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How does storytelling for vegan industrialized products influence consumer's purchase intention? Analysed through the Stimulus-Organism-Response (SOR) model.

GIOVANA HERNANDES DA SILVA

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HOW DOES STORYTELLING FOR VEGAN INDUSTRIALIZED PRODUCTS
INFLUENCE CONSUMER'S PURCHASE INTENTION? ANALYSED
THROUGH THE STIMULUS-ORGANISM-RESPONSE (SOR) MODEL.

Giovana Hernandes da Silva



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Supervised by
Prof. Raquel Meneses



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Bibliographic Note

Giovana Hernandes da Silva was born on August 25, 2001, in São Paulo, Brazil, where she spent the first eighteen years of her life. After graduating from a technical high school with a specialization in administration, Giovana's eagerness to explore diverse cultures and her affinity for global perspectives prompted her move to Porto, Portugal. In Porto, she began her undergraduate studies at the University of Porto's Faculty of Arts, pursuing a Bachelor's degree in Communication Sciences: Journalism, Public Relations, and Multimedia. During her studies, Giovana undertook an internship at No More, a communication agency based in Porto, excelling as a Press and Network Agent. Although her initial academic focus was communication, Giovana found herself increasingly drawn to business management, which led her to commence a Master's degree in Economics and Business Administration in 2022.

Her master's studies included a five-month exchange program at the University of Amsterdam, celebrated for its stringent business curriculum. This opportunity significantly broadened her academic horizons and subsequently led to a pivotal internship at Heineken Global. At Heineken, Giovana contributes as a Business Support Specialist in the Transformation Department, where she skilfully integrated her communication skills with her growing passion for business.

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Abstract

Purpose: This study investigates the impact of storytelling credibility, on consumer perceptions and purchasing intentions toward industrialized vegan products. It aims to elucidate how marketing communication storytelling influences consumer perception and behavior, framed by the Stimulus-Organism-Response (SOR) model.

Design/methodology/approach: The research employed a quantitative experimental design, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) complemented by Necessary Condition Analysis (NCA). This dual-analytical approach allowed for a nuanced exploration of the causal relationships and necessary conditions underpinning the influences of marketing communications on consumer responses.

Findings: The SOR model operates on the principle of influence, however, the findings diverge from this expected pattern uniquely. It was discovered that the stimulus, specifically the credibility of storytelling, significantly influences the organism—namely, consumer involvement, brand trust, and perceived quality. Contrary to the model's typical assumptions, the response, which is purchase intention, is not directly influenced by the organism. Nonetheless, the response cannot exist without components of the organism, specifically brand trust and perceived quality.

Research limitations: The data collected from diverse cultural and socioeconomic contexts may introduce noise and limit applicability to specific cultures and contexts. Additionally, gender disparities and a predominantly omnivorous sample may not fully capture the nuanced behaviours and attitudes of vegans and vegetarians, potentially impacting the overall findings.

Practical implications: This research advises communicators in the industrialized vegan sector to craft credible and compelling stories supported by strong product attributes. Marketing strategies should integrate storytelling with clear demonstrations of product quality and trustworthiness to enhance consumer purchase intentions.

Originality: This thesis advances the field by applying a sophisticated analytical framework that integrates the SOR model with PLS-SEM and NCA, offering novel insights into how storytelling impacts consumer behaviour in the vegan industrialized product sector.

KEYWORDS: Consumer Behaviour, Storytelling, Credibility, Vegan Industrialized Products, Stimulus-Organism-Response Model, Purchase Intentions, PLS-SEM, Necessary Condition Analysis

Resumo

Objetivo: Este estudo investiga o impacto da credibilidade do storytelling nas percepções dos consumidores e nas intenções de compra de produtos veganos industrializados. Ele visa elucidar como a comunicação de marketing storytelling influencia a percepção e o comportamento do consumidor, enquadrado pelo modelo Estímulo-Organismo-Resposta (SOR).

Metodologia: O estudo utilizou um desenho experimental quantitativo, empregando Modelagem de Equações Estruturais com Mínimos Quadrados Parciais (PLS-SEM) complementada pela Análise de Condição Necessária (NCA). Esta abordagem analítica dupla permitiu uma exploração detalhada das relações causais e condições necessárias que sustentam as influências das comunicações de marketing nas respostas dos consumidores.

Resultados: O modelo SOR opera no princípio de influência, no entanto, os resultados divergem desse padrão esperado. Foi descoberto que o estímulo, especificamente a credibilidade do storytelling, influencia significativamente o organismo—nomeadamente, o envolvimento do consumidor, a confiança na marca e a qualidade percebida. Contrariando as suposições típicas do modelo, a resposta, intenção de compra, não é diretamente influenciada pelo organismo. No entanto, a resposta não pode existir sem componentes do organismo, especificamente a confiança na marca e a qualidade percebida.

Limitações: Os dados coletados de contextos culturais e socioeconômicos diversos podem introduzir ruídos e limitar a aplicabilidade a culturas e contextos específicos. Além disso, as disparidades de gênero e amostra predominantemente onívora podem não capturar completamente os comportamentos e atitudes de veganos e vegetarianos, potencialmente impactando os resultados gerais.

Implicações práticas: A pesquisa aconselha os comunicadores no setor de produtos veganos industrializados a criar narrativas críveis apoiadas por atributos sólidos do produto. As estratégias de marketing devem integrar o storytelling com demonstrações claras de qualidade e confiabilidade do produto para aumentar as intenções de compra dos consumidores.

Originalidade: Esta tese avança o campo aplicando um framework analítico sofisticado que integra o modelo SOR com PLS-SEM e NCA, oferecendo novas perspectivas sobre como o storytelling impacta o comportamento do consumidor no setor de produtos veganos industrializados.

PALAVRAS-CHAVE: Comportamento do Consumidor, Storytelling, Credibilidade, Produtos Industrializados Veganos, Modelo Estímulo-Organismo-Resposta, Intenções de Compra, PLS-SEM, Análise de Condição Necessária.

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1 Introduction

The purpose of this study is to assess and analyze the impact of a communication strategy on consumers' perceptions of plant-based meat alternatives, particularly concerning industrialized vegan products in the emerging wellness consumer trend. The study aims to comprehensively understand how storytelling credibility, in conjunction with the broader context, influences the perception of diverse consumer groups with different dietary choices, impacting their purchase intentions.

The prior goal of this study is to effectively understand, based on the Stimuli-Organism-Response Model (Mehrabian & Russell, 1974), how companies, through credible storytelling communication strategies, function as stimuli regarding industrialized vegan products, have potentially affected the consumer's perceptions regarding involvement, brand trust, and perceived quality of a product, and consequentially impacting their purchase intention. These stimuli target individuals in an environment characterized by heightened awareness and concern regarding environmental issues, contributing to the population's increased interest in reducing meat consumption and opting for plant-based alternatives as evidenced in the last few years (Aschemann-Witzel et al., 2021). Furthermore, the study seeks to analyze how different groups of consumers, behaving as moderators in this research framework, affect the connection between stimuli produced and the organism perception, revealing distinct perspectives from both those who support the vegan cause and consume vegan products and those who are not part of this movement and generally abstain from their consumption.

The global vegan market exhibits varying levels of adoption across different regions. India leads with a 13% share of the vegan market, followed by China at 6%, the United States at 4%, Germany and Brazil at 3%, and Mexico at 2%. These figures highlight the diverse adoption rates of veganism across major economies, reflecting cultural, economic, and societal influences on dietary choices (Phoenix, 2024).

The term "plant-based" encompasses both vegetarian and vegan diets, as well as diets predominantly reliant on plant-derived foods (Aschemann-Witzel et al., 2021). It is crucial to emphasize that the acceptance of plant-based meat substitutes is influenced by various factors, including cost, familiarity, psychological considerations, as well as environmental and cultural factors (Onwezen et al., 2021). As indicated by Hanras et al. (2022) and Dorard and Mathieu (2021), vegetarians tend to base their food preferences more significantly on considerations related to health, natural content, ethical concerns, and occasionally, weight management, compared to omnivores.

Consequently, the adoption of plant-based diets is growing worldwide, mainly motivated by health, ethical, cultural, and environmental factors (Curtain & Grafenauer, 2019), coinciding with the ongoing fourth industrial revolution characterized by the integration of electronic, informational, communicative, and digital technologies, amplifying the intensity of industrial production (Dadhaneeya et al., 2023).

Moreover, enterprises have substantially altered their strategies in response to continual and profound changes in consumer standards and awareness regarding nutrition, sustainability, and healthy lifestyles (Cohen, 2022). The market landscape no longer adheres to traditional decision-making drivers, factors such as price and taste no longer singularly dictate market dynamics (Ringquist et al., 2016). Consumers now have an increasing consideration of other factors, comprising health and wellness, social impact, experience, and transparency (Ringquist et al., 2016). Becoming one of the major food trends, consumer behavior has witnessed a significant shift towards health consciousness, resulting in a heightened demand for products perceived as conducive to their overall well-being (Bublitz & Peracchio, 2015).

This research brings forth two insights into the impact of communication strategies adopted by companies on shaping consumer perceptions. Firstly, the study aims to clarify how industrialized vegan products need to be strategically communicated within its specific market segment. Secondly, it seeks to evaluate the extent to which such credible communication influences consumer perspectives by examining the potential behaviors induced by these products.

This study explores the pivotal role of storytelling in marketing communication, particularly focusing on its impact on consumer purchase intentions for industrialized vegan products. The central research question guiding this investigation is: "How does storytelling for vegan industrialized products influence consumer's purchase intention?" To address this question, the theoretical framework developed for the present study is a reconsideration of the Stimuli-Organism-Response (SOR) Model. Originally formulated by Mehrabian and Russell (1974), the SOR Model is a well-established framework in consumer behavior studies. This investigation is primarily centered on gaining a comprehensive understanding of the Stimuli (S) component with a particular highlight on the significance of the external environmental inputs and marketing mix variables (Bagozzi, 1986), extending to the narrative credibility of product storytelling strategy, as conceptualized within the Source Credibility Model (Ohanian, 1991). The study seeks to understand how these stimuli, interlinked with the individual's emotional and cognitive systems, influence the organism ('O') in terms of consumer involvement, brand trust, and perceived quality across three dimensions: nutritional, environmental, and health aspects. Furthermore, the research

categorizes dietary preferences, namely vegans, vegetarians, and omnivores, as moderators between the stimuli' impact on the organisms. Moreover, this study aims to comprehend their Responses ('R), being the model outcome, and to what extent the communication strategy through human perceptions impacts their purchase intent.

The empirical study employs a quantitative experimental design, utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) and Necessary Condition Analysis (NCA) to analyze data collected through structured questionnaires. Participants are exposed to product packages with and without storytelling elements to measure the effect of storytelling credibility. This dual-analytical approach allows for a detailed examination of the causal relationships and necessary conditions underpinning the influences of marketing communications on consumer responses.

This dissertation is organized into six chapters. The first chapter focuses on setting the context for the research, discussing its relevance, and outlining the study objectives.

In the second chapter, we define key terms and delve deeper into the existing literature to clarify the issues explored throughout our research.

Chapter three is dedicated to examining the research question and the methodology applied to this study.

Chapter four discusses the methodologies and statistical analysis of the results, with a focus on the hypotheses formulated and the outcomes achieved in this study.

A new approach (NCA) is introduced in chapter five following the results from the first phase, followed by a discussion of these results.

Finally, the last chapter discusses the findings from the previous chapter, considering the limitations and suggesting directions for future research.

2 Literature review

In this study, the Stimuli-Organism-Response (Mehrabian & Russell, 1974) framework is adept at examining the impact of strategic marketing communication on individuals' perspectives, more precisely storytelling strategies, serving as an environmental stimulus. It explores how these communications influence the organism's perception, and consequently their behavioral intentions in response to industrialized vegan products. Extending this framework to the context of the plant-based food market trend, this study aims to shed light on consumer perceptions and knowledge regarding the perceived quality, brand trust, and consumer involvement with these industrialized products. The purpose of this theoretical section is to offer a theoretical viewpoint on the fundamental elements required for the development of the methodological and research section.

2.1 The New Food Industry

The sector of plant-based meat is experiencing rapid expansion, as noted by Ye et al (2023). There is a necessity, not only to alter consumer behavior but also to provide novel products that align with consumer preferences. This is particularly challenging due to the need to transition cultural, technical, industrial, and political aspects of the contemporary food system paradigm, which currently centers on animal agriculture, towards innovative, plant-based food systems (Saari et al., 2021).

From an economic standpoint, adherents of a vegan lifestyle constitute a global minority. However, recent trends suggest a noteworthy increase in their numbers (Saari et al., 2021). These individuals, who opt for plant-based diets, are, according to Saari et al. (2021), primarily motivated by concerns for human health, animal welfare, and environmental sustainability. Sustainability is progressively becoming a distinguishing factor, influencing consumer demands. Consumers now expect firms to provide credible, comprehensible, and transparent communication, demonstrating that sustainability efforts are more than simple marketing phrases (Hajdari, 2023).

Overall, the distinction among the three dietary patterns - vegans, vegetarians, and omnivores - that is aimed to be investigated in this study lies in the absence or consumption of meat and animal-derived products. Omnivorous beings are identified by their capacity to consume and digest foods from diverse sources, whether plant-based or animal-derived (Lima, 2018). Vegetarianism is a dietary regimen that involves the exclusion of all forms of meats, poultry, fish, and their derivatives, with or without the inclusion of dairy or eggs—both classified as animal-derived foods (Lima, 2018). On the contrary, veganism, recognized as an alternative dietary system and also a lifestyle, eliminates from the diet any products originating from animals and refrains from consuming items

that incorporate ingredients derived from animals in their origin and manufacturing processes (Lima, 2018).

As reported by Marcia Mogelonsky (2019), approximately 50% of consumers in Europe have recently curtailed their meat intake. Meticulous (2022) forecasts that the European plant-based food market is set to reach US\$ 16.7 billion by 2029. The report also highlights a doubling of the number of vegans in Europe over the past four years, surging from 1.3 million to the current 2.6 million, constituting 3.2% of the total population.

Global interest in veganism has surged, with a 300% increase in Google searches (Phoenix, 2024). Iceland, for instance, has reported a 10% annual increase in plant-based food sales. Some projections suggest that 25% of the global population may adopt a meatless diet by 2025, highlighting the significant shift towards plant-based eating (Phoenix, 2024).

According to Phoenix (2024), 68% of vegans cite that the primary motivation for adopting veganism is animal welfare. Other motivations include health benefits (17.4%) and environmental concerns (9.7%). Surveys indicate that a significant number of vegans transition from vegetarianism, with animal welfare being the primary driver for this stricter dietary choice (Phoenix, 2024).

Veganism also has significant environmental benefits. A global shift to veganism could reduce greenhouse gas emissions from farming by 66%, potentially saving \$1.5 trillion in climate change mitigation costs. Additionally, a vegan diet can reduce agricultural land use by 76% and halve greenhouse gas emissions, making it a highly impactful lifestyle choice for environmental sustainability (Phoenix, 2024).

Adding on, vegan ultra-processed products are manufactured from similar ingredients and processes as non-vegan ultra-processed foods, thereby conveying the same health risks for chronic diseases such as obesity, diabetes, high blood pressure, and even cancer (Aquino et al., 2023). Another study supplements this by asserting that plant-based alternatives generally exhibit lower kilojoules, of total and saturated fat and, on the other hand, exhibit higher carbohydrate, sugars, and dietary fiber content when compared to meat (Curtain & Grafenauer, 2019). Therefore, examining public perceptions and preconceptions about vegan products becomes vital. As the market for plant-based alternatives expands, understanding consumer attitudes is crucial to addressing potential misconceptions and fostering informed choices.

2.2 Stimuli-Organism-Response Model

The initial formalization of the SOR Model was in the field of psychology, Thorndike (1898) formulated the “Law of Effect”- Stimulus-Response (S-R) theory, which has been considered a

fundamental concept in psychology and behavioural science. It was the primary objective of elucidating how an individual reacts to stimuli or triggers in their environment. According to this theory, an individual response (R) that happens to present a satisfactory outcome is more likely to endure and react to comparable stimuli (S). Essentially, the satisfying factor establishes a bond between the situation and the response, similar stimuli provoke similar responses. Nevertheless, over time, this theory confronted critique from certain authors, who contended that it oversimplified the reflex-like connection and ineffective distinction between driven forces of behavior and underlying mechanisms (Woodworth, 1926). It emphasized that internal factors are important to the individual.

The initial generation of consumer behavior models incorporates an input-output concept. In this paradigm, consumers are portrayed as rational decision-makers, with economic factors serving as inputs and purchase behavior as the output (Jacoby, 2002). However, this approach disregards the consumers'/individuals' mental conditions, incentives, procedures, and distinct dissimilarities of consumers (Jacoby, 2002).

Subsequently, the Stimuli-Organism-Response model was explained by Mehrabian and Russell (1974) in their book 'An Approach to Environmental Psychology'. The S-O-R framework is posited as a valuable instrument for assessing approachable or avoidance behaviors (responses) by discerning the internal states of the mind (organism) that have been triggered by environmental factors (stimuli) (Mehrabian & Russell, 1974). Fundamentally, the SOR model embodies a stimulus as the autonomous variable, the organism as an intermediary, and the response as the dependent variable (Turley & Milliman, 2000; Vieira, 2013). It is considered a successful tool to explain behavioral oscillations arising from different marketing stimuli and cognitive factors.

2.2.1 Stimuli

In the context of this study, the stimulus variable can be equated with environmental factors that serve to incite and provoke forthcoming human actions or cognitive processes (Li, 2019). This encompasses information that is perceptible through human sensory organs (Li, 2019). Within the food industry, these environmental cues hold the potential to act as influential factors.

Communication is fundamentally integral to human interaction, serving as the primary tool for navigating and responding to the world. It enables humans to connect with others, assess and share perceptions, and ultimately shape social realities. This interaction not only fulfils basic needs for belonging and acceptance but also influences human behaviour and decision-making processes (Green et al., 2024). When examining communication strategies as stimuli, it is crucial to dissect the 'S' (stimuli) to comprehend better the factors upon which the strategies rely. In the context of

the retail environment, various atmospheric stimuli can be identified, often classified as external cues, including elements such as color, music, and crowding (Turley & Milliman, 2000). In essence, stimuli (S) influence the external environment, subsequently prompting responses from individuals (Kian Yeik et al., 2021). These stimuli can also emanate from socio-demographic characteristics that individuals are exposed to, encompassing demographics, lifestyles, and patterns of social interactions among customers and service personnel (Akhter et al., 1987). According to Hajdari (2023), external factors, including the social environment, family, friends, and relatives, exert a positive influence on decisions, particularly for individuals who have already embraced a sustainable nutrition lifestyle and are regarded as role models.

The aforementioned cues can be regarded as a consistent set created by products and brands, including elements like price, brand name, packaging, color, and so forth (Olson & Jacoby, 1972). In addition to these materials (i.e. tangible) cues, marketing strategies represent intangible cues, including advertising messages, promotions, packaging design, and even personalized shopping experiences. As per the cue theory proposed by Cox (1967), each cue serves as a foundation for developing various impressions of the product itself.

a Marketing communication as a stimuli

Already characterized as a stimulus, marketing communication is a potent instrument designed to generate, convey, and provide value to consumers, thereby influencing their perceptions and attitudes. Stimuli in the field of marketing are categorized into distinct groups, including product, price, distribution, and communication (Hajdari, 2023). For the purposes of this study, the focus will be on the product and communication categories.

The process of making a purchase decision involves a sequential journey that commences with consumers identifying their need (Vidyanata, 2022) or desire for a product. This process entails a complex integration of both mental and physical activities. It is at this juncture that marketing strategies can strategically leverage the consumer decision-making process. By ensuring marketing communication exposure at the right time and place, and providing consumers with the necessary information, marketers can take advantage of the decision-making process and expect to influence consumer behaviour (Vidyanata, 2022).

b Storytelling as a stimuli

Stories have served as a conduit for the transmission of wisdom, knowledge, and culture, as well as a means to strengthen social connections since the inception of human existence (Joubert et al., 2019). Storytelling, as posited by Joubert et al. (2019), constitutes a distinctive human trait that

distinguishes us from our hominin ancestors. A compelling story elicits responses in the form of sensations, cognitive engagement, and behavioral responses from its audience (Zhang et al., 2019). The utilization of storytelling in marketing involves employing narratives to communicate messages that cast a favorable light on a brand (Tussyadiah & Fesenmaier, 2008). It has been recognized as a potent marketing strategy for engaging with prospective consumers (Moscardo, 2017). Consequently, storytelling is acknowledged as a powerful approach, particularly in the marketing of consumer products. Learned (2007) proposes that a compelling narrative providing context to everyday life enhances a brand's ability to connect more empathically connection with the purchasing mindset of customers.

Wang and Santhanam (2015) prove that storytelling is highly interactive and captivating, as it allows users to engage actively and progress sequentially within the narrative, backtrack, and navigate at their individual pace. Consequently, the degree of interactivity becomes more personalized, taking on a meaningful narrative structure. This characteristic has the potential to enhance viewers' engagement with data.

c Source Credibility Model

To comprehend and assess the influence of storytelling strategies, the primary focus at the beginning of this study resides in the examination of source credibility. Consequently, the exploration of storytelling efficacy in this research demands a purposeful investigation into the credibility of the product employing this strategic narrative technique. This examination will draw upon the Source Credibility Model (Ohanian, 1991) to illuminate the intricate interplay between narrative construction and the establishment of enduring connections with the audience.

Credibility stands out as one of the paramount criteria in evaluating information quality (Bae & Lee, 2011). Ethos, also known as source credibility, holds significant importance in the realm of persuasion, and it is crucial to recognize that is a multidimensional concept (McCroskey & Young, 1981). The identity of the speaker carries weight, and the likelihood of the message's acceptance increases when the motives and intentions of speakers are deemed trustworthy (Hocevar et al., 2017). The impact of source credibility in advertising extends to influencing attitudes toward an a and purchase intentions (Ohanian, 1991).

The Source Credibility Model is a frequently employed model that refers to the positive attributes of a communicator, which impact the recipient's willingness to accept a message. Developed by Ohanian (1991), the model posits that the efficacy of a message hinges on the perceived levels of the three fundamental dimensions identified as expertise, trustworthiness, and attractiveness. The

review of source-credibility literature consistently supports the assertion that credible sources wield greater persuasive influence than those perceived as having low credibility (Ohanian, 1991).

Trustworthiness, a pivotal aspect, is defined within the communication paradigm as the listener's degree of confidence in and acceptance of both the speaker and the conveyed message. On the other hand, expertise constitutes the second dimension of source credibility, which refers to the perceived competence, authoritativeness, or expertness of the source. Moreover, the attractiveness model, an integral part of the Source Credibility Model, contends that the effectiveness of a message is contingent on the source's "familiarity," "likability," "similarity," and "attractiveness" to the respondent (Ohanian, 1991).

Consequently, the Stimulus-Organism-Response framework can serve as a potent instrument for elucidating variations in behavior resulting from diverse marketing stimuli and cognitive factors (Sultan et al., 2021). Therefore, the primary focus of this study is to uncover, through a theoretical framework, primarily centered on the Stimulus proposition, how communications strategies, specifically credible storytelling, are intentionally crafted to generate consumer interest in a product. Additionally, the study aims to assess the efficacy of these strategic communications in influencing consumer behavior.

2.2.2 Organism

The organism component within the S-O-R framework pertains to affective and cognitive intermediary states and processes that mediate the relationship between the stimulus and an individual's response (Eroglu et al., 2001). According to Jacoby (2002), the internal variables of the organism include cognitive and emotional factors associated with brands, companies, services, logos, and similar elements.

In accordance with Li (2019), cognitive concepts encompass perceived risk, perceived value, perceived information, and trust. This research will delve deeply into the Organism aspect, concentrating specifically on three distinct perceived elements: consumer involvement (Almeida, 2014; Zaichkowsky, 1994), brand trust (Chaudhuri & Holbrook, 2001), and perceived quality (Washburn & Plank, 2002; Yoo & Donthu, 2001) in the context of nutritional, environmental, and health aspects.

Involvement is related to the degree of perceived personal relevance attributed by a consumer to a product or service in a specific context (Engel et al., 2000). Zaichkowsky (1985) delineates three distinct categories of involvement: advertisement (i.e. level of attention allocated to it), product (i.e. level of consumer's interest in a specific product), and purchase decision (i.e. varying levels of

consideration a consumer applies when purchasing the same item under different context), each signifying varied facets of consumer interaction.

Brand trust is conceptualized as the propensity of the typical consumer to place reliance on the capacity of a brand to execute its stated function (Chaudhuri & Holbrook, 2001). This form of trust functions as a mitigating factor against the uncertainty prevalent in contexts where consumers are notably prone to vulnerability, fostering a reliance on the brand deemed trustworthy (Chaudhuri & Holbrook, 2001). The present study aims to investigate whether consumer reliance on a brand can be influenced by credible product storytelling and whether this established trust can, in turn, affect their purchasing intentions.

Perceived quality is identified as part of a brand's equity (Aaker, 1991). Brand equity is defined as a collection of assets and liabilities associated with a brand, including its name and symbol, which enhance or diminish the value a product or service offers to a company and its customers (Washburn & Plank, 2002). These assets and liabilities can vary depending on the context. However, they are categorized into five distinct groups, with perceived quality being one of these categories (Aaker, 1991). Bao et al. (2011) demonstrated that customers' perceptions of product quality result in positive brand evaluations and increased purchase intentions. This approach measures perceived brand quality as the consumers' subjective assessment of a brand's overall superiority.

Considering the insights from the foundational analysis, the significance of investigating perceived quality in the context of the burgeoning plant-based meat sector, highlighted by Ye et al. (2023), cannot be overstated. The sector's rapid growth reflects a crucial juncture at which consumer preferences are transitioning from traditional animal-based products to plant-based alternatives, necessitating a reevaluation of the current food system (Saari et al., 2021). Furthermore, the growing demand for sustainable practices and transparent communication in the corporate sector (Hajdari, 2023) accentuates the need to understand how consumers perceive quality in the context of sustainability and healthy production. This exploration will yield essential insights into consumer perceptions from nutritional, environmental, and health perspectives, thereby providing critical guidance for crafting sophisticated marketing and communication strategies in the plant-based food industry.

In the context of this study, the organism element, which assumes an intervening or mediating role in the SOR model, is linked to how communication efforts intersect with individuals' affective and cognitive (attitudinal) states, analyzed through the three variables mentioned. The aim is to discern the effects of storytelling credibility on each of these variables and elucidate the intricate interplay

between narratives and organism perceptions within the context of perceived nutrition quality, environmental consciousness, and health considerations, and if it impacts their behavior, specifically purchase intention. Additionally, the research will explore the influence of storytelling on consumers trust and engagement with the brand.

2.2.3 Response

The ultimate outcome, considered the 'Response' in the SOR Model, involves the approach or avoidance behaviors exhibited by the consumer (Donovan & Rossiter, 1982). Relating to Jacoby's (2002), Responses encompass all those externally detectable responses, including verbal, non-verbal, and behavioral expressions.

In the context of this study, Responses are broadened to encompass both physical and physiological responses, as well as communicative acts (e.g., groans, letter writing, word-of-mouth communications). Additionally, it involves the acquisition, usage, storage, and disposal of products, services, time, and ideas (Jacoby, 2002).

According to Ohanian (1991), practitioners in marketing and advertising commonly hold the belief that the character of a communicator significantly influences the persuasiveness of the message. Building on the Stimulus-Organism-Response (S-O-R) framework, responses serve as conclusive outcomes and decisions made by users based on cognitive and affective responses, encompassing behaviors of proximity or avoidance (Sherman et al., 1997). Purchase intention is a subjective inclination of consumers to buy products, serving as a primary indicator of consumer behaviour (Fishbein & Ajzen, 1975). These perceptions of the behaviour's outcome can be either favourable or unfavourable and influence the intention to perform the behaviour. This behavioural intention is then regarded as a direct precursor to the actual behaviour and, consequently, as its most accurate indicator (Kopplin & Rösch, 2021).

In summary, this study focuses on examining external stimuli and credibility in all its dimensions, with particular emphasis on the characteristics of marketing communication strategies and their impact on consumers' perceptions of the various values of industrialized vegan products. By leveraging the Stimuli-Organism-Response model, the research highlights the crucial role that credible storytelling, as a form of strategic communication, plays in shaping consumer behaviour and decision-making processes within the context of the plant-based food market. It elucidates how perceived quality, trust, and consumer involvement are mediated by the internal states of the organism, which are, in turn, influenced by the communicative acts and narrative strategies employed. Additionally, purchase intent is considered a reliable proxy for measuring outcomes. This comprehensive analysis not only broadens the understanding of consumer responses to vegan

products but also contributes to the theoretical discourse on how external marketing stimuli can drive consumer behaviour toward more sustainable consumption patterns.

3 Empirical Study

Following the literature review, the empirical study will be framed within a quasi-experimental methodological approach to investigate the research hypotheses thoroughly.

3.1 Objectives and Hypotheses

For businesses, it is crucial to discern the factors that impact consumers' purchasing intentions to devise marketing strategies that align with these consumers' needs. This insight will contribute to informed decision-making in marketing development, communication, and sales strategies, enabling the customization of solutions tailored to the channel's requirements (Escobar-Rodríguez & Bonsón-Fernández, 2017).

This consideration underpins the central need to explore the depth and nuance of consumer perceptions and behavior. Therefore, the proposed question arises: How does the credibility of storytelling in marketing communications for industrialized vegan products influence the consumers' purchasing intentions? This research question aims to dissect the specific components of communication that resonate with consumers and assess the extent to which storytelling credibility affects their purchasing intentions. This question is particularly pertinent given the heightened awareness and concern regarding environmental issues (Aschemann-Witzel et al., 2021), which significantly modulate consumer preferences in the food sector. By investigating how storytelling, through its credibility, shapes consumer perceptions and decisions, this research will provide valuable insights into effective marketing strategies that could enhance consumer engagement and drive sales in the rising market of plant-based foods.

The existing literature informs the approach of this research through the SOR model (Mehrabian and Russell, 1974), wherein the Stimuli are identified as the communication strategy, specifically, the perceived credibility of storytelling techniques employed in industrialized vegan products. Consumers, acting as the Organism, are influenced by these stimuli. Within this context, the three variables are involved in the organism's dimensions, involvement, brand trust, and perceived quality, emphasizing the attributes of a communicator that impact the recipient's receptivity to a message. Ultimately, the study seeks to unravel the Response, namely purchase intentions concerning industrialized vegan products.

In the realm of marketing, storytelling is posited as a crucial element, anticipated to play a significant role in potentially enhancing consumer involvement with the brand, fostering brand trust, and improving the perceived quality of products, especially regarding the health, environmental, and nutritional attributes associated with vegan products. Prior research in the field of advertising

substantiates that narrative-driven advertisements are more effective in fostering favorable brand attitudes and behavioral intentions among consumers, as opposed to ads that lack a narrative component (Escalas, 2004). Specifically, storytelling can deepen consumer engagement by making the brand more relatable and trustworthy, while also enhancing the perceived value of the product through a comprehensive narrative that highlights its benefits. The first hypothesis is driven by the imperative to thoroughly investigate the storytelling element as a substantial stimulus to the organisms within the Stimuli-Organism-Response Model. Thus, the following is hypothesized:

H1: Credibility of product storytelling influences positively consumers' perceptions—specifically involvement, brand trust, and perceived quality—of vegan industrialized products.

The second hypothesis aligns with the preceding one but emerges from the acknowledgment of the varied perspectives and preferences within consumer groups (i.e. moderators). Expanding upon the significance emphasized in the first hypothesis regarding the substantial influence of storytelling credibility on consumer perceptions, this subsequent hypothesis delves further into recognizing the heterogeneous nature inherent in consumers' dietary choices. This variance is premised on the notion that individuals who identify as vegans, vegetarians, or omnivores possess distinct perspectives and priorities that shape their reception and interpretation of storytelling. Accordingly, the hypothesis underscores the idea that the effectiveness of storytelling in marketing, particularly in the context of vegan industrialized products, is intricately linked to, and influenced by, the dietary choices of the audience. This differential impact can manifest in varying levels of involvement, brand trust, and perceived quality, directly influenced by the tailored narratives that resonate with each group's unique values and expectations. Thus, the following is hypothesized:

H2: Credibility of product storytelling has varying impacts on consumers' perceptions—specifically regarding involvement, brand trust, and perceived quality—of vegan industrialized products among vegans, vegetarians, and omnivores.

The following hypothesis is grounded in the Stimulus-Organism-Response (SOR) model, particularly focusing on the Organism component, which acts as an intervening or mediating factor in the model, and the Response component, elucidating the potential intention outcome. This hypothesis proposes that the probability of a customer's intention to purchase vegan industrialized products is significantly shaped by their perceptions of the product's quality, their trust in the brand, and their level of involvement with the product. It suggests a direct and meaningful association between these perceptual and relational elements and the ultimate intent to purchase. This inference emphasizes the pivotal role of these factors in the consumer decision-making framework. As mentioned in the literature review, according to the SOR framework, responses serve as

conclusive outcomes and decisions made by users based on cognitive and affective responses, encompassing behaviors of proximity or avoidance (Sherman et al., 1997). Specifically, in the context of vegan industrialized products, the quality perceived in the products, the trustworthiness of the brand, and the degree of consumer engagement are postulated to be particularly influential in directing consumer purchase behavior, indicating a critical interdependence of these factors in shaping purchase intentions (Curtain & Grafenauer, 2019). Thus, the following is hypothesized:

H3: Individuals' perceptions of perceived quality, brand trust, and consumer involvement in vegan industrialized products impact the customer's purchase intent.

Integrating storytelling credibility as a strategic facet in marketing communications is essential in influencing consumers' intentions to purchase vegan industrialized products, incorporating the complete research framework is the fourth hypothesis. The narrative style of storytelling is posited to resonate profoundly with consumers, fostering emotional connections, articulating product values, and thereby augmenting the overall allure of vegan industrialized products. A compelling story elicits responses in the form of sensations, cognitive engagement, and behavioral responses from its audience (Zhang et al., 2019). Consequently, it is conjectured that storytelling, transcending mere factual exposition, can markedly influence consumer attitudes and behaviors, thereby increasing the propensity for product purchase. This hypothesis encompasses not only the full SOR Model but also tests the S-R model (Thorndike, 1898), to check the possibility of the stimulus directly impacts the response. It is also valuable to identify the role of the organism in the decision-making process. This underscores the significance of narrative-driven marketing in shaping consumer decision-making processes, particularly pertinent in the vegan product domain. In this context, storytelling emerges as a critical tool for product differentiation and for aligning products with consumer lifestyles and priorities, reflecting its potential to sway consumer purchase dynamics substantially. Thus, the following is hypothesized:

H4: Credibility of the product storytelling, when employed as a stimulus in marketing communications significantly influences consumer purchase intent for vegan industrialized products.

All hypotheses are visualized in the study framework presented in Figure 1.

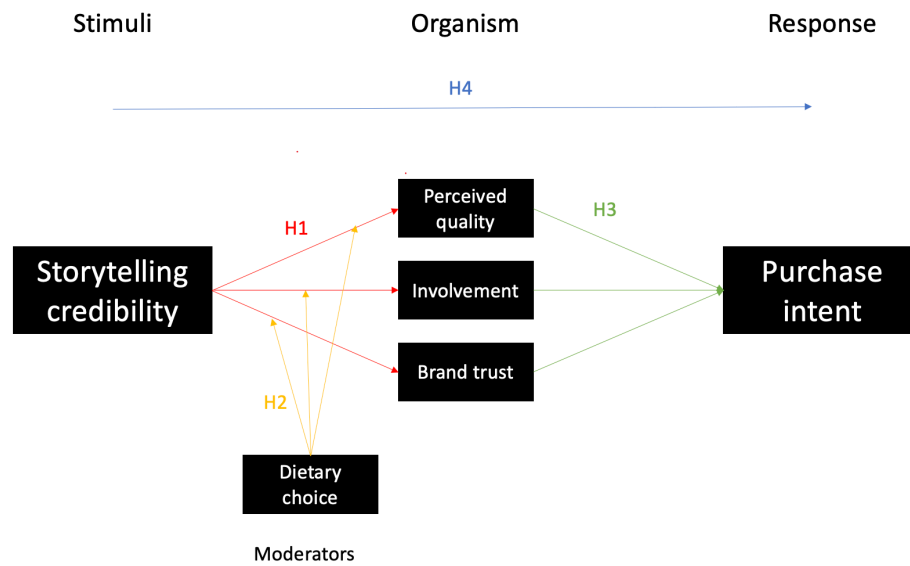


Figure 1 *Research Model with Hypothesis*

3.2 Methodology

In aligning with the theoretical framework and objectives of this study, a quasi-experimental design methodology was adopted to rigorously test the proposed hypotheses. By manipulating specific variables within a structured experimental setup, the study aims to discover insights into causal relationships, thereby contributing to both academic knowledge and practical marketing strategies in the context of consumption of this range of products.

Integrating the Stimulus-Organism-Response (SOR) model, this study examines the impact of communication strategies through a structured questionnaire, focusing on variables such as credibility, perceived quality, brand trust, consumer involvement, and purchase intent. This approach allows for a direct assessment of how this strategy influences consumer perceptions and behaviors within an experimental framework. The use of PLS-SEM in analyzing questionnaire responses enables the detailed examination of complex interrelations among these key variables, providing insights into the mechanisms through which marketing communications shape consumer decisions within the SOR framework.

3.2.1 Quasi-experimental Design

The choice to employ a quasi-experimental design in this study is driven by its established efficacy in advertising and marketing research, as highlighted across the literature. The methodological guidance provided by Vargas et al. (2017) underscores the critical role of experimental design in validating causal relationships, thus offering a pathway to derive actionable insights with a high degree of scientific rigor.

Experimental design serves as a cornerstone in empirical research, meticulously examining the impact of manipulated variables (independent variables) on outcomes (dependent variables). This methodology is invaluable in advertising research for its precision in isolating and measuring the effects of advertising strategies on consumer perceptions (Geuens & De Pelsmacker, 2017). It mandates the variation in treatment, measurement of effects, and control over extraneous variables, ensuring a robust framework for causal inference.

The study was conducted online, where participants were invited to respond to a questionnaire that presented the stimulus with varying levels of credibility based on the storytelling. The quasi-experimental design of this study was implemented through the use of packaging prototypes for the fictional brand, manipulated to include or exclude storytelling elements as the experimental stimuli. Participants were randomly assigned to one of two groups: one group received a two-page visual of the package, which included both the front and back, with the back page featuring a narrative about the product. The other group was shown only the front page of the package, without any accompanying story. This manipulation aimed to assess the impact of storytelling on consumer perceptions and purchasing intentions, allowing for a clear comparison between those exposed to narrative elements and those who were not.

For the purposes of this research, a fictional brand, "Green Essence," was conceived for the packaging prototypes (see figures 2, 3, and 4). The design drew upon conventional perceptions of vegan products, emphasizing the color green to evoke environmentally friendly associations. To mitigate any undue influence on participants, the inclusion of nutritional information and any health or governmental seals were deliberately omitted (refer to the larger package sizes detailed in Appendix 2).



Figure 2 Packages for questionnaire in English-EN



Figure 3 Packages for questionnaire in Portuguese- PT



Figure 4 Packages for questionnaire in Portuguese-BR

A questionnaire was utilized to assess the impact of this stimulus across the two groups. When completing the questionnaire, participants were randomly assigned to select either the letter J or T, which determined the type of visual they received. Those who selected J were presented with a comprehensive two-page visual of the "Green Essence" package, showcasing both the front and back, with the back page featuring an accompanying narrative. In contrast, participants who chose T were shown only the front page of the package. Despite these variations in the visual presentation, the subsequent survey questions remained consistent across both groups. By maintaining consistent survey questions across both groups, the study effectively isolated the variable of storytelling, providing robust insights into its role in shaping consumer behaviour.

3.2.2 Data Collection

A questionnaire is a structured tool for data collection that consists of a series of questions, designed to gather information from respondents about their attitudes, experiences, or opinions. The significance of questionnaires in research lies in their ability to provide comprehensive insights into human behaviour and preferences, offering a systematic approach to collecting data from a wide audience efficiently. When designed effectively, questionnaires can yield highly reliable and valid data that are crucial for informed decision-making and analysis (Bhandari, 2021).

In preparation for this study, it was imperative to thoroughly understand and integrate the methodological underpinnings of existing studies focused on themes such as Credibility, Brand Trust, Perceived Quality, and Purchase Intent. Table 1 details the specific questions utilized by the scales' authors. Using already validated scales guarantees that the foundational rigor of this research is robust and adheres to established academic protocols. Each entry in Table 1 represents a comprehensive synthesis of the various methods and metrics previously employed by researchers to effectively explore these critical dimensions.

Table 1 *Studies about Credibility, Involvement, Brand Trust, Perceived quality, and Involvement*

SOR	Author		Item Code	Question
(S)Credibility	(Ohanian, 1990)	Attractiveness	Cred- attractiveness 1	The appearance is attractive to me
			Cred- attractiveness 2	The appeal is inherent in its presentation
			Cred- attractiveness 3	The aesthetic is naturally appealing
			Cred- attractiveness 4	Has a classy image
			Cred- attractiveness 5	Exudes elegance
		Expertise	Cred-expertise 1	The information provided shows a high level of expertise in its creation
			Cred-expertise 2	Appears to be designed by qualified individuals
			Cred-expertise 3	I believe the creators are skilled
			Cred-expertise 4	I am convinced that a high level of knowledge is invested in the development.
			Cred-expertise 5	Seems to be the result of expert research
		Trustworthiness	Cred-Trustworthiness 1	Appears dependable
			Cred-Trustworthiness 2	Demonstrated reliability
			Cred-Trustworthiness 3	The brand's honesty is reflected
			Cred-Trustworthiness 4	Presented as reliable.
			Cred-Trustworthiness 5	The presentation is sincere and trustworthy.
(O)Involvement	(Zaichkowsky, 1994)-adept from (Almeida & Dusenberg, 2014)	Affective	Involvement-affective 1	Boring – interesting
			Involvement-affective 2	Not exciting – exciting
			Involvement-affective 3	Not attractive – attractive
			Involvement-affective 4	Not fascinating – fascinating
			Involvement-affective 5	Not involving – involving
		Cognitive	Involvement-cognitive 1	Unimportant – important
			Involvement-cognitive 2	Irrelevant – relevant
			Involvement-cognitive 3	Meaningless - meaning a lot
			Involvement-cognitive 4	Worthless – valuable
			Involvement-cognitive 5	Unnecessary – necessary

(O)Brand trust	Chaudhuri and Holbrook (2001)		Brand trust 1	I might trust this brand
			Brand trust 2	I might rely on this brand
			Brand trust 3	This seems to be an honest brand
			Brand trust 4	This brand seems safe
(O) Perceived quality	Washburn and Plank (2002)- adept from Yoo and Donthu (2001)	Nutritional quality	Perceived quality- Nutritional quality 1	The nutritional quality is extremely high
			Perceived quality- Nutritional quality 2	Provides essential nutrients effectively
		Environmental	Perceived quality- environmental 1	Is produced with environmental consciousness
			Perceived quality- environmental 2	The environmental impact is minimal
		Health	Perceived quality- Health 1	Contributes positively to overall health
			Perceived quality- Health 2	The health benefits are clear and significant
(R) Purchase intent	Ohanian (1991)		Purchase intent 1	I am interested in inquiring more about this product
			Purchase intent 2	I am consider buying this product
			Purchase intent 3	I am likely to purchase this product
			Purchase intent 4	I have the intention to buy this product

Respondents can rate their agreement with these statements using a five-point Likert scale (Test, 2023) from 1 (Strongly Disagree) to 5 (Strongly Agree): “Strongly Disagree”, “Disagree”, “Neither Agree nor Disagree”, “Agree”, and “Strongly Agree”.

The study includes three tailored questionnaires: one in Brazilian Portuguese for the Brazilian audience, another in European Portuguese for the Portuguese audience, and a third in English to reach a broader international audience. This tri-lingual approach is designed to maximize the dissemination of the survey. By capturing diverse cultural nuances and variations in consumer behaviour, the study offers a comprehensive analysis that is relevant on a more global scale.

The average completion time for the questionnaire was approximately six minutes. In the informational section, participants provided demographic details including gender, age, nationality, country of residence, years spent in this country, level of education, dietary preferences, and income, which was assessed using the Financial Sufficiency (Current) scale (Mittal & Griskevicius, 2016).

Prior to common dissemination, the questionnaire undertook a preliminary review to assess its intuitiveness. The trial survey was distributed among a select group of individuals, aged between 19 and 57 years, all of whom had completed either high school or a bachelor's degree. Upon receiving ten responses with feedback, the questionnaire was officially launched and promoted through social media platforms such as WhatsApp and Instagram, targeting a diverse demographic.

3.2.3 Data Analysis

In conducting the analysis, the Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized, as this method is ideal for research examining all possible relationships rather than achieving model fit (Nitzl, 2016). The Partial Least Squares Structural Equation Modelling (PLS-SEM) approach (Hair et al., 2019) is a powerful analytical tool designed for modelling complex relationships between observed variables and latent constructs. PLS-SEM excels in scenarios where the data distribution deviates from normality and sample sizes are constrained, offering flexibility in exploring theoretical models without stringent assumptions about data distribution.

This method is particularly apt for quasi-experimental designs where understanding the direct and indirect effects of communication strategies on consumer behaviour is crucial. In this study, PLS-SEM was utilized to analyse questionnaire responses, enabling the construction of a model that captures the essence of the credibility impact on consumers' perceptions and their purchasing intentions.

Through the application of SMART PLS-4 software, all data from the questionnaires were numerically coded, and a framework within the tool was developed. A structure was constructed in the software where informational variables—gender, education level, dietary choice, and income were related to the connections between the theoretical variables. The variables- Credibility, Involvement, Brand Trust, Perceived Quality (Environmental, Health, and Nutritional), and Purchase Intent - were reflective variables.

Upon developing the theoretical framework, the subsequent phase entailed conducting confirmatory factor analyses to validate the measurement model.

a. Confirmatory factor analyses

Credibility in the model is a second-order latent variable necessitating the development of a new framework in Smart-PLS 4. A second-order latent variable (LV) is measured by two or more first-order latent variables, specifically the first-order credibility dimensions: attractiveness, expertise, and trustworthiness. Using the Structural Model Approach with a Second-Order Latent Variable by Repeating Indicators (Bido & Silva, 2019), the estimation process, including the PLS algorithm and bootstrapping, proceeds. However, it is crucial to exercise caution when handling the output,

particularly the structural relationships (path coefficients) between the second-order LV and its first-order LVs. These outputs require additional formatting to separate these results. Moreover, the calculation of Average Variance Extracted (AVE) and Composite Reliability (CR) must be conducted manually, as SmartPLS 4 performs these calculations using the indicators that were duplicated for the second-order LV.

To assess internal consistency reliability Jöreskog (1971) composite reliability measure (ρ_c), which must present values equal to or higher than 0.70 to indicate good reliability.

The subsequent step is to establish its convergent validity. Convergent validity refers to the extent to which a construct converges in explaining the variance of its items. The metric for assessing a construct's convergent validity is the AVE of all its items. To calculate AVE, the loading of each indicator on a construct is squared, and the mean value is computed. An AVE value of 0.50 or higher is acceptable, indicating that the construct explains at least 50% of the variance of its items (Hair et al., 2019).

Henseler et al. (2015) introduced the heterotrait-monotrait (HTMT) ratio of correlations as a novel criterion in the domain of discriminant validity. The HTMT is conceptualized as the average of inter-construct item correlations relative to the geometric mean of the average correlations of items within the same construct. The suggested threshold value is 0.90 for structural models that incorporate constructs with high conceptual similarity, such as cognitive satisfaction, affective satisfaction, and loyalty (Henseler et al., 2015).

The Fornell-Larcker criterion is another approach used to assess discriminant validity among latent variables in structural equation models. It is based on comparing the correlations between variables and the extracted variance. According to Fornell and Larcker (1981), discriminant validity is deemed adequate if the square root of the Average Variance Extracted (AVE) for each construct is greater than the correlations between that construct and others in the model.

b. Manipulation check

In this quasi-experimental methodology, manipulation was implemented by varying the mode of communication the package, with or without storytelling, specifically examined through its credibility, into credibility three dimensions: attractiveness, trustworthiness, and expertise (Ohanian, 1990). The initial step involved conducting a manipulation check to determine if the manipulation, with or without package storytelling, effectively impacted the outcomes. This was assessed using an independent t-test, through the SPSS software, prior to model implementation. To conduct the t-test, several foundational assumptions regarding the data were required (Storopoli & Vils, 2021):

1. The dependent variable (used for calculating group means) is assumed to follow a normal distribution.
 - a. This assumption was validated based on the Central Limit Theorem, which suggests that samples larger than 30 tend toward normality, hence no formal testing was performed.
2. Observations must be independent.
 - a. In this investigation, the value of one observation does not influence or affect the value of another.
3. Homogeneity of variances: the dependent variable should exhibit variance homogeneity across groups. The Levene's Test for Equality of Variances was initially conducted to assess the homogeneity of variances across the subsamples. Accordingly, in scenarios where $p > 0.05$, it is assumed that variances are homogeneous; if $p < 0.05$, they are not homogeneous. When homogeneity of variance cannot be assumed, the SPSS software applies Welch's t-test.

c. Structural Model

After establishing that the manipulation of storytelling indeed has an impact, the final step was to assess the statistical significance and relevance of the path coefficients through the SOR model. Bootstrapping was run to assess the significance of path coefficients and to evaluate their values and whether the influence is positive or negative. Constructs' indirect effects on a certain target construct via one or more intervening constructs were also considered. This type of effect is especially relevant in assessing mediating effects (Nitzl, 2016).

4 Results

The survey remained open to the public for three weeks, garnering 204 responses. After conducting data cleaning by excluding those from the preliminary phase and any incomplete entries, the usable sample comprised 187 responses. This included 66 from the English version of the questionnaire, distributed to all nationalities, 35 from the Portuguese (Portugal) version, and 86 from the Portuguese (Brazilian) version.

4.1 Sample Characteristics

The age distribution of the study participants exhibits a broad range across several age groups. The youngest group, ages 12-19, been 12 years the youngest, includes 17 individuals (9.1%), highlighting the inclusion of younger respondents in the study. The largest group, ages 20-29, comprises 128 participants (68.4%), reflecting a strong representation of young adults, which is significant for understanding trends among this demographic. The age group of 22 years old had the highest representation with 28 participants (15%). Participants aged 30-39 total of 14 (7.5%), indicating a moderate representation of middle-aged adults. Those in the age brackets of 40-49 and 50-59 are represented by 13 (7%) and 10 (5.3%) participants respectively, providing insights into the preferences of older adults. The study also includes five individuals over 60 (2.7%), ensuring that the senior demographic is represented, although minimally.

Regarding gender distribution, the study primarily involves female participants, who constitute 71.12% of the sample with 133 individuals. Males are represented by 52 participants, making up 27.81% of the total. Additionally, the sample includes 2 individuals (1.07%) who identify as non-binary or third gender.

The participants' nationalities and countries of living provide a diverse cultural context for the study. Brazilian nationals form the majority with 89 participants, followed by 36 Portuguese and 13 Dutch participants. Other nationalities such as Albanian, American, Belgian, British, Bulgarian, Colombian, Costa Rican, Cypriot, French, German, Greek, Hungarian, Indian, Irish, Italian, Polish, Romanian, Slovenian, South Korean, Spanish, and Turkish are less represented, each ranging from 1 to 5 participants, totaling 29 distinct nationalities. In terms of residency, Brazil, Portugal, and the Netherlands are the primary countries where participants live, with other European countries like Slovenia, Spain, and England also mentioned.

The educational background of participants in the study spans a variety of academic achievements, illustrating the wide scope of educational levels among the subjects. Ninety-five participants hold bachelor's degrees, making it the most common level of education in the study. This is followed

by 44 participants with secondary education and 22 with advanced degrees, such as Master's and Doctoral degrees. Thirteen participants have vocational or technical training, and the data includes eight individuals who have completed only primary education.

Dietary preferences among the study participants predominantly favor an omnivorous diet, with 156 individuals (83.4%) adhering to this regimen, which involves no specific dietary restrictions. The vegetarian diet, which excludes meat but may include dairy and eggs, is followed by 27 participants (14.4%). Additionally, a smaller cohort of four individuals (2.1%) adheres to a vegan diet, which excludes all animal products, including dairy and eggs.

4.2 Confirmatory Factor Analyses

The recalculated credibility values, specifically those highlighted in green in Table 2, were later incorporated, replacing the original values from the first-order model. The use of second-order latent variables, despite their complexity, is justified post-hoc by the robustness of the statistical outcomes and theoretically supported a priori by the literature (Menezes et al., 2011). This strategic adjustment refined the parsimony of the structural model.

Table 2 *Credibility Composite reliability and Average variance Extracted*

	Brand trust	Credibility	Involvement	PQ- Environmental	PQ- Health	PQ- Nutritional	Purchase intent
Composite reliability (rho_c)	0.895	0,910	0.936	0.845	0.902	0.928	0.951
Average variance extracted (AVE)	0.684	0,771	0.596	0.732	0.822	0.866	0.831

Regarding the internal consistency reliability measured by composite reliability (rho_c), all values are valid as all exceed the 0,7 minimum required. The next step is to establish its convergent validity. In this analysis, all AVE values in Table 3 were above the 0.5 threshold. This research's reliability values spanned from 0.8 to 0.97 denoting a satisfactory range.

As indicated by the results in the relevant Table 3, none of the HTMT values exceeded the 0.90 benchmark, thereby indicating satisfactory discriminant validity within the study's constructs. Furthermore, each item demonstrated higher factor loadings on its corresponding construct than on any other (cross-loadings).

Table 3 *Discriminant validity - (HTMT) Matrix*

Discriminant validity - (HTMT) Matrix	Brand trust	Credibili ty	Involve ment	PQ- Environ mental	PQ- Health	PQ- Nutricio nal	Purchase intent
Brand trust							
Credibility	0.815						
Involvement	0.623	0.711					
PQ- Environmental	0.550	0.656	0.425				
PQ- Health	0.623	0.604	0.519	0.894			
PQ- Nutritional	0.771	0.703	0.590	0.671	0.821		
Purchase intent	0.658	0.643	0.530	0.610	0.611	0.591	

In Table 4, all correlations among the latent variables are lower than the square root of the extracted variance, meeting the Fornell-Larcker criterion. The value highlighted in green represents the recalculated credibility value, once transformed in first-order latent variable.

Table 4 *Fornell-Larcker Matrix*

ONLY VARIABLE 1ST ORDER	Brand trust	Credibility	Involve ment	PQ- Environm ental	PQ- Health	PQ- Nutritional	Purchase intent
Brand trust	0.827						
Credibility	0.718	0,878					
Involvement	0.565	0.665	0.772				
PQ- Environmental	0.411	0.515	0.350	0.856			
PQ- Health	0.506	0.518	0.444	0.639	0.907		
PQ- Nutritional	0.648	0.622	0.526	0.519	0.671	0.931	
Purchase intent	0.577	0.594	0.499	0.490	0.522	0.525	0.911

Note 1: The values on the diagonal of the correlation matrix correspond to the square root of the average variance extracted (AVE).

The Financial Sufficiency (Current) scale (Mittal & Griskevicius, 2016), used to measure income, was not validated. Thus, it was removed from the analysis.

4.3 Manipulation Check

In Table 5, 'sig' denotes p-value of Levene test, and all values exceeding 0.05 confirm the homogeneity of the variances, justifying the use of the t-test.

Table 5 *T-test for Equality of Means*

		Levene's Test for Equality of Variances		T-test for Equality of Means							
		F	Sig.	t	df	Significance		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						One-Sided p	Two-Sided p			Lower	Upper
Attractiveness	Equal variances assumed	2,51355	0,11458	-4,52884	185,00000	0,00001	0,00001	-0,63448	0,14010	-0,91088	-0,35809
	Equal variances not assumed			-4,46446	166,09386	0,00001	0,00001	-0,63448	0,14212	-0,91507	-0,35389
Expertise	Equal variances assumed	0,82403	0,36519	-3,45242	185,00000	0,00034	0,00069	-0,49411	0,14312	-0,77647	-0,21175
	Equal variances not assumed			-3,46943	181,93648	0,00033	0,00065	-0,49411	0,14242	-0,77512	-0,21311
Trustworthiness	Equal variances assumed	0,93459	0,33494	-6,10451	185,00000	0,00000	0,00000	-0,82229	0,13470	-1,08803	-0,55654
	Equal variances not assumed			-6,05173	171,78215	0,00000	0,00000	-0,82229	0,13588	-1,09049	-0,55408

After this initial verification, the t-test results revealed significant differences in group averages. The group not exposed to the package's storytelling displayed lower average values compared to their counterparts who experienced storytelling. Specifically, in the dimension of Attractiveness, the t-test showed a value of $t(185) = -4.529$ with a significance level of $p < 0.05$, denoting a statistically significant difference. Similarly, Expertise and Trustworthiness were also significantly higher in the 'with storytelling' group, with $t(185) = -3.425$, $p < 0.05$ for Expertise, and $t(185) = -6.105$, $p < 0.05$ for Trustworthiness. These findings reveal the positive influence of storytelling on enhancing the perceived credibility of the products, as reflected in the values.

This confirms the manipulation's effectiveness, though the presence or absence of storytelling differentially impacted the perceived credibility across various dimensions. Credibility was notably higher when storytelling was employed.

4.4 Structural Model

Bootstrapping was involved to assess the significance of path coefficients and to evaluate their values. Constructs' indirect effects on a certain target construct via one or more intervening constructs were also considered.

Table 6 *Path Coefficients-Informational Data and SOR Model*

Path Coefficient	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Brand trust -> Purchase intent	0.172	0.130	0.195	0.883	0,377
Credibility -> Brand trust	0.748	0.753	0.081	9.245	0,000
Credibility -> Involvement	0.554	0.590	0.083	6.678	0,000
Credibility -> PQ- Environmental	0.415	0.435	0.100	4.157	0,000
Credibility -> PQ- Health	0.273	0.295	0.113	2.410	0,016
Credibility -> PQ- Nutritional	0.596	0.607	0.091	6.561	0,000
Credibility -> Purchase intent	0.131	0.183	0.224	0.586	0,558
Dietary choice -> Brand trust	-0.050	-0.052	0.043	1.142	0,254
Dietary choice -> Involvement	0.037	0.028	0.061	0.597	0,550
Dietary choice -> PQ- Environmental	0.154	0.154	0.049	3.134	0,002
Dietary choice -> PQ- Health	0.146	0.142	0.057	2.547	0,011
Dietary choice -> PQ- Nutritional	0.101	0.105	0.058	1.746	0,081
Dietary choice -> Purchase intent	0.005	-0.006	0.093	0.053	0,958
Gender -> Brand trust	0.076	0.078	0.054	1.411	0,158
Gender -> Involvement	-0.058	-0.043	0.056	1.037	0,300
Gender -> PQ- Environmental	-0.021	-0.014	0.071	0.288	0,773
Gender -> PQ- Health	-0.069	-0.064	0.064	1.079	0,281
Gender -> PQ- Nutritional	-0.034	-0.032	0.064	0.525	0,599
Gender -> Purchase intent	-0.043	-0.046	0.073	0.592	0,554
Involvement -> Purchase intent	0.324	0.310	0.230	1.408	0,159
PQ- Environmental -> Purchase intent	0.268	0.288	0.164	1.628	0,104
PQ- Health -> Purchase intent	0.003	0.015	0.166	0.020	0,984
PQ- Nutritional -> Purchase intent	-0.124	-0.139	0.172	0.720	0,472
Studies -> Brand trust	-0.065	-0.064	0.050	1.296	0,195
Studies -> Involvement	-0.063	-0.050	0.057	1.101	0,271
Studies -> PQ- Environmental	0.043	0.039	0.059	0.727	0,467
Studies -> PQ- Health	-0.036	-0.032	0.059	0.609	0,543
Studies -> PQ- Nutritional	0.008	0.009	0.055	0.145	0,884
Studies -> Purchase intent	0.041	0.044	0.062	0.660	0,509
Studies x Credibility -> Brand trust	-0.022	-0.024	0.052	0.414	0,679
Studies x Credibility -> Involvement	0.018	0.032	0.059	0.314	0,754
Studies x Credibility -> PQ- Environmental	-0.071	-0.066	0.063	1.114	0,266
Studies x Credibility -> PQ- Health	-0.073	-0.066	0.064	1.141	0,254
Studies x Credibility -> PQ- Nutritional	-0.145	-0.139	0.059	2.475	0,013

Studies x Credibility -> Purchase intent	0.275	0.231	0.161	1.707	0,088
Dietary choice x Brand trust -> Purchase intent	0.128	0.107	0.184	0.696	0,487
Dietary choice x PQ- Health -> Purchase intent	0.057	0.093	0.128	0.442	0,659
Dietary choice x Credibility -> Brand trust	0.074	0.077	0.041	1.814	0,070
Dietary choice x Credibility -> Involvement	-0.015	-0.032	0.052	0.279	0,780
Dietary choice x Credibility -> PQ- Environmental	0.023	0.016	0.048	0.477	0,634
Dietary choice x Credibility -> PQ- Health	0.041	0.034	0.051	0.800	0,424
Dietary choice x Credibility -> PQ- Nutritional	0.041	0.036	0.046	0.883	0,377
Dietary choice x Credibility -> Purchase intent	-0.175	-0.201	0.166	1.057	0,291
Gender x PQ- Environmental -> Purchase intent	0.006	0.002	0.101	0.062	0,951
Dietary choice x PQ- Nutritional -> Purchase intent	-0.091	-0.103	0.117	0.775	0,438
Dietary choice x PQ- Environmental -> Purchase intent	0.084	0.061	0.128	0.652	0,514
Gender x Involvement -> Purchase intent	-0.052	-0.076	0.139	0.376	0,707
Gender x Credibility -> Brand trust	0.033	0.023	0.069	0.483	0,629
Gender x Credibility -> Involvement	0.013	0.014	0.070	0.190	0,849
Gender x Credibility -> PQ- Environmental	-0.066	-0.062	0.073	0.895	0,371
Gender x Credibility -> PQ- Health	0.053	0.046	0.066	0.803	0,422
Gender x Credibility -> PQ- Nutritional	0.046	0.043	0.070	0.659	0,510
Gender x Credibility -> Purchase intent	0.096	0.143	0.176	0.544	0,586
Studies x PQ- Environmental -> Purchase intent	-0.128	-0.071	0.115	1.114	0,265
Studies x PQ- Health -> Purchase intent	-0.016	-0.053	0.132	0.118	0,906
Gender x Brand trust -> Purchase intent	0.001	-0.033	0.126	0.004	0,997
Studies x Involvement -> Purchase intent	-0.178	-0.176	0.126	1.415	0,157
Dietary choice x Involvement -> Purchase intent	0.101	0.140	0.153	0.657	0,511
Gender x PQ- Nutritional -> Purchase intent	-0.126	-0.097	0.105	1.201	0,230
Studies x Brand trust -> Purchase intent	-0.018	0.002	0.154	0.118	0,906
Gender x PQ- Health -> Purchase intent	0.057	0.048	0.121	0.467	0,641
Studies x PQ- Nutritional -> Purchase intent	0.033	0.071	0.112	0.296	0,767

The data presented in Table 6, yields several key insights into the interrelationships among the studied variables. It is evident from the analysis that credibility exerts a significant influence on Involvement, Brand Trust, and Perceived Quality across Environmental, Health, and Nutritional

aspects, proving that indeed the Stimulus exudes impact on the Organism. However, this influence does not extend to Purchase Intent, the Response.

Moreover, dietary choice emerges as an influential factor, significantly impacting perceived quality from both environmental and nutritional perspectives (path coefficient Dietary choice → PQ- Environmental; $p\text{-value} = 0.002$) (path coefficient Dietary choice → PQ- Health; $p\text{-value} = 0.011$). Credibility positively affects perceived nutritional quality; however, this effect diminishes as the level of education increases (path coefficient Studies x Credibility → PQ- Nutritional; $p\text{-value} = 0.013$). Individuals with higher levels of education exhibit a reduced impact of credibility on perceived nutritional quality.

4.5 Discussion

This section presents a discussion of the results concerning the hypothesized effects of storytelling on consumer behaviour in the context of vegan industrialized products. Each hypothesis was designed to explore different aspects of how storytelling within the SOR framework influences consumer perceptions and intentions processes. By examining the empirical data against these hypotheses, we aim to elucidate the effectiveness of storytelling and its potential limitations in impacting consumer behaviours in the vegan industrialized product sector.

H1: The credibility of the product storytelling significantly influences consumers' perceptions—specifically involvement, brand trust, and perceived quality—of vegan industrialized products.

The results offer strong support for Hypothesis 1. It was determined that the strategic use of storytelling within communication strategies significantly enhanced the perceived credibility of vegan products. The T-test results indicate that the inclusion of storytelling significantly increased perceived credibility. Subsequent analysis using Smart PLS 4, the path coefficients demonstrated that an increase in credibility leads to corresponding increases in the organism variables. Thus, the combined effect of storytelling is observed to enhance credibility, which in turn positively influences the organisms constructs in the model. The synergy between these elements highlights the pivotal role of storytelling in elevating credibility and, consequently, enhancing the overall impact on consumer perceptions.

This finding is consistent with existing literature, which suggests that storytelling is a powerful marketing tool that enhances consumer involvement and trust (Escalas, 2004). Storytelling credibility behaving as Stimuli, measured through expertise, attractiveness, and trustworthiness, can significantly impact the Organisms' perceptions of quality in health, environmental, and nutritional dimensions, reflected through brand trust and consumer involvement as well.

H2: The credibility of the product storytelling has varying impacts on consumers' perceptions—specifically regarding involvement, brand trust, and perceived quality— of vegan industrialized products among vegans, vegetarians, and omnivores.

This hypothesis was not supported. As indicated in Table 7, these variables do not exhibit a moderator effect on the connection between the stimuli and the organism, namely, the linking among storytelling credibility and consumers involvement, perceived quality and brand trust is not impacted by the consumers dietary choices. However, the software automatically assessed the effects of moderators in the endogenous variables, specifically the effect of diet on consumer perceptions, which was validated.

Regarding the impact of dietary choice on the model, a positive relationship was observed: the fewer animal products included in a person's diet, or the complete absence thereof, the higher the perceived quality, both in terms of environmental impact and health. Individuals who follow a vegan diet perceive these products as healthier and more environmentally friendly compared to omnivores. In line with the findings of Phoenix (2024), the main reason people choose veganism is to support animal welfare, as indicated by 68% of vegans. Additional reasons for vegans have this dietary choice include health advantages, which account for 17.4%, and concerns about the environment, cited by 9.7%.

H3: Consumers' perceptions - perceived quality, brand trust, and consumer involvement - in vegan industrialized products impact the customer's purchase intent.

Contrary to expectations, Hypothesis 3 was not fully supported. While storytelling credibility did influence perceived quality, involvement, and brand trust, these measures did not consistently impact purchase intention. This outcome prompts further investigation into understanding that while stimuli affect the organism, the organism may not positively affect the response. It raises the possibility that while not sufficient on its own, the organism's components might be a necessary condition for eliciting the response, specifically purchase intention.

Given that this hypothesis was not confirmed, the subsequent chapter will introduce a new exploratory methodology aimed at understanding the role of the Organism in influencing the Response outcome in the proposed model. This approach will help clarify whether the internal states influenced by storytelling are critical prerequisites for achieving the desired consumer behaviour within the model.

H4: Storytelling, when employed as a stimulus in marketing communications significantly influences consumer purchase intention for vegan industrialized products.

Hypothesis 4 posited that storytelling, when utilized as a stimulus in marketing communications, significantly influences consumer purchase intention for vegan industrialized products. However, the results did not support this hypothesis. Although storytelling positively impacts consumer perceptions, its effect on purchase intention is neither definitively determined nor direct (path coefficient credibility $\rightarrow$ purchase intent; $p\text{-value} = 0.558$). Furthermore, it does not operate indirectly via the proposed SOR model, which suggests an influence from the stimuli through the organism to the response. This does not follow the Mehrabian and Russell (1974) framework, which maintains that environmental stimuli trigger internal assessments (organism), leading to positive or negative behaviors (response).

This finding suggests that while storytelling can effectively elevate perceptions of a product, transforming these enhanced perceptions into actual purchase decisions might necessitate additional marketing strategies or a more comprehensive integrative approach. Although storytelling significantly bolsters brand trust, perceived quality, and consumer involvement, these enhancements do not reliably convert into purchase intentions. This gap underscores the potential importance for marketers to integrate compelling narratives with other elements of the marketing mix to effectively translate positive perceptions into consumer purchases.

A key observation from this study is the significant influence of credibility across various organism-related variables within the Stimulus-Organism-Response (SOR) model, with the notable exception of purchase intention. The results indicate that the proposed research model was only validated up to the Stimulus-Organism (SO) relationship and not the full SOR framework. Specifically, the credibility of storytelling positively influences the organism—namely, consumer involvement, brand trust, and perceived quality—but does not extend to influencing purchase intention (the response) as the framework suggests. This discrepancy implies that while storytelling effectively shapes organism perceptions, it does not necessarily translate into the anticipated consumer responses. This inconsistency, where the expected response does not correlate with the organism's latent variables as hypothesized, sets the stage for a nuanced examination in the subsequent discussion section of this study.

5 Necessary Condition Analysis

Dul (2015, p. 08) highlights that "sometimes we can measure all the relevant factors in a complex system to the fourth decimal place and yet still have no clear sense of which factors matter". For this second part of the study, the Necessary Condition Analysis methodology was selected to explore uncertainties in causal relationships after employing Partial Least Squares Structural Equation Modeling (PLS-SEM).

The view of causality can be delineated into two logical frameworks: the conventional interpretation where X is considered sufficient for Y, articulated as "If X, then Y." Commonly, the phrase "X causes Y" is interpreted in terms of sufficiency. The alternative logical framework posits that X is necessary for Y, expressed as "No Y without X." This distinction between sufficiency and necessity is critical; a necessary cause is a requirement for an outcome's occurrence, while a sufficient cause guarantees an outcome's presence (Dul, 2016).

5.1 Methodology

Dul (2016) introduced a new analytical tool known as Necessary Condition Analysis (NCA), designed to complement conventional data analysis tools, such as structural equation modeling. This was the motivation for choosing NCA for this segment of the study.

Traditional multi-causal frameworks assume that each causal factor independently increases the likelihood of an outcome, although none are crucial. Rather than fitting regression lines through data center points in scatter plots, NCA identifies and outlines the 'ceiling lines' that demarcate the boundaries between empty and full data areas (Dul, 2016).

Dul (2016) delineates that Necessary Condition Analysis (NCA) determines a dependent construct or outcome to be reliant on the presence or attainment of a specific level of an essential cause. To phrase it differently, NCA is a "Must have" condition requisite for the realization of an outcome. The existence of such a cause does not ensure the occurrence of the outcome, yet its absence renders the outcome unattainable. This contrasts with the additional sufficiency logic explored in PLS-SEM, which focuses on a "Should have" condition (Richter et al., 2023). Merging these two logics implies that while PLS-SEM ascertains the factors that augment an outcome, NCA pinpoints the indispensable conditions, or the requisite level of such conditions, that the desired outcome necessitates. Overlooking necessary conditions or failing to account for them renders the findings and recommendations potentially incomplete.

In this segment of the research, an exploratory analysis will be undertaken within the Stimuli-Organism-Response (SOR) model framework, intentionally foregoing the formulation of initial hypotheses. This methodological decision is predicated on the observation that linear relationships

between the organism and the response, were not evident in preliminary findings. The necessity for this exploratory approach arises from the lack of clear linear correlations observed, suggesting the potential existence of more intricate or non-linear dynamics governing the interactions within the study SOR model.

5.2 Procedures

Adhering to the methodological framework for the integrated application of PLS-SEM and NCA as proposed by Richter et al. (2023), the analysis starts with the evaluation of PLS-SEM results. Subsequently, the dataset results were migrated to create a Necessary Condition Analysis (NCA) model within the regression module of Smart-PLS 4. This model was constructed by mapping all the independent Organism variables—Brand Trust, Involvement, and Perceived Quality in its three dimensions: Environmental, Health, and Nutritional—onto the dependent construct, which is the Response Purchase Intent.

5.3 Results

Table 7 elucidates that Brand Trust, along with Environmental and Nutritional Perceived Quality, meet the criteria for a necessary condition based on their effect size values exceeding the 0.1 threshold (Dul, 2016). Perceived Quality for Health, while not as robust, is close enough to 0.1 to qualify as a necessary condition. Involvement, however, does not satisfy the criteria.

Table 7 *NCA CE-FDH*

CE-FDH	Effect size	Obs. above ceiling	Accuracy	Slope	Intercept	Condition inefficiency	Outcome inefficiency	Rel. inefficiency	Abs. inefficiency
LV scores - Brand trust	0.194	0.000	100.000	n/a	n/a	80.493	0.000	80.493	12.252
LV scores - Involvement	-0.000	0.000	100.000	n/a	n/a	n/a	n/a	n/a	n/a
LV scores - PQ-Environmental	0.181	0.000	100.000	n/a	n/a	59.274	12.148	64.222	9.966
LV scores - PQ-Health	0.079	0.000	100.000	n/a	n/a	75.000	68.368	92.092	12.865
LV scores - PQ-Nutritional	0.196	0.000	100.000	n/a	n/a	75.000	12.148	78.037	10.595

Upon establishing the accuracy and effect size, the analytical framework requires the incorporation of the P-value as a critical parameter, in accordance with the guidelines delineated by Richter et al. (2023). Table 8 demonstrates that p-values falling below the threshold of 0.05 are considered satisfactory. Once again, the sole exception is 'Involvement,' which exhibits a value of 0.721 and therefore does not meet this criterion. The perceived quality regarding the health dimension is close to 0.0, but still below 0.05, with a P-value of 0.030, indicating that, it is a necessary condition.

Table 8 *NCA CE-FDH- P-Value*

CE-FDH	Original effect size	95.0%	Permutation p value
LV scores - Brand trust	0.194	0.117	0.000
LV scores - Involvement	-0.000	0.062	0.721
LV scores - PQ- Environmental	0.181	0.124	0.002
LV scores - PQ- Health	0.079	0.069	0.030
LV scores - PQ- Nutritional	0.196	0.062	0.000

The NCA ceiling line chart depicts the relationship between the latent variable (LV) scores for brand trust (on the x-axis) and purchase intent (on the y-axis). The chart uses both the Ceiling Regression-Free Disposal Hull (CR-FDH) and Ceiling Envelopment-Free Disposal Hull (CE-FDH) methods to identify the boundary or ceiling of the relationship, represented in grey and yellow shading, respectively (Dul, 2016).

The grey CR-FDH area defines the theoretical limit, while the yellow CE-FDH region more precisely captures the boundary beyond which increasing brand trust has diminishing returns on purchase intent (Dul, 2016). Observations (blue dots) scattered within the shaded regions demonstrate the significant effect of brand trust on purchase intent, reinforcing its role as a bottleneck condition (Richter et al., 2023).

The chart (Figure 5) illustrates that brand trust scores must exceed a specific threshold to reach the observed ceiling effect

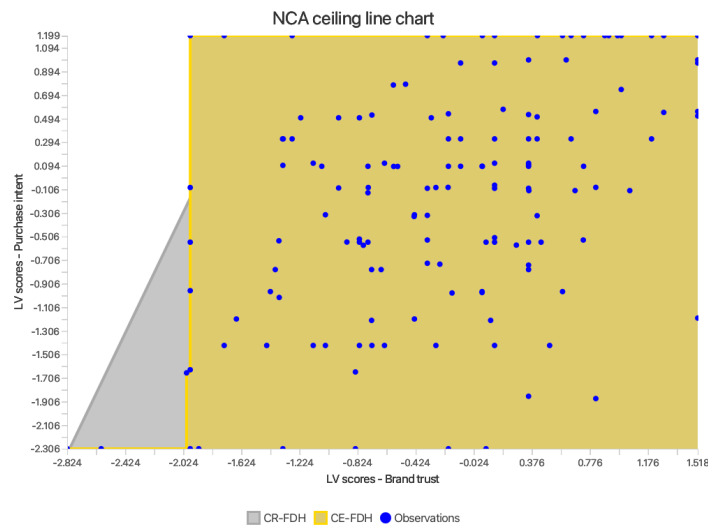
**Figure 5** *NCA Chart: Purchase Intent × Brand Trust*

Figure 6 presents the latent variable scores for Perceived Quality (PQ) - Environmental, demonstrating distinct thresholds stair- step pattern required to achieve specific percentage levels of purchase intention.

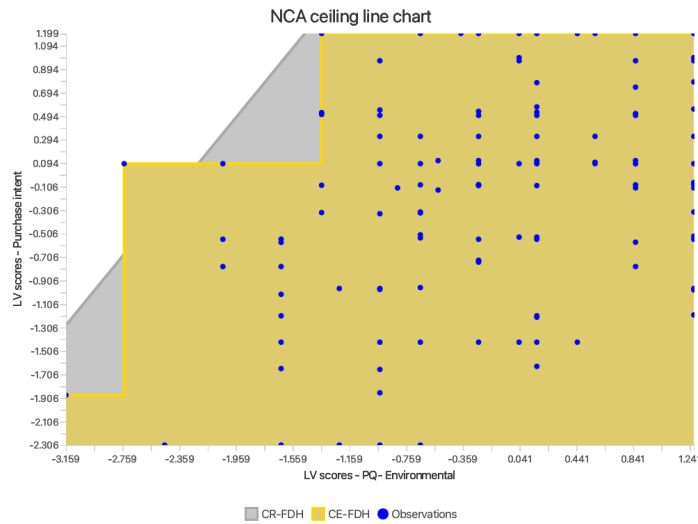


Figure 6 *NCA Chart: Purchase Intent $\times$ Perceived Quality- Environmental*

The chart (Figure 7), displaying grey (CR-FDH) and yellow (CE-FDH) ceiling lines, shows distinct stair-step patterns highlighting the necessary minimum nutritional perception scores to achieve specific levels of purchase intent.

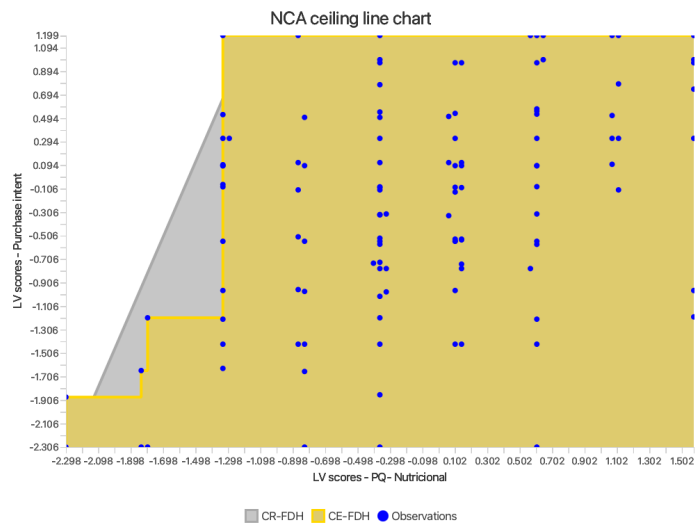


Figure 7 *NCA Chart: Purchase Intent $\times$ Perceived Quality- Nutritional*

Illustrated in Figure 8, the NCA ceiling line chart for Perceived Quality (PQ) - Health illustrates the relationship between this latent variable and the percentage of purchase intent. Observations (represented as blue dots) scattered across the chart indicate that up to a specific point, only a relatively low health perception score is necessary. Beyond this initial threshold, the pattern

suggests a "graded ascent," where progressively higher levels of purchase intent require increasingly favourable health perceptions.

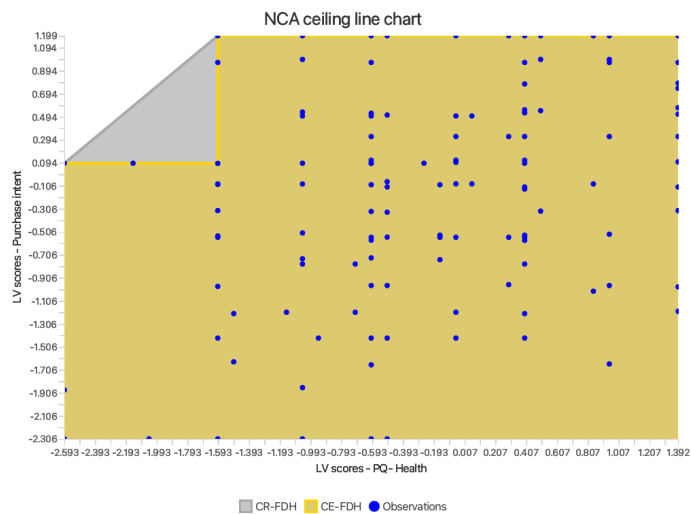


Figure 8 *NCA Chart: Purchase Intent × Perceived Quality- Health*

In the scenario, involvement is identified as a non-significant determinant and is not a necessary condition. (see Figure 9).

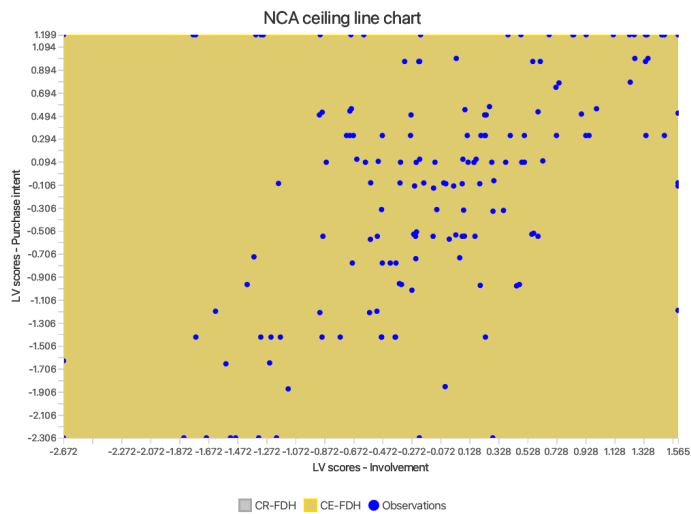


Figure 9 *NCA Chart: Purchase Intent × Involvement*

5.4 Discussion

This section builds upon the exploratory analysis conducted in the study, which revealed significant findings related to the Stimulus-Organism-Response (SOR) model. The focus now shifts to connecting these results to Hypotheses 3 and 4. This discussion will delve into the implications of these findings, exploring the disconnect between enhanced perceptions and actual purchase decisions, and providing a comprehensive understanding of the SOR model's applicability in the proposed research framework.

5.4.1 Hypothesis 3 Revisited

Hypothesis 3 suggested that perceived quality, brand trust, and consumer involvement in vegan industrialized products influence the customer's purchase intent. The initial findings from the PLS-SEM analysis indicated that while the organism impacted by the stimuli's storytelling credibility, they do not directly impact purchase intention to the extent anticipated. This prompted further investigation using NCA to ascertain whether these factors represent necessary conditions for purchase intention. In terms of NCA, this means evaluating whether the absence of a certain level of these factors constitutes a bottleneck that prevents the intended outcome from occurring, even if other conditions are favourable (Dul, 2016). Specifically, the goal was to identify which variables have a "must-have" status, without which purchase intent cannot be achieved.

The NCA results reveal that brand trust and perceived quality (across all dimensions: health, environmental, and nutritional) serve as necessary conditions for purchase intention. In NCA terminology, this suggests that these factors act as bottlenecks, and their absence below a specific threshold level prevents the intended outcome, significantly reducing the likelihood of purchase intent (Dul, 2016). Utilizing the bottleneck technique provides a nuanced understanding by demonstrating the extent to which various conditions must be 'established' for a certain percentage of the outcome to materialize. Essentially, this method offers detailed insights into the intensity and characteristics of the limitations set by the conditions (Kopplin & Rösch, 2021). According to Richter et al. (2023), in this scenario, the construct is a significant determinant, these constructs are necessary for the outcome to manifest. However, a further increase, will not consequentially increase the outcome any further.

The analysis presented in Figure 6, the NCA Chart for Purchase Intent x Brand Trust, reveals that for brand trust to significantly influence purchase intentions, trust scores must exceed a specific threshold. Essentially, there is a minimum level of brand trust that must be achieved before there is a noticeable impact on purchase intent. Minor increments in brand trust below this threshold do not significantly affect purchase intentions; however, once this level is surpassed, even small improvements in brand trust can lead to substantial increases in the likelihood of purchase intentions. This finding underscores the importance of establishing a robust level of brand trust through storytelling and other marketing strategies to effectively translate positive consumer perceptions into actual purchase decisions. This is consistent with Chaudhuri and Holbrook's (2001) findings that brand trust functions as a mitigating factor against uncertainty, fostering consumer reliance on the brand, which is crucial for influencing purchase behaviour.

The analysis presented in Figure 7, the NCA Chart for Purchase Intent x Perceived Quality-Environmental (PQ-Environmental), showcases a nuanced relationship between environmental perception and purchase intentions. For purchase intention levels ranging from a certain percentage to another, the minimum environmental perception score remains consistent. However, achieving higher percentages of purchase intent necessitates an increase in PQ-Environmental score, indicating that a clear improvement in environmental perception is needed to attain these higher levels of purchase intent. This pattern signifies a stair-step effect, illustrating that as consumers seek to increase their purchase intent percentages beyond a certain point, their perceived environmental quality must improve significantly to surpass specific bottlenecks, thereby enabling higher intent levels. This finding underscores the upward consumer concern for environmental sustainability, consistent with Wang et al. (2020) findings, indicating that consumers place greater importance on environmental issues and consider environmental impacts when making purchasing decisions. Consequently, marketers must prioritize enhancing the perceived environmental quality of their products to effectively drive higher purchase intentions, meet consumer expectations, and capitalize on the increasing demand for environmentally friendly products.

The analysis presented in Figure 8, the NCA Chart for Purchase Intent x Perceived Nutritional Quality, demonstrates a similar "staircase" pattern, where the required nutritional score improves incrementally as the purchase intent percentage increases. Achieving higher levels of purchase intent requires further improvements in perceived nutritional quality, indicating that consumers' nutritional perceptions play a critical role in their purchase decisions. This pattern reveals bottlenecks, emphasizing that consumers seeking higher purchase intent percentages need to perceive notable nutritional quality improvements to surpass these barriers. This finding aligns with the insights from Curtain and Grafenauer (2019), who highlight the importance of nutritional content in influencing consumer intentions. Thus, nutritional perceptions act as a critical factor influencing the progression through various stages of purchase intent, underscoring the necessity for marketers to enhance the nutritional quality of their products. By this means, they can effectively address consumer concerns and drive higher purchase intentions, ensuring that their products meet the evolving demands for healthier food options.

The analysis presented in Figure 9, the NCA Chart for Purchase Intent x Perceived Health Quality, shows that as purchase intent percentages increase, the required health perception scores also improve incrementally. This pattern highlights the role of health perceptions in overcoming critical thresholds to unlock higher levels of purchase intent, emphasizing that consumers need

continuously improving health perceptions to advance through ascending levels of intent. Hence, health perceptions act as a crucial factor in achieving higher levels of consumer purchase intent, although they may not be as consistently influential as environmental or nutritional perceptions. As noted by Bech-Larsen and Grunert (2003), the perceived quality of "healthiness" in a food product has now emerged as the primary motivator for consumers in their food selection. Consequently, marketers must enhance the perceived health quality of their products to drive higher purchase intentions effectively. Although the initial SEM methodology indicated that health perceptions were not as significant, the final phase of the analysis underscores the necessity of robust health perceptions to achieve higher levels of consumer purchase intent.

The analysis presented in Figure 10, the Necessary Condition Analysis (NCA) chart for Purchase Intent versus Involvement, indicates that involvement does not meet the criteria of a necessary condition. The initial Structural Equation Modelling (SEM) methodology demonstrated that involvement was not a significant factor in driving purchase intent. Consequently, the final phase of the analysis confirms that, although Engel et al. (2000) asserted that the degree of personal involvement is the most important factor shaping the decision-making behaviour that will be followed, involvement is not essential for achieving levels of consumer purchase intent in the studied model. It does not qualify as a critical bottleneck, meaning its absence does not impede purchase intention. Furthermore, no minimum level of this construct is required to ensure that the outcome will manifest. Marketers might thus consider focusing more on enhancing factors such as brand trust and perceived quality, which have a more direct impact on purchase intentions.

5.4.2 Hypothesis 4 Revisited

Although Hypothesis 4 initially posited that storytelling credibility, the stimuli in the model, directly influences consumer purchase intent, the response, for vegan industrialized products, the empirical findings revealed a nonsignificant direct relationship ($p\text{-value} = 0.558$). This suggests that storytelling credibility does not exert a straightforward impact on purchase decisions. However, the NCA analyses indicates a substantial indirect effect mediated through enhanced the organism measures, brand trust, and perceived quality across various dimensions (environmental, health, and nutritional) behaving as necessary conditions to the response.

These enhancements in brand trust and perceived quality then act as mediators in the pathway from storytelling credibility to purchase intent. Although storytelling credibility alone does not lead directly to purchase intentions, it indirectly influences these intents by creating a necessary condition perception of the brand's trustworthiness and its product quality. In essence, while

credible storytelling may not compel a purchase on its own, it sets the stage for purchase intent by elevating the factors that are crucial to the consumer decision-making process.

The NCA further substantiates the mediating role of brand trust and perceived quality. NCA highlights that these factors are not merely enhancements but are requisite conditions for converting perceptions into actual purchase intentions. According to NCA, without sufficient levels of brand trust and perceived quality, the likelihood of progressing to purchase intentions is significantly diminished, regardless of other positive influences.

This analytical approach underscores that while storytelling credibility does not guarantee purchase intent, its role in cultivating necessary conditions cannot be disregarded. Therefore, credible storytelling is critical as it primes the consumer's perception, which, although indirectly, is vital for facilitating the eventual purchase intention.

6 Conclusion

This paper has critically examined the influence of storytelling on consumer purchase intentions within the vegan industrialized product sector. Employing the Stimulus-Organism-Response (SOR) model, this study aimed to dissect the mechanisms by which storytelling acts as a catalyst in shaping consumer behaviours and decision-making processes. This comprehensive conclusion recaps the research's pivotal findings, integrates the theoretical and practical contributions, highlights the inherent limitations, and suggests pathways for future research.

6.1 Final Conclusion

The central research question that guided the inquiry of this thesis was: "How does storytelling for vegan industrialized products influence consumers' purchase intentions?". The results affirmatively demonstrate that storytelling significantly strengthens brand trust, perceived quality, and consumer involvement, which are critical organismic perceptions within the SOR model. However, these factors do not directly lead to purchase intentions. Instead, the impact of storytelling on purchase intentions is not as straightforward as hypothesized, factors such as perceived product quality and trust in the brand serve as necessary conditions to translate enhanced brand perception into actual consumer purchases.

The study meticulously analysed the data initially using SPSS to ensure that the expected response to the manipulation was effective, as measured by credibility across its three dimensions: attractiveness, expertise, and trustworthiness. The responses from the questionnaire indicated that the back of the package containing the storytelling element elicited higher responses compared to the one without storytelling, positively influencing consumer cognitive perceptions. Subsequently, using Partial Least Squares Structural Equation Modelling (PLS-SEM), the model examination initiates to prove the linearity influences within the SOR Model, it was revealed that the credibility of the storytelling positively impacts consumer perceptions. This influence was assessed through three constructs: brand trust, consumer involvement, and perceived quality from nutritional, environmental, and health perspectives. Relating this perception to actual purchase intent, excluding involvement, this influence is not direct however, it exhibits a minimal level necessity. This implies that while storytelling raises consumer interest and engagement through the perception measures studied, these factors alone do not drive purchase intentions directly. A level of the consumer's perception of product quality and trustworthiness in the brand is still required to a determined level of purchase intention.

The SOR model operates on the principle of influence, which posits that external stimuli (such as storytelling) trigger internal evaluations (organism) that subsequently result in behavioural responses (Mehrabian & Russell, 1974). However, the findings diverge from this expected pattern crucially, the stimuli influence the organism that influences the response. It was discovered that the stimuli, specifically the credibility of storytelling, positively influence the organism—namely, consumer involvement, brand trust, and perceived quality. Contrary to the model's typical assumptions, the response, purchase intention, is not directly influenced by the organism. Nonetheless, the response cannot exist without components of the organism, specifically brand trust and perceived quality. In this way, we conclude that the stimuli indeed influence the organism, and the organism must exhibit a minimum level of its attributes to translate these perceptions into actual purchase intent.

These findings align with theoretical propositions suggesting that storytelling in marketing must not only capture attention and engage consumers but likewise convincingly align with their broader expectations and internal beliefs to affect purchase decisions. As previously cited in the literature review, the impact of source credibility in advertising extends to influencing attitudes toward a brand and purchase intentions (Ohanian, 1991). Additionally, Chaudhuri and Holbrook (2001) highlight that brand trust mitigates uncertainty and fosters consumer reliance, which is critical for influencing purchase behaviour. Moreover, Curtain and Grafenauer (2019) emphasize the importance of perceived nutritional and environmental benefits in shaping consumer choices. This study enriches the existing literature by illustrating the nuanced role of storytelling as a stimulus that requires the support of strong product attributes and consumer value alignment to effectively influence purchase intentions.

Thus, the SOR model employed here proved instrumental in demonstrating the conditional pathway through which storytelling impacts consumer behaviour.

6.2 Theoretical and Practical Contribution

This dissertation advances the academic understanding of marketing communications by integrating the SOR model with narrative theory to explore how storytelling impacts consumer behaviour. The research provides a nuanced view of the stimulus role of storytelling credibility, extending beyond simple engagement to its necessity in driving consumer perceptions of brand trust and product quality. By meticulously analysing how storytelling credibility—comprising attractiveness, expertise, and trustworthiness—affects consumer perceptions, this study significantly contributes to the theoretical discourse on the SOR model. It details how specific

organism responses, such as brand trust and perceived quality, mediate the necessary relationship between storytelling stimuli and the ultimate consumer response, purchase intentions.

From a theoretical standpoint, this research confirms and extends the principles outlined by Mehrabian and Russell (1974), demonstrating that while stimuli like storytelling can effectively enhance internal states (organism), they do not directly translate into behavioural responses (purchase intentions) without the mediation of certain key factors. The findings corroborate Ohanian's (1991) assertion on the importance of source credibility in advertising, illustrating its critical role in shaping consumer attitudes towards a brand. Moreover, the study aligns with Chaudhuri and Holbrook's (2001) insights on the pivotal role of brand trust in consumer decision-making processes. By showing that perceived quality, particularly nutritional and environmental benefits, as highlighted by Curtain and Grafenauer (2019), is essential for driving purchase intentions, this dissertation underscores the multifaceted nature of consumer behaviour in the context of vegan industrialized products.

Practically, the implications for the communication field are clear: while storytelling is essential for engaging consumers, it must be part of a broader, integrated marketing strategy that also emphasizes product quality and exudes trustworthiness. This study supports marketers and communicators in deploying storytelling strategically, ensuring that narratives are not only engaging but also deeply intertwined with clear, authentic product benefits that resonate with target consumer segments.

Additionally, the research highlights the importance of continuous assessment and alignment of storytelling efforts with evolving consumer values and preferences. As consumers become more discerning and prioritize aspects like environmental sustainability and health benefits, marketers must adapt their narratives to maintain relevance and effectiveness.

In conclusion, this dissertation provides valuable insights into the dynamic interplay between storytelling and consumer behaviour, offering both theoretical advancements and practical guidelines for effective marketing communications. By bridging the gap between narrative theory and the SOR model, it lays a robust foundation for future research and strategic application in the realm of vegan industrialized products and beyond.

6.3 Limitations and Future Research Suggestions

This study, while providing valuable insights into the role of storytelling in influencing consumer purchase intentions for vegan industrialized products, has limitations as well that should be acknowledged.

Firstly, there is a limitation that may be related to sample characteristics of participants, specifically the existence of disparities between genders in the study that could have an impact on the findings. The skew towards female participants, though studies mention that women are more willing to participate, is not surprisingly. It is well-documented that women are generally more likely to participate in surveys than men (Curtin et al., 2000). Therefore, future studies should strive for a more balanced gender representation to overcome this constraint.

Secondly, the sample predominantly consists of omnivorous participants, which may not fully capture the nuanced behaviors and attitudes of vegans and vegetarians. While this reflects societal norms where omnivores are the majority and vegans are a minority, it suggests that the conclusions drawn might be more reflective of omnivorous attitudes. Future research should ensure a more balanced representation of dietary preferences to provide a comprehensive understanding of the impact of storytelling across different consumer groups.

Thirdly, the study's findings are based on data collected from specific cultural and socioeconomic contexts. While the thesis aims to provide a broader perspective, this approach may introduce some noise and limit the applicability of the results to other regions with different cultural norms and economic conditions. Future research should consider cross-cultural studies to validate the findings in diverse settings and analyze cultural variations in responses.

Additionally, the use of an online questionnaire poses certain limitations. There is no guarantee that all participants responded with full attention or understanding. Another limitation concerns the use of self-report measurement instruments. Self-report measures are inherently subject to various biases, including social desirability bias, where participants may respond in a manner, they believe is more socially acceptable rather than providing their true thoughts or behaviors. Qualitative research methods could further enrich these insights by capturing the subjective nuances of consumer responses to storytelling.

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Appendix

1. Questionnaire

	En	Pt-Pt	Pt-br
Credibility	The appearance is attractive to me	A aparência é atrativa para mim	A aparência é atrativa para mim
	The appeal is inherent in its presentation	O apelo do produto é inerente à sua apresentação	O apelo do produto é inerente à sua apresentação
	The aesthetic is naturally appealing	A estética do produto é naturalmente apelativa	A estética do produto é naturalmente convidativa
	Has a classy image	O produto tem uma imagem sofisticada	O produto tem uma imagem sofisticada
	Exudes elegance	O produto exala elegância	O produto exala elegância
	The information provided shows a high level of expertise in its creation	As informações fornecidas mostram um alto nível de especialização na criação do produto	As informações fornecidas demonstram um alto nível de especialização na criação do produto
	Appears to be designed by qualified individuals	O produto parece ser projetado por indivíduos qualificados	O produto parece ter sido projetado por pessoas qualificadas
	I believe the creators are skilled	Acredito que os criadores do produto são competentes	Acredito que os criadores do produto são habilitados
	I am convinced that a high level of knowledge is invested in the development.	Estou convencido que um elevado nível de conhecimento é investido no desenvolvimento do produto	Estou convencido de que um alto nível de conhecimento foi investido no desenvolvimento do produto
	Seems to be the result of expert research	O produto parece ser o resultado de pesquisa especializada	O produto parece ser o resultado de uma pesquisa especializada
	Appears dependable	O produto parece confiável	O produto parece confiável
	Demonstrated reliability	Confio no produto pela sua fiabilidade demonstrada	Confio no produto pela sua confiabilidade demonstrada
	The brand's honesty is reflected	A honestidade da marca reflete-se no produto	A honestidade da marca é refletida no produto
	Presented as reliable.	O produto é apresentado como confiável	O produto é apresentado como confiável
	The presentation is sincere and trustworthy.	A apresentação do produto é sincera e de confiança	A apresentação do produto é sincera e digna de confiança
Involvement	Boring - interesting Not exciting - exciting Not attractive - attractive Not fascinating - fascinating Not involving - involving	Aborrecido - interessante Não excitante - excitante Não atraente - atraente Não fascinante - fascinante Não envolvente - envolvente	Chato - interessante Não empolgante - empolgante Não atraente - atraente Não fascinante - fascinante Não envolvente - envolvente
	Unimportant - important Irrelevant - relevant Meaningless - meaning a lot Worthless - valuable Unnecessary - necessary	Sem importância - importante Irrelevante - relevante Sem significado - significativo muito Sem valor - valioso Desnecessário - necessário	Sem importância - importante Irrelevante - relevante Sem significado - significativo Sem valor - valioso Desnecessário - necessário
Brand trust	I might trust this brand	Confio nesta marca	Confio nesta marca
	I might rely on this brand	Dependo desta marca	Dependo desta marca

	This seems to be an honest brand	Esta marca é honesta	Esta marca é honesta
	This brand seems safe	Esta marca é segura	Esta marca é segura
Perceived quality	The nutritional quality is extremely high	A qualidade nutricional do produto é extremamente alta	A qualidade nutricional do produto é extremamente alta
	Provides essential nutrients effectively	O produto fornece nutrientes essenciais de forma eficaz	O produto fornece nutrientes essenciais de forma eficaz
	Is produced with environmental consciousness	O produto é produzido com consciência ambiental	O produto é produzido com consciência ambiental
	The environmental impact is minimal	O impacto ambiental do produto é mínimo	O impacto ambiental do produto é mínimo
	Contributes positively to overall health	O produto contribui positivamente para a saúde geral	O produto contribui positivamente para a saúde geral
	The health benefits are clear and significant	Os benefícios para a saúde do produto são claros e significativos	Os benefícios para a saúde do produto são claros e significativos
Purchase intent	I am interested in inquiring more about this product	Estou interessado em saber mais sobre o produto	Tenho interesse em saber mais sobre o produto
	I am consider buying this product	Considero comprar o produto	Estou considerando comprar o produto
	I am likely to purchase this product	É provável que compre o produto	É provável que eu compre o produto
	I have the intention to buy this product	Eu tenho a intenção de comprar o produto	Tenho a intenção de comprar o produto

2. Packages utilized in the questionnaires- back

a. In English



b. In Portuguese-PT



c. In Portuguese- BR

