them stand out and satisfy the rising demand for sustainability and quality nutrition (Whelan & Fink, 2016).

2.1.2 Organic Dry Dog Food Market

Organic dog food has established a dominant position within the organic pet food sector (Mordor Intelligence, 2024). The growing adoption of dogs as household companions has significantly contributed to the demand for premium, health and sustainability-oriented products like organic dog food (Grand View Research, 2023). This trend is not limited to a single region, but rather spans across major markets including Europe, the United States, the United Kingdom, and South-East Asia (Maximize Market Research, 2024). In Europe, for instance, approximately 46% of households own a companion animal, and a significant number of these families are dedicating larger portions of their budgets to pet care, with a focus on health and sustainability (FEDIAF European Pet Food, 2022). Dry dog food is the preferred sub-category in the organic dog food market, due to its convenience in use and distribution, cost effectiveness and extended shelf life (Grand View Research 2023). Furthermore, it delivers functionality, as it supports canine oral health by encouraging chewing, which can prevent tartar buildup and secondary periodontal diseases. This is an important health benefit that resonates with the holistic pet well-being trend driving its appeal to consumers further (Hoffmann 2021).

2.2 Marketing Positioning and Communication

In marketing, positioning is the strategic process of generating a distinct and appealing image or perception of a product or brand in the mind of the target consumer (Blankson & Kalafatis, 2007). This entails defining the “position” a product or brand holds by aligning its image with specific attributes or values that resonate strongly with the target audience (Keller, 2013). Positioning is essential to effective marketing communication, as it helps distinguish a product within a highly competitive marketplace filled with similar options and messages (Ries & Trout, 2001). Rather than changing the product itself, positioning focuses on shaping consumers’ perceptions to create a memorable and relevant identity in their minds (Ries & Trout, 2001). Selecting a differentiated attribute is essential in positioning, as this helps define the core benefit or identity of the product as a simple, recognizable concept (Keller, 2013). This attribute, whether functional, emotional, or symbolic, must resonate with consumer needs and set the product apart from competitors (Moon, 2005). A focused attribute allows consumers to understand quickly and relate to the product, even in a saturated communication environment where clarity and relevance are critical for message retention (Keller, 2013). By associating specific qualities with the product or brand, marketers can target specific consumer needs or desires more directly (Moon, 2005).

However, while traditional marketing guidelines often emphasize clarity in product positioning, advocating for distinct messaging that highlights a unique attribute (Aaker, 1996), contemporary consumer expectations have evolved beyond that (Sheth et al., 2011). Consumers are increasingly looking for brands and products that genuinely embody global issues such as health promotion and environmental sustainability (Holt, 2004). This transition, intensified by COVID-19, represents an increasing need for businesses to authentically align with broader values (Sheth, 2020). This lack of alignment between marketing guidelines and these evolving consumer priorities reveals an important gap (Smith et al., 2009). Namely, a brand solely positioned as "sustainable" may lack appeal among health-conscious consumers, even though these attributes could align under specific circumstances. On the other hand, a brand attempting to appeal to two or more distinct values simultaneously may not always achieve effective positioning. This duality can fail if consumers perceive the brand's messaging as forced or misaligned with the product's true qualities, leading them to question its authenticity (Sheth & Sisodia, 2006).

In response, modern marketing strategies must remain flexible to keep pace with shifting consumer expectations. Today's consumers are increasingly discerning, often influenced by cognitive biases and heuristics. As Kahneman (2011) work illustrates, associative thinking leads people to connect related ideas intuitively such as linking "sustainable" with "healthy" even though these represent distinct values. Given the dynamic nature of the consumer journey, firms are therefore advised to integrate flexibility into their positioning strategies, allowing for adjustments as values evolve (Lemon & Verhoef, 2018). By adapting their strategies to resonate authentically with consumer priorities, brands can bridge the gap between rigid guidelines and dynamic consumer needs, fostering stronger loyalty and better brand perception.

2.3 Consumer Responses to Health vs. Sustainability Messaging

Consumer responses to marketing messages vary depending on whether the message aligns with their personal values, such as health or sustainability, or not. According to Magnier and Schoormans (2015), health-conscious consumers often exhibit confirmation bias, favoring messages that reinforce their existing health concerns, even when conflicting information is present. This bias increases the likelihood that consumers would respond positively to health-focused communications that they perceive to be closely connected to their wants and ambitions (Magnier & Schoormans, 2015). Similarly, consumers with pressing environmental concerns are more likely to respond positively to sustainability-focused marketing, driven by a feeling of personal accountability and a desire to diminish their environmental impact (Peloza et al.,

2013). Interestingly, some customers see an underlying relationship between sustainability and health, even if the product is not health related. Hartmann and Apaolaza-Ibáñez (2012) discovered that customers typically identify green goods with psychological advantages, such as a sense of well-being from ethical decisions, which can lead to perceived health benefits. This phenomenon is also noted by White et al. (2019), who describe the "green halo effect," where products marketed as sustainable are presumed to be safer and healthier, though this assumption is not always accurate.

Regardless, there is an on-going discussion about whether consumers view health and sustainability as separate attributes or not. While some may view sustainable products as inherently healthier, others regard health and environmental impact as distinct factors. For instance, Kronrod et al. (2011) found that consumers' acceptance of assertive environmental messages is contingent on the perceived relevance of sustainability to personal well-being, which varies widely across demographic groups. Ultimately, understanding how consumers distinguish, or combine, these attributes can guide marketers in designing messages that align with consumer values while avoiding unintended ambiguities in brand/product positioning. Building on these findings, it is hypothesized that:

H1: *Health Single messaging increases purchase intentions more than Sustainability Single messaging.*

2.4 Marketing Communication Strategies for Brand/Product Positioning

Two distinct strategies for brand positioning are typically pursued in marketing communications: single-attribute positioning or dual messaging. Single-attribute positioning focuses on one clear benefit, thereby creating a straightforward and memorable message. By centering on a single characteristic, brands appeal to consumers who prefer clarity and have specific values, making it easier for these consumers to connect with the brand's core promise (Ries & Trout, 2001). Research shows that focused messaging allows for precise targeting, aligning the message with the primary motivations of the intended audience (Keller, 2009). This approach not only enhances brand resonance but also reinforces brand authenticity, as a singular, dedicated message signals a firm commitment to a particular value (Keller, 2009). Rational consumers are likely to prefer such clarity, as it simplifies decision-making and aligns with their ability to process and recall brand-specific information effectively (Kahneman, 2011). However, single messaging has limitations in diverse markets, as it may overlook consumers with multifaceted motivations, who seek more comprehensive value propositions

(Batra & Keller, 2016). Moreover, in competitive spaces, where similar messages are common, this singular focus risks leading to message fatigue, as consumers may find it repetitive and less unique (Campbell & Keller, 2003).

Dual messaging, on the other hand, supports the idea that addressing two or more attributes within a single message can increase product appeal by presenting a comprehensive value proposition (Chandy et al., 2001). This approach resonates well with consumers who perceive attributes as complementary, enhancing the brand's relevance across diverse lifestyle preferences (Torelli et al., 2012). Dual messaging can increase product appeal by presenting a well-rounded value proposition, which may lead to greater consumer engagement (Van Doorn & Verhoef, 2015). Furthermore, this approach may also better reflect consumers' lifestyles, which can lead to increased brand loyalty (Johnstone & Tan, 2015). This approach may resonate with heuristic-based, or irrational consumers who often rely on intuitive and fast processing thinking, where associations between attributes are made automatically, which might make dual messaging attractive due to the "halo effect", where one positive attribute enhances the perceived value of another (Kahneman, 2011). Yet, dual messaging requires a careful balance to avoid cognitive overload, where too much information dilutes the message's impact (Liu & Shrum, 2002). Some consumers may interpret dual messaging as insincere or overly broad if the combined values do not align well, which can harm brand credibility (Delmas & Burbano, 2011). Based on these considerations, it is hypothesized that:

H2: *Dual messaging increases purchase intentions more than single attribute positioning.*

2.5 The role of Perceived Message Effectiveness on Consumers Response

The effectiveness of health and sustainability messaging in influencing purchase intentions is a complex process that extends beyond direct consumer response to message content (Christis & Wang, 2021). Perceived message effectiveness has a critical role capturing how well the communication resonates with and influences the audience (Christis & Wang, 2021). Effective messaging leverages several psychological and cognitive processes to translate its intent into consumer action (Florence et al., 2022).

Cognitive alignment plays a vital role in shaping perceptions of message effectiveness, as it determines how well a message resonates with the audience's existing values and aspirations (Giorgi, 2017). According to Giorgi, 2017, resonance is achieved when a frame connects deeply with audiences' existing cognitive orientations, schemas, or aspirations, aligning with the audience's values to make the message impactful. Green advertising, for instance, often

employs temporal framing strategies that highlight either past achievements (e.g., cleaner production) or future actions (e.g., opportunities for recycling and reuse), adhering to consumers existing beliefs or priorities and therefore influencing consumer likelihood to view the message as relevant fostering subsequent behavioral alignment (Zhang et al., 2024).

Furthermore, emotional and value-based alignment is another critical factor. Messages that resonate emotionally foster greater engagement and amplify its perceived relevance (Saitarli, 2024). Emotional intelligence (EI) emerges as a key driver in crafting messages that connect with consumers' emotional needs and align with their health and sustainability values (Kankam & Charnor, 2023). By fostering an empathetic approach, EI-based messaging creates meaningful connections that improve perceptions of the message's effectiveness (Kankam & Charnor, 2023).

Additionally, trust and credibility are other important factors that are foundational to message effectiveness as they shape customers' positive brand evaluation and purchase decisions. Messages perceived as truthful and transparent significantly enhance consumers' willingness to engage (Zhang et al., 2024).

Ultimately, perceived message effectiveness can be hypothesized as mediating the relationship between the type of messaging and purchase intention by leveraging cognitive alignment, emotional resonance, and trust & credibility. These factors collectively ensure that the message is not only received but effectively perceived and acted upon, bridging the gap between awareness and actionable intention.

H3: *The effect of type of messaging on purchase intention is mediated by perceived message effectiveness.*

2.6 Consumer-Specific Factors

In today's fast-paced marketing environment, understanding consumer behavior is critical for developing effective marketing messaging. Consumer behavior, which includes people's habits, preferences, and responses to stimulus, has a significant impact on how consumers perceive and respond to various marketing initiatives (Solomon, 2020). Research was subsequently conducted to identify key consumer-specific factors, aiming to understand why certain messages resonate with specific consumers while others do not.

2.6.1 Frequency of Dog Food Purchases

The frequency with which consumers purchase dog food is likely to affect how they respond different marketing messages. Frequent buyers tend to engage more deeply in their decision-

making, likely because of their higher pet food consumption or increased attention to product quality. Prior research indicates that frequent purchasing habits align with goal-driven decision-making processes, where consumers prioritize specific goals, and therefore adopt a more thoughtful approach to evaluating product attributes (Lawson, 1997). Additionally, a study on sustainable consumption behaviors revealed that consumers who are more engaged in repeated purchases, particularly those with environmental and quality concerns, tend to deliberate more on product characteristics, weighing these factors before making decisions (Ran et al., 2022). However, habitual behavior also plays a crucial role in shaping consumer responses. Over time, the repetitive nature of pet food purchases can transform decision-making into a well-practiced, habitual behavior performed with little conscious awareness. In such cases, consumers often rely on routinized decision-making processes triggered by familiar environmental cues, such as brand labels or product appearance (Biel et al., 2005). This shift from deliberate to automatic purchasing behavior means consumers may no longer actively consider specific product attributes or benefits, as their choices are driven by the automaticity of established habits rather than reflective consideration (Biel et al., 2005).

Despite these pattern, frequent buyers may still respond positively to health- and sustainability-focused messages as these align with their commitment to high-quality, sustainable purchases. Therefore, while frequency of dog food purchases might affect consumer engagement, it is unlikely to significantly impact the relative effectiveness of health-focused versus sustainability-focused messaging.

2.6.2 Monthly Food Expenditure

Monthly expenditure on dog food is an objective indicator of a pet owner's financial commitment and reflects their priorities regarding pet well-being. Research indicates that higher spending on pet food often aligns with a preference for premium or specialized products, typically due to motivations around health and ethical considerations (Meyer & Forkman, 2014). High spenders are frequently more willing to invest in organic or high-quality products, aligning with findings that pet owners who spend more on food are often driven by the perceived health benefits and nutritional value these options offer (Schleicher et al., 2019). Therefore, such consumers are likely to respond positively to health and sustainable-focused marketing messages, without one type significantly outperforming the other in effectiveness.

2.6.3 Dog Ownership Duration

The length of time someone has owned a dog is another factor potentially affecting responses to marketing messages. Long-term dog owners, who may have developed a deeper understanding of pet care needs, often place a higher priority on their dog's health and well-being, which drives them to be more attentive and proactive in care-related decisions (Obradović et al., 2021). This understanding, gained from information search, leads to health-conscious decisions since these owners prefer high-quality products that reflect their devotion to their dogs' long-term well-being (Philpotts et al., 2019). As a result, these owners are expected to be more receptive to health-focused messaging. In contrast, newer owners, who are more likely to lack the same amount of commitment or understanding, may respond more positively to sustainability or dual-focused messaging, especially if they are socially responsible customers who have not yet explored specific health advantages. However, a deeper understanding does not always develop with time as some long-term dog owners may not view their relationship through a health-conscious lens. Thus, while experience can influence marketing receptivity, it is not a definitive predictor.

2.6.4 Health Needs

Pet owners who have pets with special health issues tend to make more health-conscious purchase selections. According to research, these customers are more inclined to seek specific information on ingredients and nutritional content, which aligns well with health-focused messages emphasizing the importance of organic products in supporting the well-being of their dogs (Schleicher et al., 2019). For many of these owners, veterinarians are still the most trusted source of nutritional advice. However, the internet and social media platforms have become useful complements, providing easily available information and product evaluations (Philpotts et al., 2019). Therefore, a targeted marketing messaging strategy that emphasizes health benefits by providing accessible information about health benefits and quality is expected to resonate strongly with this demographic, which is highly motivated to engage with products that promote their pets' optimal health. In view of this, it is hypothesized that:

H4: *Dog health needs moderate the mediation of treatment by perceived message effectiveness on purchase intention.*

2.6.5 Emotional Bond

The emotional bond between pet owners and their pets significantly impacts consumer behavior, particularly in "pet parenting." Owners who view pets as family members show

increased responsibility for their well-being, often investing in premium products focused on health and comfort (Bouma et al., 2021). Health-focused marketing resonates strongly with these owners, as they prioritize products that promise wellness, similar to choices made for human family members (Schleicher et al., 2019). On the other hand, pet owners seeing pets as companions often prioritize practicality and sustainability. They respond better to environmentally friendly or budget-conscious products, focusing on lifestyle alignment rather than premium health features (Schleicher et al., 2019). This implies that the depth of the emotional relationship might influence how consumers perceive personalized marketing messaging strategies, with health messaging appealing to "pet parents" and sustainable options connecting with more casual pet owners. Thus, it is hypothesized that:

H5: *The emotional bond between dog owners and their pets moderates the mediation of treatment by perceived message effectiveness on purchase intention.*

2.6.6 Prioritization of Pet Health Relative to Personal Health

The relative importance pet owners place on their pets' health compared to their own has emerged as a key factor influencing pet food choices, especially for products marketed as health focused. Research indicates that a significant proportion of pet owners prioritize their pets' well-being over their own, with up to 66% of dog owners reporting higher concern for their dog's health (Johnson's Veterinary Product, 2023). This dynamic aligns closely with people who regard their dogs as family members or even surrogate children, where the pet's well-being is considered paramount. These owners are particularly responsive to health-focused marketing messages, including organic dog food options, seeing these as essential to their pets' longevity and quality of life (Bouma et al., 2022). In contrast, owners who consider their health a greater priority, might not search for health benefits messaging but instead favor products communicating their lifestyle choices (Dotson & Hyatt, 2008). Therefore, the prioritization of pet health over personal health significantly impacts the effectiveness of health-focused versus sustainability-focused messaging. Pet owners who prioritize their pets' health tend to respond more favorably to health-focused messages. Conversely, marketing strategies that emphasize sustainability may resonate better with owners who place equal or greater importance on their personal health and lifestyle alignment. Based on these observations, it is hypothesized that:

H6: *The prioritization of pet health needs over owners' personal needs moderates the mediation of treatment by perceived message effectiveness on purchase intention.*

2.6.7 Attitudes Toward Pet Care and Sustainability

Consumers' attitudes toward pet care and sustainability reflect broader psychographic factors influencing their behavior. Research shows that consumers resonate differently with health and sustainability-focused messages. For instance, health-conscious consumers favor messaging that highlights personal (pet) health benefits, while those motivated by environmental values respond better to sustainability-focused messages (Lim et al., 2021). Further supporting this, Parashar et al. (2023) show that both health consciousness and environmental awareness significantly predict organic food purchases. Their work, grounded in the Theory of Planned Behavior, asserts that consumer attitudes influence intentions, which in turn drive purchasing behavior. This theoretical framework underscores how positive attitudes toward health and environmental impacts lead to increased purchase intentions.

In practice, marketing messages can be framed to highlight either self-benefits (e.g., personal health) or other benefits (e.g., sustainable impact). For example, Jäger and Weber (2020) revealed that other-benefit appeals, like those emphasizing environmental benefits, tend to be perceived as more credible than self-benefit appeals focused on personal gain. Therefore, for consumers with strong sustainability values, these other-benefit messages not only resonate more but also enhance trust in the product's environmental credentials. Similarly, Anghelcev et al. (2020) found that health-based appeals in organic food marketing could significantly increase purchase intentions, particularly among consumers who prioritize health. The study emphasizes that messages which clearly outline the health benefits of organic products create a stronger connection with health-conscious consumers, reinforcing their positive attitudes toward these products.

As highlighted, consumers responsiveness to pet care and sustainability messages varies based on individual attitudes and values. Therefore, there is a need for tailored marketing strategies rather than a predictive approach.

2.7 Conclusions

The global pet food industry has grown significantly, reaching \$151.10 billion in 2024, due to the increased relevance of the trend of humanization of pets, with many owners now referring to themselves as "pet parents" (Statista, 2024; Euromonitor International, 2024). This transition has resulted in a growth in demand for premium pet food products that meet the nutritional requirements that pet owners set for themselves (Fortune Business Insights, 2024; Meyer & Forkman, 2014). Furthermore, pet owners' focus on environmental impact and sustainability

has increased consumer demand for transparency, ethical sourcing, and responsible production processes (Donaldson, 2024; Hariya, 2022). These combined trends have fueled demand for premium and organic pet food options, emphasizing health benefits and ethically sourced ingredients (Meyer & Forkman, 2014).

Reflecting these broader industry trends, the organic pet food category is experiencing rapid growth, with sales expected to reach \$5.46 billion by 2032 as more major brands respond to customer demand (IMARC Group, 2023; industry.us, 2023). Despite this rise, many pet owners are still unsure about the genuine benefits of “organic”, emphasizing the importance of better communication about these products’ health and sustainability benefits (Nguyen et al., 2021). Thus, effective marketing positioning is essential for differentiating organic pet food brands, as consumers respond differently to health versus sustainability messages based on their values. Health-conscious pet owners respond well to health-focused messaging, while environmentally conscious buyers prefer sustainability-focused messaging (Magnier & Schoormans, 2015; Pelosa et al., 2013). Some consumers also associate sustainable products with health benefits, which is known as the “green halo effect” (White et al., 2019). These findings highlight the need of using targeted, authentic messaging that is consistent with consumer values to successfully promote the health and sustainability benefits of organic pet food (Nguyen et al., 2021).

This dissertation ultimately sought to provide actionable insights into how organic pet food brands can effectively position health and sustainability messages that appeal to different consumer segments, thereby adapting to the evolving priorities of pet owners. This requires knowledge on how to effectively communicate the health and sustainability benefits of organic dry dog food. To this end and attempting to address the specific research questions identified in the Introduction, several research hypotheses were herein proposed. Figure 1 presents a conceptual model describing these hypotheses and their expected relationships. The next chapter will outline the methodology used to test them and draw conclusions.

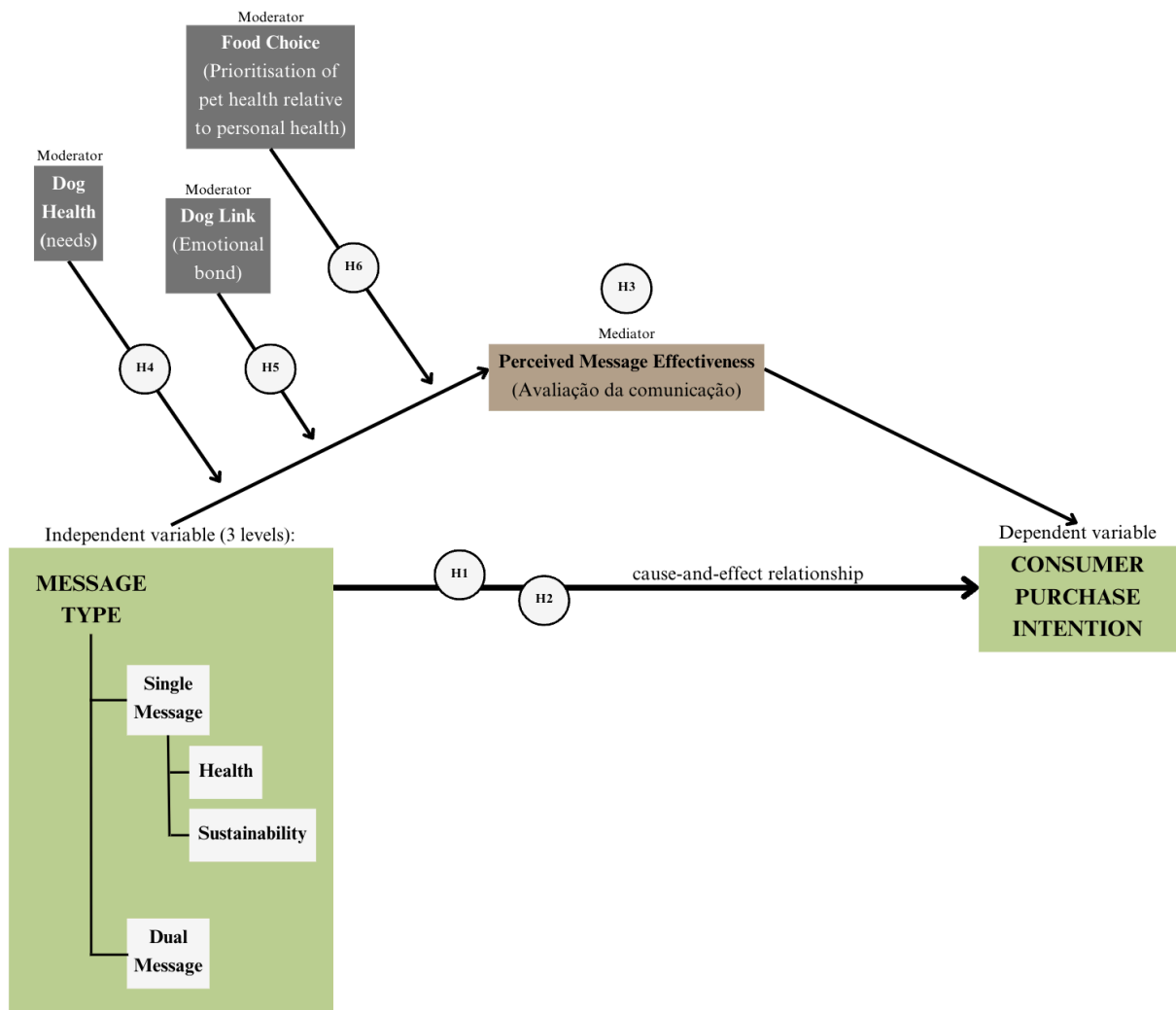


Figure 1 Conceptual Framework

CHAPTER 3: METHODOLOGY

This chapter describes the methodology used to study the proposed research questions and test the hypotheses formulated in Chapter 2.

3.1 Research Approach

This dissertation adopted an explanatory research design to address the problem of understanding how different types of marketing messages influence consumer purchase intentions within the organic pet food market. According to Saunders, Lewis, and Thornhill (2019), an explanatory research design is particularly useful when the objective is to explore and establish causal relationships between variables. In the context of this study, the explanatory approach allowed for a thorough examination of the cause-and-effect relationships between different marketing messages, including health-focused, sustainability focused, and dual messaging, and their impact on consumer purchase intention. Specifically, this approach sought to describe consumer purchase intentions in a quantitative manner, supported by the collection of numerical data. Data can then be systematically analyzed to identify patterns and relationships between marketing message types and consumer responses.

Following the guidelines of Creswell (2009), this dissertation tested objective hypotheses by examining the relationships between an experimentally manipulated independent variable, or factor (the type of marketing message, with three levels) and the dependent variable (consumer purchase intention). The use of a mono-method quantitative approach is particularly relevant, as it provided a structured and precise method to measure variables, test hypotheses, and evaluate relationships through statistical analysis. This quantitative methodology allowed for a rigorous empirical evaluation of how marketing messages influence consumer purchase intentions, enabling the production of generalizable insights about marketing effectiveness in the organic pet food sector, following an applied research approach. Moreover, the deductive approach adopted in this study ensured that hypotheses based on existing theories were tested using the data collected. As such, the study was not only focused on describing consumer purchase intentions but also on testing theory, by examining the relationships between marketing message types and consumer purchase intentions through empirical analysis.

3.2 Variables Definition

To accurately identify relationships between marketing message types and consumer responses, dependent and independent variables must be defined. The main dependent variable, consumer purchase intention, measured consumers' likelihood of purchasing organic dry dog food after

being randomly exposed to one of three different marketing messages. These marketing messages formed the independent variable, or factor, i.e., the type of marketing message, which was categorized into three levels. Those levels included health benefits, sustainability benefits, and a dual message approach combining both. Moreover, the study considered perceived message effectiveness as a mediator variable that was expected to play a pivotal role in mediating the relationship between the independent variable (message type) and the main dependent variable (purchase intention). Additionally, the study appraised several consumer-specific factors that likely influenced consumers' responsiveness to the marketing messages, with the measures of which being treated as moderators.

3.3. Population of interest

The population of interest for this study was defined as Portuguese adults, aged 18 and above, who had internet access, and were dog owners, particularly those responsible for purchasing dog food.

3.4 Sampling Strategy

Data were collected from a non-probability convenience sample of consumers due to practical constraints (Etikan et al., 2016). Survey participants were recruited through social media or approached in person while walking their dogs or visiting specialized pet food stores. Participants were recruited with the goal of reaching a valid number of responses of ca. 150.

3.5. Study design and stimulus

The core of the study involved a single-factor experimental treatment consisting of three levels, randomly administered in a between-subjects format. The first level was the health-focused message, which underscored the dry dog food's personal advantages to the dog's health and well-being (Level 1). The second level was the sustainability focused message and highlighted the product's sustainability impact (Level 2). The third was a dual-focused message that combined both health and sustainability advantages (Level 3). These levels allowed for an examination of how different messaging strategies affected consumer purchase intentions. Importantly, the three messages entailed similar written (in Portuguese) and visual communication elements integrated in a consistent design of a mock-up dog food package (the stimulus), which guaranteed that only the benefits communicated varied. This consistency in design enabled to isolate the effect of the message content on consumer responses, ensuring that any differences in responses were attributable to the message content rather than to other

elements of the packaging design. The stimulus shown to participants in each of the three experimental conditions is depicted in Figure 2-4.



Figure 2 Health-focused messaging



Figure 3 Sustainability-focused messaging



Figure 4 Dual-messaging

This experimental treatment was administered as part of an online survey, purposefully developed, and self-administered using the Qualtrics software to gather primary data and enable the test of the research hypotheses formulated in Chapter 2.

3.6 Survey design

The survey was conducted entirely in Portuguese to ensure accessibility and comprehension of the target population. An initial version was pre-tested on a small group of respondents. This pre-test allowed for the identification and resolution of semantic and measurement issues. Adjustments based on the feedback helped to avoid bias and confusions in the final survey.

The survey was designed to systematically collect data on consumer purchase intentions in response to the three types of message levels, as well as consumer-specific factors and attitudes towards pet care and sustainability concerns, being structure around four main sections (Table 1).

Table 1 Survey Design

Section	Objectives	Variables & Measures
1.Screening Questions	Exclude non-eligible respondents	<p>Nationality: “Are you a holder of Portuguese nationality?” (1= “Yes”; 2= “No”).</p> <p>Adult: “Are you over 18 years old?” (1= “Yes”; 2= “No”).</p> <p>Dog ownership: “Is there a dog in your household?” (1= “Yes”; 2= “No”).</p> <p>Dog responsibilities: “Are you usually the one responsible for buying food for the dog(s)?” (1= “Myself”; 2= “Other element of the aggregate”).</p> <p>N°dogs owned: “How many dogs do you own?” (1=1; 2=2; 3=3; 4=>3).</p> <p>Relationship with dog/place in household: “How would you describe your relationship with your dog?” (1= “Family Member”; 2= “Companion”; 3= “Animal/pet”; 4= “Other. Which one?”).</p>
2.Exposure to Marketing Messages	Between-subjects experiment	Random administration of Health-focused, Sustainability-focused or Dual-focused message.

<p>2.1.Consumer Purchase Intentions</p>	<p>Impact of marketing messages on purchase intentions</p> <p><i>*These perceived benefits were designed to serve as a manipulation check to verify the accurate interpretation of the message.</i></p> <p><i>*Perceived message effectiveness is a process variable that served as a mediator in this study.</i></p>	<p>Perceived benefits*: “Which aspect of the message stood out most?” (0=“None”; 1=“Health”; 2=“Sustainability”; 3=“Health & Sustainability”; 4=“Other. Which one?”).</p> <p>Perceived message effectiveness*: “How well do you think this package explains the benefits of organic dry dog food?” 9-point Likert-type scale: (1=“Extremely Bad”; 9=“Extremely Good”).</p> <p>Product liking: “How much do you like this product?” 9-point Likert-type scale: (1=“Disliked it extremely; 9=“I extremely liked it”).</p> <p>Purchase intent: “How likely are you to purchase this organic dry dog food?” 11-point Juster probability scale: (1=“It is certain or practically certain that I would not buy it”; 11=“Is it certain or practically certain that I would buy”).</p>
<p>3.Consumer-specific factors</p>	<p>Identification of moderators</p>	<p>Frequency of dog food purchases: “How frequently do you purchase dry food for your dog?” 5-point scale: (1=“Every 6 months”; 3=“Monthly”; 5=“Weekly”).</p> <p>Monthly expenditure: “What is your average monthly expense on dog food (per dog)?” Scale from 0€-300€.</p> <p>Dogs’ health needs: “Does your dog have any specific health needs that influence your purchasing decisions?” (1=“Yes”; 2=“No”).</p> <p>Food Choice: “When purchasing food for your dog, how does it compare to the way you purchase food for yourself?” (0=“I don’t make comparisons between the two purchases”; 1=“I am usually more concerned when it comes to my health”; 2=“I give equal importance to the health of both”; 3=“I give more priority to my dog’s health than to my own”).</p> <p>Buy Organic: “Do you purchase organic dry food for your dog?” (1=“Yes”; 2=“No”).</p> <p>Frequency of organic purchase: “How frequently do you purchase organic dry food for your dog?” 5-point scale (1=“Never”; 5=“Always”).</p> <p>Attitudes & concerns: “I regularly search for information on how to keep my dog healthy” “I actively look for products for my dog that optimize my sustainable impact” “I don’t have a particular focus when I shop for my dog” 9-point Likert-type scale: (1=“Totally disagree”; 9=“Totally agree”).</p>

4.Demographics	Sample characterization	Age: Drop down between 18 and 80. Gender: (0="Male"; 1="Female"; 2="I prefer not to say"). Occupation: (1="Student"; 2="Full time worker"; 6="Retired"; 7="Other"). Income: 7-point scale: (1="Lower than €750"; 5="€2,250-€2,749"; 7="€3,500 or more").
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Overall, this survey design provided a robust framework for the subsequent analysis. The complete questionnaire can be found in the appendices section (appendix 1).

3.6.1 Ethical Considerations

To ensure ethical standards, the experimental survey design fully informed about the research's purpose, and the anonymity and confidentiality of the participants were protected by not gathering personally identifying information. Furthermore, participants were free to withdraw from the study at any moment with no penalties or responsibilities.

3.7 Data Analysis

To test the research hypothesis conceptualized in Chapter 2, the survey data was analyzed using SPSS software, employing a combination of statistical techniques that ensured accurate and meaningful results.

Before analysis, the data underwent a rigorous cleaning process, as detailed in Chapter 4, eliminating responses that did not meet inclusion criteria. Subsequently, descriptive statistics characterized the socio-demographic and behavioral profiles of respondents across treatment groups. Chi-square tests assessed group comparability for categorical variables such as gender and occupation, while non-parametric tests (Kruskal-Wallis and Independent Samples Median Tests) were used for continuous and ordinal variables like age and income due to their non-normal distributions, confirmed by Kolmogorov-Smirnov tests. These steps validated effective randomization, enabling the attribution of observed differences to experimental treatments rather than pre-existing disparities.

Next, to test H1 and H2, non-parametric statistical methods were used due to the non-normal distribution of purchase intention data, as confirmed by the Kolmogorov-Smirnov test. A Kruskal-Wallis test was conducted to assess differences in purchase intentions across the treatment groups. To test H3, a mediation analysis, using the PROCESS macro (Model 4) in SPSS, was developed to determine whether perceived message effectiveness mediates the relationship between message type (independent variable) and purchase intention (dependent variable). Finally, to examine hypotheses H4, H5, and H6, a moderated mediation analysis, using the PROCESS macro (Model 7), was developed to assess whether dog health needs,

emotional bond, and prioritization of pet health needs influence the strength of the mediation effect.

3.8 Data preparation

A total of 349 individuals started the survey between the 7th and the 18th of November 2024, but only 214 completed it. Namely, four participants were underaged, nine were not Portuguese nationals, 102 were not the primary buyer of food for their/their household dog(s) and 20 failed to complete one or more survey sections.

Immediately after being exposed to the experimental stimulus, participants were required to answer the manipulation check. Namely, they were asked to indicate what benefits were most prominent in the mock-up dog food package they had just seen. The results of this manipulation check are presented in Table 2.

Table 2 Proportion of choices of perceived message benefit in each experimental condition (n=214)

Manipulation Check	Health (n=72)	Sustainability (n=73)	Dual (n= 69)	Chi-Square (p-value)
%Health manipulation (n)	58.3%(42)	12.3%(9)	14.5%(10)	92.620(<.001)
%Sustainability manipulation (n)	2.8%(2)	52.1%(38)	14.5%(10)	
%Health & Sustainability manipulation (n)	33.3%(24)	32.9%(24)	69.6%(48)	

While most participants accurately recognized the intended product benefits, a large proportion still misinterpreted them (n=86). These disparities can be traced to two major causes. First, several participants likely rushed through the survey, resulting in inattentive or inconsistent answers. Second, a significant subset of participants exhibited a holistic evaluation approach, where they blended the concepts of health and sustainability. This behavior suggests a heuristic association between these two benefits, as many participants perceived sustainability as inherently linked to health and vice versa. These findings indicate that these consumers may not view health and sustainability as entirely separate attributes but rather as complementary and interrelated.

This observation has important implications for marketing communication strategies. The overlap in how consumers perceive health, and sustainability highlights a potential lack of clarity in the conceptual positioning of these benefits. Instead of distinguishing between the two, consumers often conflate them, associating sustainable products with health benefits and healthy products with sustainability. Therefore, marketers need to account for this overlap when

designing campaigns and refine their messaging to ensure clarity in conveying specific product benefits.

After testing the effects of the different stimulus both with and without the exclusion of 86 participants who failed the manipulation check, it was observed that with a larger sample size and greater statistical power, these were not statistically significant. However, when those participants were excluded, resulting in a smaller sample size, and reduced statistical power, the effects were significant. Based on this, it was decided to exclude the responses from participants who had failed the manipulation check, effectively reducing the valid sample size to 128 responses. It was believed that this adjustment ensured more reliable and valid data for subsequent analyses, providing a stronger foundation for understanding consumer perceptions and behaviors.

CHAPTER 4: RESULTS AND DISCUSSION

4.1 Results

4.1.1 Sample Characterization

4.1.1.1 Social demographic profile

Table 3 describes the socio-demographic characteristics of the study sample (n=128) across treatment groups. Chi-square tests were used to uncover possible differences between groups based on gender and occupation. Because age and income are continuous and ordinal variables, respectively, non-parametric approaches were used due to their non-normal distributions. The Kolmogorov-Smirnov test for both variables was highly significant ($p < .001$), showing that their distributions vary significantly from normal. Age was examined using the Kruskal-Wallis test, while income was assessed using the Independent Samples Median Test.

Table 3 Socio-demographic profile (n=128)

	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Chi-Square (<i>p</i> -value)
%Female (n)	62.5%(80)	47.6%(20)	68.4%(26)	70.8%(34)	5.959(.051)
%Full time worker (n)	68%(87)	66.7%(28)	71.1%(27)	66.7% (32)	.236(.889)
					Kruskall-Wallis (<i>p</i> -value)
Age (in years) Mean (Sd)	39.36 (13.41)	38.64(14.19)	35.61(13.73)	42.96(11.68)	.447(.041)
					Independent Samples Median Test (<i>p</i> -value)
Household Income¹ (in €) Median (interquartil range)	5.00(4)	5.00(4)	5.00(3)	5.00(3)	.112(.945)

¹7-point scale (1="Lower than €750"; 5="€2,250 - €2,749"; 7="€3,500 or more").

In Table 3, the results reflect the elimination of respondents who failed the manipulation check, highlighting age as a variable that could partially influence the outcomes. Both the Bonferroni and Games-Howell tests yielded consistent results for age differences between treatment groups. There were no significant age differences between the Health and Sustainability groups (Bonferroni: Mean difference=3.038, $p=.914$) or the Health and Health & Sustainability groups

(Bonferroni: Mean difference=- 4.315, $p=.370$). However, a statistically significant difference was discovered between the Sustainability and Health & Sustainability groups (Bonferroni: Mean difference=-7.353, $p=.034$), with the Health & Sustainability group being on average older than the Sustainability group. These findings highlight the importance of considering age as a factor in subsequent analyses to ensure a robust interpretation of the results.

4.1.1.2 Pet Ownership

Table 4 outlines pet ownership characteristics across the three treatment groups.

Table 4 Pet Ownership contextualization (n=128)

	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Chi-Square (<i>p</i> -value)
%More than 1 dog (n)	31.3%(40)	28.6%(12)	34.2%(13)	31.3%(15)	.295(.863)
%Family Member (n)	79.7%(102)	83.3%(35)	78.9%(30)	77.1%(37)	.559(.756)
%Dog w/ health needs (n)	34.4%(44)	33.3%(14)	39.5%(15)	31.3%(15)	.666(.717)

The characteristics studied did not differ significantly across treatments, ensuring their comparability in subsequent analyses.

4.1.1.3 Behavioral Tendencies

Table 5 highlights participants' priorities when choosing food for themselves versus their dogs across the three treatment groups.

Table 5 Priorities in food choices (n=128)

Priorities in Food Choice	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Chi-Square (<i>p</i> -value)
%“I don't make comparisons” (n)	28.9%(37)	28.6%(12)	28.9%(11)	29.2%(14)	2.532(.865)
%“More concerned about my health” (n)	4.7%(6)	2.4%(1)	5.3%(2)	6.3%(3)	
%“Equal importance” (n)	54.7%(70)	61.9%(26)	52.6%(20)	50.0%(24)	
%“I prioritize my dog's health” (n)	11.7%(15)	7.1%(3)	13.2%(5)	14.6%(7)	

Most participants reported to give equal importance to their and their pets' health, or otherwise not to engage in comparisons between the two. Nevertheless, there were no significant differences in answers across treatments.

Table 6 presents the responses about participants' focus during purchasing decisions. Given that the variables did not follow a normal distribution, as confirmed by highly significant Kolmogorov-Smirnov test results ($p < .001$), non-parametric Kruskal-Wallis tests were used to compare differences across the treatment groups.

Table 6 Purchasing focus (n=128)

	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Kruskall-Wallis (p-value)
Dog Health¹ Mean (Sd)	7.14(1.84)	6.57(2.12)	7.11(1.96)	7.67(1.28)	6.381(.041)
Impact on Sustainability¹ Mean (Sd)	5.41(2.03)	5.19(2.22)	4.71(1.82)	6.17(1.79)	11.828(.003)
No Focus¹ Mean (Sd)	3.31(2.42)	3.69(2.30)	2.58(2.06)	3.56(2.68)	5.734(.057)

¹9-point Likert-type scale (1="Totally disagree"; 5="Neither agree nor disagree"; 9="Totally agree").

Only No Focus presented non-significant differences across treatments as well as the lowest means in all treatment groups. Furthermore, the post hoc analysis for Dog Health, with the highest means in all treatments, revealed significant differences. Namely, the Health & Sustainability group reported significantly higher scores compared to the Health group (Bonferroni: Mean difference=-1.095, $p=.014$), indicating a stronger agreement with the statement, "I regularly look for information on how to keep my dog healthy." No significant differences were observed between the Health and the Sustainability groups, or between the Sustainability and the Health & Sustainability groups. These findings suggest that consumers exposed to the combined health and sustainability treatment demonstrated greater alignment with proactive behaviors, particularly in seeking information to maintain their dog's health.

The post hoc analysis for Impact on Sustainability, with the second highest means in all treatments, also revealed significant differences. Specifically, the Health & Sustainability group reported significantly higher scores compared to the Sustainability group (Bonferroni: Mean difference =-1.456, $p=.002$), indicating a stronger agreement with the statement, "I actively look for products for my dog that optimize my sustainable impact." No significant differences were observed between the Health and the Sustainability groups or between the Health and the Health & Sustainability groups. These findings suggest that consumers exposed to the

combined health and sustainability treatment demonstrated a greater alignment with proactive behaviors focused on sustainability, underscoring the value of integrating these aspects in messaging to promote sustainable purchasing behaviors for their pets.

Overall, respondents exposed to the Health & Sustainability treatment demonstrated greater concern for both seeking information to maintain their dog’s health and engaging in proactive behaviors focused on sustainability. However, these findings may be partially influenced by the slightly higher average age of participants in this group.

Table 7 summarizes the purchasing habits of participants across the three treatment groups. The Kruskal-Wallis test and Independent Samples Median Test were used to assess differences between groups for continuous and ordinal variables, as these variables were not normally distributed (Kolmogorov-Smirnov test, $p < .001$).

Table 7 Purchasing habits (n=128)

	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Kruskal-Wallis (p-value)
Monthly Expense w/ Dog Food (in €) Mean (Sd)	60.05 (42.75)	62.81 (47.17)	53.95(28.13)	62.46 (48.30)	.079(.961)
					Independent Samples Median Test (p-value)
Frequency of dog food purchasing¹ Median (interquartile range)	3.00(1)	3.00(1)	3.00(1)	3.00(0)	1.061(.588)
					Chi-Quare (p-value)
% Buy Organic (n)	61.7% (79)	35.7%(15)	42.1% (16)	37.5% (18)	.365(.833)
					Independent Samples Median Test (p-value)
Frequency of organic dog food purchasing² Median (interquartile range)	4.00(2)	4.00(2)	4.00(2)	4.00(2)	.577(.749)

¹5-point scale (1=“Every 6 months”; 3=“Monthly”; 5=“Weekly”).

²5-point scale (1=“Never”; 3=“Sometimes”; 5=“Always”).

The characteristics studied did not differ significantly across treatments. These results suggest consistent purchasing behaviors across the treatment groups, which add accuracy to the study.

4.1.2 Effects of Experimental Treatment

Table 8 presents the means of participants' responses to the dependent variables, namely evaluation of the communication, overall product liking, and likelihood of purchase. The Kolmogorov-Smirnov test indicated that these variables varied considerably from a normal distribution ($p < .001$). Therefore, non-parametric statistical approaches were utilized to compare responses from different treatment groups. Specifically, the Kruskal-Wallis test was used.

Table 8 Treatment impact on the dependent variables (n=128)

	Total (n=128)	Health (n=42)	Sustainability (n=38)	Dual (n=48)	Kruskall-Walls (p-value)
Communication Evaluation ¹ Mean (Sd)	6.56(1.23)	6.67(1.03)	6.13(1.34)	6.81(1.25)	.5997(.050)
Product Overall Liking ² Mean (Sd)	6.69(1.37)	6.83(1.36)	6.05(1.43)	7.07(1.17)	12.688(.002)
Product Likelihood of Purchasing ³ Mean (Sd)	6.30(2.84)	6.83(2.67)	5.18(2.75)	6.71(2.85)	9.123(.010)

¹9-point Likert-type scale (1="Extremely Bad"; 5="Acceptable"; 9="Extremely Good").

²9-point Likert-type scale (1="I extremely dislike"; 5="Neither liked nor disliked"; 9="I extremely liked").

³11-point Juster probability scale (1="It is certain or practically certain that I would not buy"; 5="With average probability I would buy"; 11="It is certain or practically certain that I would buy").

Post hoc analysis uncovered important findings for all three dependent variables. The Health & Sustainability group evaluated the communication more positively than the Sustainability group (Bonferroni: Mean Difference=-.681, $p=.032$), indicating that combining health and sustainability messaging comparatively enhanced communication appeal, while no significant differences were observed relatively to the Health group. Therefore, the dual message outperforms single messages, but its impact is primarily evident in improving the perceived effectiveness of sustainability messaging.

For Product Liking, the Sustainability group showed significantly lower scores compared to both the Health group (Bonferroni: Mean Difference=-.781, $p=.027$) and the Health & Sustainability group (Bonferroni: Mean Difference=-1.010, $p=.002$), highlighting that

sustainability-focused messaging alone was less effective in generating liking for the organic dog food.

Similarly, the Sustainability group exhibited a significantly lower likelihood of purchasing the product compared to both the Health group (Bonferroni: Mean Difference=-1.649, $p=.026$) and the Health & Sustainability group (Bonferroni: Mean Difference=-1.524, $p=.037$).

These results suggest that while sustainability-focused messaging may resonate with specific consumer segments, it is less effective in driving overall product liking and purchase intent compared to health-focused or dual messaging.

To further examine whether dual messaging significantly outperforms single-focused messaging in generating purchase intent, a non-parametric statistical test was conducted, comparing purchase intentions between single and dual messaging groups. To this end, responses of participants in the Health and the Sustainability groups were pooled. The results are depicted in *Table 9*.

Table 9 Purchase Intentions, single vs dual (n=128).

	Single	Dual	Mann-Whitney (p-value)
Product Likelihood of Purchasing Mean (Sd)	6.05(2.815)	6.71(2.851)	2204.000(.159)

Findings indicate thus that dual messaging, which combines health and sustainability benefits, does not significantly outperform single-focused messaging strategies in terms of increasing purchase intentions. This suggests that while dual messaging is particularly effective in enhancing communication evaluations, its advantages in driving purchase intent are not significantly greater than single-message strategies.

4.1.3 Mediation Analysis

A Pearson correlation analysis was conducted to explore the relationships between dependent variables. The results revealed a positive correlation between Communication Evaluation and Product Liking ($r=0.732$, $p<.001$), indicating that participants who evaluated the communication on the product package more positively were significantly more likely to express higher product liking. This highlights the critical role of communication effectiveness in shaping perceptions of the product itself. Additionally, a positive correlation was also found between Product Liking and Product Likelihood of Purchase ($r=0.687$, $p<.001$). This suggests that participants who liked the product were much more inclined to express purchase intent, underscoring the importance of fostering favorable product perceptions to drive purchasing

behavior. Moreover, another significant positive correlation was found between Communication Evaluation and Product Likelihood of Purchase ($r=0.546$, $p<.001$), indicating that communication evaluation influences purchase likelihood. Building on these findings, a mediation analysis using SPSS PROCESS macro (Model 4) was conducted to test H3, where the type of messaging (TREATMEN) was the independent variable, perceived message effectiveness (COM_EVAL) the mediator and purchase intention (P_WTB) the dependent variable.

Results revealed a significant indirect effect for the Sustainability treatment compared to the Health treatment (indirect effect = $-.6349$; 95% CI = -1.3234 to $-.0245$). This indicated that the Sustainability treatment's lower perceived message effectiveness significantly mediated its reduced impact on purchase intention. Namely, participants exposed to the Sustainability treatment evaluated the product messaging less favorably, which in turn diminished their willingness to purchase the product. In contrast, no significant indirect effect was observed for dual messaging treatment compared to health treatment (indirect effect = $.1730$; 95% CI = $-.3991$ to $.7695$). This suggests that for the dual messaging treatment, perceived message effectiveness did not play a substantial mediating role in influencing purchase intention. The lack of a significant mediation effect points to other potential factors influencing purchase intention for this group, beyond how the message was evaluated.

Altogether, these results demonstrate that perceived message effectiveness plays a pivotal mediating role in the relationship between messaging type and purchase intention, but only for certain types of messaging. Notably, the direct impact of the type of messaging on purchase intention diminishes or ceases to exist once the mediator is taken into account. This finding underscores the critical role of perceived message effectiveness as a key driver of purchase behavior, bridging the relationship between message type and purchase intention.

4.1.4 Moderated Mediation Analysis

Beyond the direct and indirect effects of messages, this study also aimed to uncover the specific factors that might moderate the mediation of treatment effects by perceived message effectiveness on purchase intention. The moderators hypothesized were Dog Health (specific health-related needs of the pet), Dog Link (the emotional bond between dog owners and their pets), and Food Choice (the prioritization of pet health needs over owners' personal needs).

Before advancing with the moderated mediation analysis using the SPSS PROCESS, it was necessary to verify whether there was an interaction between consumer-specific factors and the dependent variable, Communication Evaluation. To this end, a general linear model was

conducted. Results are depicted in Figure 5 and provided only partial support for the hypotheses proposed, as only the interaction between Dog Health and message treatment was statistically significant ($F=3.795, p=.026$).

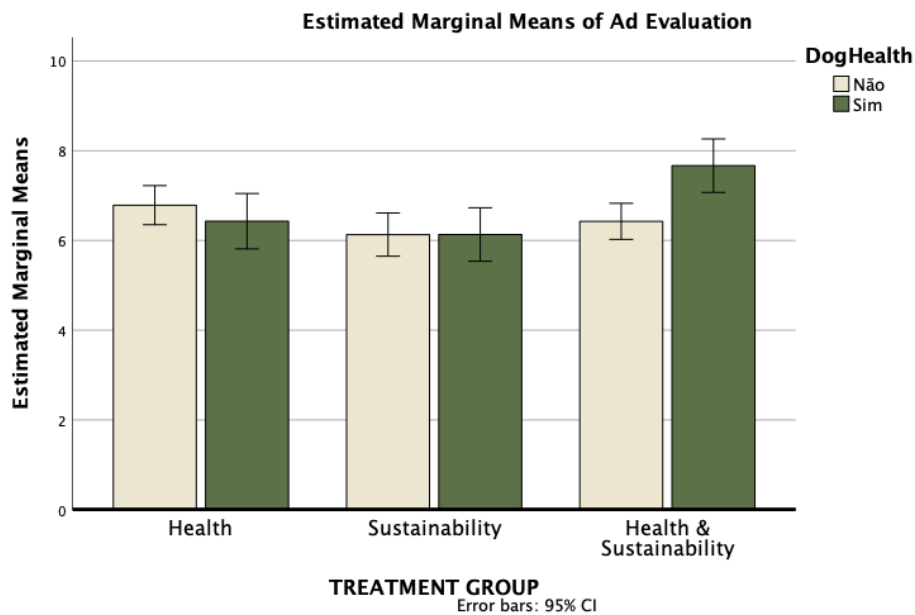


Figure 5 Estimated Marginal Means of Communication Evaluation

This suggests that the effectiveness of communication is influenced by the perceived health needs of the dog. Namely, having a dog with specific health needs (vs a healthy dog) led participants in the Health & Sustainability treatment to evaluate the communication on the product significantly more positively than those in the other treatment groups. This suggests that sustainability messaging can magnify the importance of health when integrated into a dual-focus message thereby enhancing its impact on communication evaluation.

The interaction between message treatment and Dog Link was not statistically significant ($F=0.146, p=.864$). This suggests that the emotional bond between dog owners and their pets does not influence the relationship between message type and perceived message effectiveness. Similarly, the interaction between message type and Food Choice was not statistically significant ($F=0.550, p=.699$). This suggests that the prioritization of pet health over owners' personal health needs does not significantly affect the mediation process. Based on these findings, the analysis proceeded to test only Dog Health as the moderating variable in the moderated mediation analysis.

A moderated mediation model (PROCESS Model 7) was performed, where the type of treatment (message type) served as the independent variable (TREATMEN), perceived message effectiveness (COM_EVAL) was the mediator, dog health needs (DogHealt) was the moderator, and purchase intention (P_WTB) was the dependent variable. This analysis

examined whether the indirect effect of TREATMEN on P_WTB through COM_EVAL varied depending on the level of Health. Findings showed that the conditional indirect effects of TREATMEN indeed depended on the level of Dog Health. For the Sustainability Treatment (X1), the mediation effect was significant and negative when dogs presented no health needs (Dog Health=0, Effect=-0.7775, 95% CI= -1.6039 to -0.0429). This indicated that for individuals whose dogs were healthy, the Sustainability treatment reduced perceived message effectiveness, which in turn negatively impacted purchase intention. However, this mediation effect was non-significant when the dog presented health needs (Dog Health = 1). In contrast, for the Health & Sustainability Treatment (X2), the mediation effect was non-significant when dogs presented no health needs but, became significant and positive when the dog presented health needs (Effect=1.4690, 95% CI = 0.5222 to 2.5691). This finding suggested that the Health & Sustainability treatment effectively enhanced perceived message effectiveness, which subsequently increased purchase intention for individuals with dog health needs.

The index of moderated mediation measured the difference between the conditional indirect effects across levels of Dog Health, testing whether the moderation was statistically significant. For the Sustainability Treatment (X1), the index was not significant (Index=0.4272, 95% CI= -0.9226 to 1.7853), indicating that dog health needs did not significantly influence the mediation effect of this treatment. However, for the Health & Sustainability Treatment (X2), the index of moderated mediation was significant, demonstrating that dog health needs significantly moderated the mediation effect of this treatment on purchase intention through perceived message effectiveness (Index=1.8979, 95% CI= 0.7338 to 3.1961).

These findings suggest that perceived dog health needs moderated the mediation of treatment type by perceived message effectiveness on purchase intention. Specifically, the Health & Sustainability Treatment (X2) was more effective for individuals with dog health needs, as it enhanced perceived message effectiveness, which in turn drove purchase intention. This underscores the importance of tailoring marketing messages to resonate with health-conscious dog owners. Messaging that emphasized both health and sustainability was more effective in influencing purchase intentions in this target audience.

4.2 Discussion

RQ1: *Which type of marketing message (health-focused or sustainability focused) is more effective in increasing consumer purchase intentions for organic dry dog food?*

When evaluating the effectiveness of marketing messages in increasing consumer purchase intentions for organic dry dog food, the health-focused messaging was found to be more effective in increasing purchase intentions, product liking, and communication evaluation compared to the sustainability-focused messaging. This supports H1. Moreover, a subsequent planned mediation analysis revealed that perceived message effectiveness played a critical role in driving purchase intentions, indicating that the lower perceived effectiveness of sustainability messaging mediated its diminished impact on dog owners' purchase intentions. This finding highlights the pivotal role of perceived message effectiveness as a key driver of purchase behavior, effectively bridging the relationship between message type and purchase intention. Meanwhile, sustainability-focused messages were evaluated less favorably by dog owners, which in turn weakened their overall impact on consumer purchase intentions. These results suggest that sustainability messages may resonate less strongly with consumers than health messages, making them less effective in driving purchasing behavior. This aligns with the findings of Kronrod et al. (2011), who found that consumers' acceptance of assertive sustainability messages is contingent on the perceived relevance to personal well-being, which varies widely across demographic groups. For many consumers, sustainability benefits may be seen as abstract or less directly tied to their immediate priorities. Ultimately, health-focused marketing emerges as the most effective single message strategy for increasing consumer purchase intentions for organic dry dog food.

RQ2: *Does a dual-messaging strategy (combining health and sustainability benefits) increase consumer purchase intentions more than single-focus messages?*

Results show that dual messaging did not significantly outperform single-focused messaging strategies in terms of increasing purchase intentions in this study. However, when considering specifically the sustainability benefit, the dual message proves to be more effective than the sustainability-focused message alone. This suggests that combining health and sustainability benefits enhances the appeal of sustainability aspects.

A key insight from the study that helps us understand the consumers perspective can be derived from the manipulation check. Its results revealed that participants sometimes conflated health and sustainability benefits, supporting the heuristic "what is sustainable is healthy and vice versa.". As noted by Hartmann and Apaolaza-Ibáñez (2012), the green halo effect causes consumers to perceive sustainable products as inherently healthier. This perception may partially explain the appeal of dual messaging in relation to the sustainability messaging but

underscores that, when forced to choose, consumers often prioritize tangible, direct health benefits over the holistic.

RQ3: *Under what circumstances does the effectiveness of the message type change?*

The findings from the moderated mediation analysis provide critical insights into the circumstances under which the effectiveness of different message types varies. Among the consumer-specific factors analyzed, the health needs of the pet emerged as a significant moderator, underscoring the situational relevance of marketing messages tailored to the target audience's context.

Specifically, for pet owners whose dogs had specific health issues, dual messaging proved to be particularly effective. This message type significantly enhanced perceived message effectiveness and, consequently, increased purchase intentions. Such added effectiveness can be attributed to the "the more is better" heuristic, wherein consumers perceive products that address multiple complementary benefits as offering greater overall value. This aligns with the work of Torelli et al. (2012), who suggest that comprehensive value propositions resonate strongly with consumers who view health and sustainability attributes as mutually reinforcing. The findings further illustrate how sustainability messaging interacts with health priorities to shape consumer perceptions. When integrated into a dual-focus message, sustainability attributes can magnify the perceived importance of health, thereby enhancing communication evaluations. This synergy between health and sustainability suggests that dual messaging can be particularly compelling for consumers balancing these priorities, as it amplifies the perceived relevance and value of the product.

From a strategic perspective, these findings have significant implications for marketing communication in the organic pet food sector. Dual messaging offers considerable advantages for this niche segment, those whose pets have specific health needs. In contrast, sustainability-focused messaging, when presented in isolation, requires substantial refinement to broaden its appeal and relevance.

CHAPTER 5: CONCLUSIONS AND LIMITATIONS

5.1 Main Findings & Conclusions

This study assessed the impact of health-focused, sustainability-focused, and dual-focused marketing messages in influencing customer purchase intentions for organic dry dog food. Its findings offer a more comprehensive understanding of the effectiveness of different message types for different consumer needs.

Health-focused messaging consistently outperformed sustainability-focused messaging in driving purchase intentions, product liking, and communication evaluations. Consumers exhibited a clear preference for tangible, direct health benefits for their pets, which aligns with broader trends of pet humanization and premiumization in the pet food industry. Health messaging effectively resonated with consumer priorities, reinforcing its role as a critical driver of purchase intention in the organic pet food market. This showcases that while environmental concerns are rising among pet owners, they remain secondary to health-related priorities in driving purchase intention. Companies should emphasize clear, tangible benefits such as improved pet nutrition and wellness in their advertisements, packaging, and digital content.

In what concerns, dual-focused messaging, combining health and sustainability benefits, showed mixed results. While it enhanced communication evaluations and product liking compared to single-focused messaging, it did not significantly surpass health-focused messaging in driving purchase intentions. This suggests that while dual messaging achieves more engagement, it may not always translate to higher purchase intent, especially when health benefits alone are highly valued. Interestingly, the study identified a heuristic thinking, influential in shaping consumer perceptions. This appeal of dual messaging can thus be partially explained by the heuristic "what is sustainable is healthy and vice versa.". This intuitive association underscores the interconnectedness of these attributes in the minds of consumers, blurring the lines between distinct value propositions, which constitutes an important insight for marketers to tap into these embedded cognitive shortcuts.

Furthermore, the mediation analysis underscored the pivotal role of perceived message effectiveness in translating marketing messages into consumer purchase intentions. Health-focused and dual messaging treatments demonstrated stronger perceived effectiveness, which mediated their positive impact on purchase intent. This finding emphasizes the importance of designing clear, credible, and engaging messages to enhance overall effectiveness. On the other hand, the mediation analysis confirmed that sustainability messaging's weaker perceived

effectiveness diminished its impact on purchase intentions which highlights the challenge for marketers to make sustainability benefits more salient and relevant to consumers.

Further, the perceived health needs of pets emerged as a critical moderator influencing the effectiveness of marketing messages. Pet owners with dogs requiring special health care responded more positively to dual messaging, as it amplified perceived relevance and value of health single message. This highlights the importance of tailoring messages to align with specific consumer contexts, such as pet health needs, to maximize impact.

Overall, this research demonstrates the primacy of health-focused messaging in the organic pet food market, the quieter role of dual messaging, and the need for improved clarity and resonance in sustainability-focused messages. While dual messaging offers potential for targeting specific consumer segments, particularly those with dog health-conscious priorities, health messaging remains the most universally effective strategy. These insights underline the importance of aligning marketing communication strategies with consumer values and priorities to maximize effectiveness. Dual-focused messaging provides an opportunity to address niche segments. These messages can position products as comprehensive solutions for consumers, but they require careful balancing to avoid overwhelming audiences with complexity. For the most impact, marketers should integrate health and sustainability benefits into cohesive narratives, ensuring clarity and authenticity to build trust.

Moreover, after examining the data and drawing conclusions, it is evident that the gap stated in the literature study was thoroughly confirmed. It is apparent that many customers do not fully comprehend what "organic" means. This knowledge gap can be traced, in part, to the previously cited heuristic, "what is sustainable is healthy and vice versa," which might confuse the distinctions between these notions in consumers' minds. To solve this issue, companies should focus targeted educational initiatives that effectively explain the unique health, sustainability, and ethical benefits of organic goods.

5.2 Academic Implications and Further Research

From an academic standpoint, this study contributes to the understanding of marketing communication in the organic pet food sector, providing new insights into the interplay between health and sustainability messaging. Future research might look at the intricacies of this interaction across multiple product categories and cultural contexts, increasing the breadth of its use.

Additionally, the study underscores the critical role of perceived message effectiveness in driving purchase intentions. Academics could focus on the psychological constructs underpinning this mediator, such as trust, emotional resonance, and cognitive alignment, to refine theories of consumer decision-making.

Another key contribution is the identification of heuristic influences where consumers intuitively link sustainability with health. This phenomenon opens space for research into how heuristic associations evolve and vary across different consumer segments and market contexts. By examining these associations, future studies can better inform cross-cultural marketing strategies and improve the alignment of messages with diverse consumer values.

5.3 Limitations

Despite a thorough literature review, market analysis, and the valuable insights generated by this research certain limitations must be acknowledged, which could influence the generalizability and depth of the findings.

One limitation lies in the sampling strategy. The study employed a non-probability convenience sample of Portuguese dog owners, which may not fully represent the broader population of pet owners across different geographic or cultural contexts.

Furthermore, data collection relied on self-reported survey responses, which are inherently subject to biases. Additionally, inaccuracies in self-perception could have affected the validity of responses, particularly regarding behavioral intentions that may not fully translate to actual purchasing behavior.

The study's single-factor experimental design was effective in isolating the causal effects of different messaging types but does not account for the multifaceted nature of real-world marketing campaigns. Factors such as branding, pricing, and distribution channels, which significantly influence consumer decisions, were not incorporated. This limitation highlights the need for future research to integrate these elements for a more comprehensive analysis.

Furthermore, the research focused narrowly on three messaging types, health-focused, sustainability-focused, and dual-focused. Broader variations in message framing, including emotional appeals, humor, or aspirational narratives, were not explored. These alternative approaches might significantly influence consumer perceptions and warrant investigation in future studies.

Lastly, findings highlighted differences in consumer responses based on age. While there were no significant age differences between the Health and Sustainability groups, the Health &

Sustainability group was, on average, significantly older than the Sustainability group. This demographic variability may have confounded the interpretation of results.

APPENDICES

Appendix 1: Survey design in Qualtrics

Organic pet food - Portuguese market

Survey Flow

Block: 0. Introduction (1 Question)
Standard: 1. Screening Question (7 Questions)

BlockRandomizer: 1 - Evenly Present Elements

Standard: 2A. Health Message (5 Questions)
Standard: 2B. Sustainability Message (5 Questions)
Standard: 2C. Dual Message (5 Questions)

Block: 3. Consumer-specific factors (8 Questions)
Standard: 4. Demographics (4 Questions)

Page Break

0. Introduction

Olá, Amante de Animais!

Este inquérito faz parte da minha dissertação de mestrado e pretende entender melhor o mercado de consumo de ração para cães em Portugal. A sua opinião é muito importante!

As respostas serão anónimas e confidenciais, sendo utilizadas exclusivamente para fins de investigação. A participação é voluntária e poderá desistir a qualquer momento.

O preenchimento do inquérito não deverá demorar mais do que 6 minutos.

Obrigada!

1. Screening Question

Obrigado por iniciar o inquérito.

Para garantir que o mesmo é relevante para si, por favor responda às seguintes questões.

Tem nacionalidade portuguesa?

- Sim
- Não

É maior de 18 anos?

- Sim
- Não

Existe um cão ou mais cães no seu agregado?

- Sim
- Não

Quem é habitualmente a pessoa que compra a ração para o cão/os cães no seu agregado?

- Eu próprio/Eu própria
- Outro elemento do agregado

Por favor indique quantos cães existem no seu agregado:

- 1
- 2
- 3
- >3

Como descreveria a sua relação com o seu cão?

- Membro(s) da família
- Companheiro(s)
- Animal/animais de estimação
- Outra. Qual?

2A. Health Message

Com base na imagem da nova ração seca orgânica para cães aqui apresentada, por favor responda às perguntas seguintes:



2B. Sustainability Message

Com base na imagem da nova ração seca orgânica para cães aqui apresentada, por favor responda às perguntas seguintes:



2C. Dual Message

Com base na imagem da nova ração seca orgânica para cães aqui apresentada, por favor responda às perguntas seguintes:



Na sua opinião, quais os benefícios deste produto que mais se destacam na embalagem?

- Saúde
- Sustentabilidade
- Saúde e Sustentabilidade
- Outro. Qual?
- Nenhum

Como avalia a comunicação dos benefícios do produto na embalagem?

- Extremamente boa
- Muito boa
- Bastante boa
- Boa
- Aceitável
- Má
- Bastante má
- Muito má
- Extremamente má

Quanto gostou desta nova embalagem de ração seca para cão?

- Gostei extremamente
- Gostei muito
- Gostei moderadamente
- Gostei ligeiramente
- Nem gostei nem desgostei
- Desgostei ligeiramente
- Desgostei moderadamente
- Desgostei muito
- Desgostei extremamente

Por favor indique com que probabilidade compraria esta nova ração seca para cão:

- É certo ou praticamente certo que compraria
- É quase certo que compraria
- Muito provavelmente compraria
- Provavelmente compraria
- Com boa probabilidade compraria
- Com média probabilidade compraria
- Com razoável probabilidade compraria
- Com alguma probabilidade compraria
- Com pequena probabilidade compraria
- Com muito pequena probabilidade compraria
- É certo ou praticamente certo que não compraria

3. Consumer-specific factors

Nesta secção, procuro compreender melhor os seus hábitos de consumo.

Com que frequência compra ração para o seu cão?

- Semanalmente
- Quinzenalmente
- Mensalmente
- A cada 2-3 meses
- A cada 6 meses

Em média, quanto gasta por mês (€) com a compra de ração para cão?

Por favor indique o valor despendido por cão, caso tenha mais do que um.



O seu cão/cães tem necessidades de saúde específicas que influenciem o tipo de ração que compra?

- Sim
- Não

Comparando a forma como escolho alimentos para mim e para o meu cão/cães, diria que:

- Dou mais prioridade à saúde quando se trata do meu cão do que de mim
- Dou a mesma importância à saúde de ambos e à sua relação com a alimentação
- Estou normalmente mais preocupado/a quando se trata de minha saúde
- Não faço comparações entre as duas compras

Costuma comprar ração seca **orgânica** para cão?

- Sim
- Não

Com que frequência compra ração seca **orgânica** para cão?

- Sempre
- Muitas vezes
- Algumas vezes
- Raramente
- Nunca

Indique o seu grau de concordância com as seguintes **três** afirmações:

3. Não tenho um foco particular quando faço compras para o meu cão

2. Procuo ativamente produtos para o meu cão que otimizem o meu impacto sustentável

1. Procuo regularmente informação sobre como manter o meu cão saudável

Discordo totalmente

Discordo muito

Discordo

Discordo ligeiramente

Nem concordo, nem discordo

Concordo ligeiramente

Concordo

Concordo muito

Concordo totalmente

4. Demographics

Qual é a sua idade?

Qual é o seu sexo?

- Masculino
- Feminino
- Prefiro não dizer

Qual é a sua ocupação?

- Estudante
- Empregado a tempo inteiro
- Empregado a tempo parcial
- Desempregado
- Trabalhador independente
- Reformado
- Outro

Por favor, indique o rendimento líquido mensal médio do seu agregado familiar.

- Menos de €750
- €750 - €1,249
- €1,250 - €1,749
- €1,750 - €2,249
- €2,250 - €2,749
- €2,750 - €3,499
- €3,500 ou mais
- Não sei/Prefiro não responder

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