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Food Consumption Drivers in Portugal:
Exploring Motivations and Emerging Factors Behind Sustainable, Healthy and Locally Sourced Food Choices

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Dissertation

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Food Consumption Drivers in Portugal: Exploring Motivations and Emerging Factors Behind Sustainable, Healthy and Locally Sourced Food Choices

By

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Master Thesis presented as partial requirement for obtaining the Master's degree in Data-Driven Marketing, with a specialization in Marketing Intelligence.

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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledge the Rules of Conduct and Code of Honor from the NOVA Information Management School.

António Ruela

Lisbon, July 15, 2024

ABSTRACT

This dissertation focuses on the motivations driving Portuguese consumers toward sustainable, healthy food and locally produced products, in accord with the emerging global tendency of consuming food but in a more attentive way. It will place itself upon a synthesis of available literature and examine multiply-driven reality related to food choices by studying health benefits, taste preference, environmental concerns, and economic considerations. Methodologically, this research is based on data from a survey that provides, in an empirical sense, a number of insights into consumer behaviors and preferences for food in Portugal. Key findings indicate that health and taste prevail, whereas sustainability and origin are the second most important drivers of food choices. Nevertheless, economic constraints to greater diffusion of sustainable diets, mainly related to food affordability, come out as one of the most preponderant issues. This research contributes to knowledge about consumer behavior with respect to sustainability in food and delivers important insights for marketers, policymakers, and researchers seeking to pursue healthy and sustainable food consumption in Portugal. Putting everything into perspective, holistically speaking, this research calls for strategies at a holistic view on education, policy interventions, technological innovations, affordability improvement measures, and stakeholder collaboration to foster a more sustainable food system in Portugal and beyond.

KEYWORDS

Sustainable Food Consumption; Healthy Eating; Locally Sourced Foods; Food Quality; Nutritional Awareness; Food Safety; Economic Factors; Food Technological Innovations

Sustainable Development Goals (SGD):

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1- Introduction

Portuguese consumers are increasingly inclined towards prioritizing sustainable, healthy, and locally sourced foods due to a variety of motivating factors. These include concerns about the environmental impact of food consumption (Galli, 2020), appreciation for the unique attributes of local agro-food products, and individual food-related personality traits (Madaleno, 2018). Additionally, the perceived health benefits, taste, and environmental advantages of organic products play a significant role in influencing consumer preferences (Hoppe, 2013).

The growing attention towards consuming sustainable, healthy, and locally sourced foods can be attributed to various societal factors, such as increasing health concerns, environmental awareness, ethical considerations, and cultural preferences (Scalvedi & Saba, 2018; Nair & Bhattacharyya, 2019). This shift in consumer behavior not only reflects changing preferences but also has far-reaching implications for public health, environmental sustainability, and the economy (Mancini et al., 2017; Feteira-Santos et al., 2021).

Understanding the multifaceted motivations underlying consumer behavior in the food domain is essential for policymakers, marketers, and researchers aiming to address the growing demand for sustainable and healthy food options (Żakowska-Biemans, 2011; Hempel & Hamm, 2016). Studies have demonstrated that consumers' motives for food choice encompass a wide range of factors, including health, environmental, social, and cultural considerations (Scalvedi & Saba, 2018; Nair & Bhattacharyya, 2019). Moreover, consumer readiness to adopt sustainable diets is influenced by a complex interplay of personal, social, and situational determinants (Pino et al., 2012; Oliveira et al., 2021).

Therefore, gaining insights into the underlying motivations driving consumer behavior is crucial for developing effective strategies to promote sustainable, healthy, and locally sourced food consumption (Barbosa & Añaña, 2023). Additionally, understanding consumer motivations can inform the design of targeted interventions and policies aimed at fostering sustainable dietary practices (Barbosa & Añaña, 2023) and can respond to the current need for policy changes in Portugal, particularly at the local level, to address the country's high meat and fish consumption and food wastage (Galli, 2020).

In response to this, the primary aim of this dissertation is to conduct a comprehensive examination to answer the following research question: “What are the key motivations, including emerging factors, that lead Portuguese consumers to prioritize sustainable, healthy, and locally sourced foods?”.

By synthesizing existing literature, this study seeks to identify the diverse range of factors influencing consumer food choices in Portugal (Figueiredo et al., 2022). Furthermore, the review aims to shed light on emerging trends and factors that are shaping Portuguese consumer preferences in the context of sustainable and healthy food consumption (Mancini et al., 2017; Feteira-Santos et al., 2021).

Ultimately, the findings of this study contributes to a deeper understanding of consumer behavior in the food domain and provide valuable insights for policymakers, marketers, and researchers in promoting sustainable and healthy food choices among Portuguese consumers (Figueiredo et al., 2022). In summary, this review will offer a comprehensive analysis of the motivations driving consumer food choices in Portugal, with a specific focus on sustainability, health, and local sourcing.

2- Literature Review

2.1 Sustainable Food Choices

2.1.1. Environmental Concerns and Eco-consciousness

Environmental attitudes and non-environmentally friendly consumer behavior have received considerable attention in recent research. Research indicates that individuals care deeply about the environment, with many people identifying as environmentalists (Krause, 1993). However, this underlying anxiety may not always translate into consistent action. Environmental attitudes and levels of involvement have been found to significantly influence consumer attitudes and behaviors towards the purchase of environmentally friendly products (Dionela et al., 2022). Factors such as environmental concerns and consumer attitudes positively influence consumers' environmental behavior (Nasution & Hadiansah, 2020). Environmental consciousness development encompasses a wide range of factors, including environmental sensitivity, sustainable consumption practices, and a commitment to pro-productivity environment (Khrushch & Karpiuk, 2021). In order to promote environmentally friendly behaviors, it is important to consider psychological dimensions, value orientation, and worldview. Effective environmental literacy programs and school-family partnerships can play an important role in fostering sustainable environmental attitudes and behaviors (Khrushch & Karpiuk, 2021).

Environmentalism has emerged as an important concept in contemporary thinking and consumer behaviour. It refers to an individual's knowledge and concern about the environment, which influences their worldview and behavior (Lysianska & Bielousova, 2020). Research shows that environmental concerns significantly influence consumers' willingness to pay for environmentally friendly products, and that demographics play a role in this relationship (Royne et al., 2011). Self-reported environmental problems are higher among different demographic groups (Krause, 1993). However, translating this concern into action remains a challenge. Factors such as environmental concerns and consumer attitudes positively influence consumers' environmental behavior (Nasution & Hadiansah, 2020). Understanding these dynamics is critical for designing effective educational strategies to promote eco-friendly purchasing decisions, ultimately contributing to public health and sustainable development (Royne et al., 2008). 2011). The concept of environmentalism continues to evolve, combining aspects of individual perception, consumer behavior, and broader societal implications.

Portugal represents a critical country case to further explore national and local profiles and policies as it is the Mediterranean country with the highest per capita food Footprint, it relies on the biocapacity of foreign countries to satisfy its residents' demand for food (Galli et al., 2020) and produces about 1.8 million tons of food waste per year (Macau Business, 2023).
Studies examining the relationship between consumers' environmental concerns and their motivation to make sustainable food choices in Portugal in which it was found that consumers who are more environmentally conscious and informed are more likely to choose plant-based meals and reduce their consumption of animal products (Galli, 2020).

Research on Portuguese consumers' awareness of environmental issues related to food production and their willingness to support eco-friendly practices reveals a complex picture. While there is a high frequency of fish and seafood consumption, particularly among older consumers, there is a lack of knowledge about sustainable fishing practices (Murthy, 2023). This lack of knowledge is also evident in the plastic food packaging sector, where consumers are aware of the negative impact of plastic but struggle to change their consumption habits (Macena, 2021). However, there is a positive relationship between knowledge about environmental problems, perceived consumer effectiveness, and recycling behavior, and the reported purchase of green products (Cardoso, 2017). This suggests that while there

is a willingness to support eco-friendly practices, it may not always translate into action. Further research is needed to understand the factors influencing this gap between awareness and action.

In Portugal, the environmental implications of food consumption are drawing increasing concern. A significant body of research suggests that the nation's dietary patterns, particularly the high consumption of meat and fish, contribute substantially to the ecological overshoot, with food consumption being the primary reason for exceeding the Earth's carrying capacity (Galli et al., 2020). This highlights an urgent need for a sustainable transformation within the Portuguese food system.
The effectiveness of environmental messaging and education campaigns in Portugal warrants further analysis. Portuguese consumers express support for environmental improvements and policies, though this does not consistently result in adopting environmentally friendly practices (Paço & Raposo, 2010). There is a gap between supportive attitudes towards the environment and the implementation of eco-friendly actions, indicating that Portuguese consumers may require more impactful educational campaigns that lead to behavior change.

Additionally, research indicates that eco-conscious practices by Portuguese consumers are occasionally driven by economic factors, such as reducing electricity and water use, rather than by a genuine concern for environmental wellbeing (Paço & Raposo, 2009). This economic-driven eco-consciousness points towards opportunities to align environmental sustainability with financial benefits in consumer marketing strategies.
In summary, the literature indicates that while environmental concerns are present among Portuguese consumers, these concerns do not always translate into sustainable consumption behaviors. The need for more effective educational strategies and policy support is clear in order to facilitate the transition towards a more environmentally responsible society within Portugal.

a) **The impact of environmental messaging and education campaigns on consumer behavior in Portugal.**

Recent research in Portugal has highlighted the need for sustainable dietary choices, particularly in the consumption of fish and seafood (Murthy, 2023). This is in line with the country's efforts to promote healthy eating and improve nutritional status, as seen in the implementation of a national strategy from 2010 to 2020 (Graça, 2020). Communication has been identified as a key factor in promoting sustainable food practices, as evidenced by the role of communication in community supported agriculture (Moreira, 2022) and the development of the Portuguese Mediterranean diet wheel (Rodrigues, 2021). These studies underscore the importance of targeted outreach messaging and the dissemination of information on sustainable options to encourage sustainable dietary choices in Portugal.
A series of studies in Portugal have demonstrated the effectiveness of education campaigns in promoting food sustainability. Pinto (2018) and Marques (2022) both found that targeted education initiatives in university and school canteens led to a reduction in food waste and an increase in vegetable consumption, respectively. These findings are in line with the broader call for education and information to drive healthier and more sustainable food choices (Pais, 2023).

2.1.2. Local Food Systems and Community Engagement

Local food systems were highlighted in terms of their potential for sustainable monetary improvement and network engagement. Research indicates that those applications can offer many blessings past meals manufacturing, inclusive of partnerships, network engagement, and academic opportunities (Diekmann et al., 2020). Urban parks and direct markets, such as farmers markets and CSAs, have been

proven to increase social interplay and civic participation amongst individuals (Diekmann et al., 2020). Farmers who actively participate in nearby meals markets area extra importance on network involvement (Schoolman, 2020). However, some researchers caution that many assumptions about community food structures stay untested, emphasizing the want for rigorous, quantitative research (Deller et al., 2017). Higher schooling is closely concerned in supporting neighborhood food systems, however it's far critical to recognize community views and embed those initiatives inside broader social justice frameworks (Rosing, 2012). Overall, community consuming programs seem to offer promising avenues for community development and civic engagement.

Research on local food systems and community engagement in Portugal highlights the role of organic food consumption in promoting sustainability and shaping consumer identity (Fernandes, 2021). Community gardens in Lisbon have been instrumental in fostering urban sustainability and resilience to climate change, with a focus on organic waste utilization (Madaleno, 2022). The significance of food memories in connecting consumers to the rural and shaping perceptions of quality food is also evident (Truninger, 2013). Furthermore, the transition to a sustainable food system in the Lisbon Metropolitan Area is characterized by a shift towards local production and short supply chains (Salavisa, 2020).
This shows the potential of local food systems in promoting sustainability and community engagement among Portuguese consumers.

a) Research on consumers' preferences for locally sourced foods and their engagement with farmers' markets, community-supported agriculture (CSA), and food cooperatives.

Consumers' preferences for locally sourced foods and their engagement with farmers' markets, comunity-supported agriculture (CSA), and food cooperatives are influenced by a variety of factors. Peterson (2015) found that U.S. consumers are motivated by support for local farmers, while French consumers prioritize environmental concerns. Adams (2011) identified accessibility and attitudes as key drivers of local food purchases, with cost and willingness to pay being less influential. Schrank (2018) discovered that consumers in CSA programs are motivated by both individual and collective goals, emphasizing environmental issues and sustainability. Wilkins (2015) highlighted the positive impact of CSA participation on vegetable exposure, intake, and preference, which can support local production and seasonal availability. These studies collectively suggest that consumers' preferences for locally sourced foods are shaped by a complex interplay of factors, including support for local farmers, environmental concerns, accessibility, and attitudes.
A range of studies have explored the preferences of Portuguese consumers for locally sourced foods. Figueiredo (2022) identified a strong preference for rural provenance food products, particularly among those with rural ties, who value sensorial features, convenience, national provenance, and impacts on rural development. Madaleno (2018) highlighted the importance of local agro-food product attributes, food-related personality traits, and motivations in influencing visitors' intentions to consume and recommend these products. Cardoso (2013) found that consumers prefer wild to cultured fish, with men showing a greater preference for wild and smoked fish even though well-managed aquaculture practices can be more sustainable than certain forms of wild-caught fishing. Ventura-Lucas (2013) reported positive attitudes towards organic food products, suggesting a potential increase in market share in the future. These studies collectively indicate a strong preference for locally sourced foods, particularly those with rural provenance and organic attributes.

2.2 Healthy Food Choices

2.2.1 Nutritional Awareness and Education

Nutrition education programs have been shown to significantly increase nutrition awareness and encourage healthy food choices among diverse populations. A study of fifth-grade children found that a three-week school-based program significantly improved nutrition knowledge and dietary compliance (Kandiah & Jones, 2002). Similarly, nutrition education for overweight individuals increased their knowledge and awareness, resulting in healthier food choices (Febriyana & Sefrina, 2022). Umbrella research has shown that nutrition education, food labeling, and parental modeling are strategies used to influence food choices, with combinations of strategies working best across different age groups (Perez- Cueto, 2006). 2005) 2019). In addition, mass media can help improve nutrition awareness in childhood and establish a healthy diet and healthy lifestyle (Gertrude, 2021). These findings highlight the importance of nutrition education and awareness in improving healthy food choices and overall nutrition in various countries.

Portugal is known for its high meat and fish consumption and series of studies have shed light on the knowledge and influences that shape Portuguese consumers' food choices. It was found that while most participants were aware of the health implications of meat consumption, there were misconceptions about its environmental impact (Guiné, 2021). Poínhos (2010) identified various factors influencing food consumption, with socio-demographic and health characteristics playing a significant role.

There is a need for greater nutrition literacy among Portuguese consumers, as this can significantly influence their food choices (Silva, 2022; Monteiro, 2021). While consumers recognize the importance of food labeling, they often struggle to understand the information provided (Silva, 2022). Environmental and political determinants also play a significant role in shaping food choices, particularly among the elderly, men, and those with higher education (Ferrão, 2020). Additionally, factors such as taste, health, and convenience are perceived as influential in food consumption (Poínhos, 2010).

For example, a study on dietary fiber knowledge showed that while respondents recognized the importance of fiber in preventing and treating diseases, their intake was low and their knowledge about fiber sources was limited (Martinho 2013). However, a pilot study on nutrition literacy found that a majority of participants had a good level of nutrition literacy, with higher education and specific dietary habits correlating with better knowledge (Monteiro 2021). This was further supported by a study on perceptions towards a healthy diet, which found that participants with work or studies related to diet and nutrition had a better understanding of nutrition (Ferrão 2019). These findings suggest a need for targeted education and communication strategies to improve consumers' knowledge of nutrition and health benefits in Portugal.

a) Research on the effectiveness of nutritional education programs and public health campaigns in promoting healthy eating habits in Portugal.

Recent research in Portugal has shown the positive impact of nutrition education programs on adolescents, with an interactive multimedia platform leading to increased nutrition knowledge (Tallon, 2019). However, there is a need for further research to confirm these findings. Among adults, those with higher education, specific diets, and family members trained in nutrition have better nutrition literacy (Monteiro, 2021). University students, on the other hand, have been found to have low healthy dietary knowledge and unhealthy dietary habits (Alves, 2020). To promote healthier and more sustainable food choices, it is important to understand the drivers and barriers of food choices, with informed and environmentally conscious consumers more likely to choose plant-based meals (Pais,

2023). Environmental and political determinants play a significant role in shaping food choices, particularly among the elderly, men, and those with higher education (Ferrão, 2020).

A series of public health campaigns in Portugal have been implemented to promote healthy eating habits. The Integrated Strategy for the Promotion of Healthy Eating (EIPAS) was introduced in 2017, focusing on creating healthier food environments, improving food quality and accessibility, promoting literacy, and encouraging innovation (Graça 2018). This strategy was further developed in the following decade, with a focus on increasing knowledge about food consumption, modifying food access, empowering individuals, and integrating other societal sectors (Graça 2020). The importance of understanding consumer motivations and behaviors in food choices, particularly the role of education and information, has been highlighted (Pais 2023). The Nutri-Score, a front-of-pack food labeling system, has also been proposed as a tool to improve eating habits (Goiana-da-Silva, 2019).

2.2.2. Perceptions of Food Quality and Safety

Recent studies have highlighted changing attitudes towards food quality and safety among consumers. Although the traditional concept of quality focuses on customer acceptance and nutrition, more emphasis has been placed on personalized food and sustainable food systems (Villamiel & Méndez-Albiñana, 2022) In some areas, consumers perceive domestic products to be of higher quality than imports, with factors such as expiry date, origin and brand name acting as key quality indicators but international food standards are not widely used by consumers to assess quality (Haas et al., 2021). Haas et al., 2021). The perception of quality greatly influences purchasing decisions and food systems (Sadílek, 2019). Despite the importance of food safety, consumers tend to pay attention only when food scandals occur (Nagyová et al., 2019). Although many consumers purchase high-quality foods for health reasons, only a small percentage read food labels regularly, highlighting the importance of effective communication about food safety and quality (Nagyová et al., 2019)

In recent years, there has been a growing body of literature focusing on consumer perceptions of food quality, safety, and trust in food labeling and certification systems. For instance, there was a study conducted on the effectiveness of front-of-pack nutrition labels in informing Portuguese consumers about the nutritional quality of foods and their ability to identify healthier options in purchasing situations which yielded mixed results but found that the Nutri-Score label was the most efficient in improving food choices and helping consumers identify healthier options. Similarly, Machín (2018) reported that both the traffic light and warning labels improved the healthfulness of food choices, with no significant difference between the two.

Moreover, recent research in Portugal has highlighted the importance of food labeling in influencing consumer perceptions of quality and safety (Silva, 2022). However, there is a need for greater education and literacy in this area to help consumers make informed choices. This is particularly important given the finding that consumers often do not understand all the information on food labels (Silva, 2022). In terms of trust in food labeling and certification systems, a study in Romania found that while certified labeled food provides a general feeling of trust, consumers do not always understand what the certification stands for (Borda, 2021). This may suggest a need for clearer communication about the meaning and significance of different certifications in Portugal also. The concept of transparency has also been identified as a key factor in consumer perceptions of food quality and safety, with consumers expressing a desire for more accurate and transparent information (Dove, 2020). This is particularly relevant in the context of food safety and quality assurances, which are important for building consumer trust (Wu, 2021).

Additionally, it was investigated the effect of institutional trust on consumers' health and safety perceptions and repurchase intention for traceable fresh food, shedding light on the role of trust in shaping consumer perceptions of food safety (Wang et al., 2021).

a) Studies on the impact of food safety incidents and food recalls on consumer behavior and trust in the food supply chain.

The impact of food safety incidents and recalls on consumer behavior and trust in the food supply chain in Portugal is a significant concern. Research has shown that these incidents can lead to a reduction in consumer confidence and trust in the safety of food products (Ventura-Lucas, 2004).
Recent food safety incidents and recalls have had a significant impact on consumer behavior and trust in the food supply chain. Consumers' trust in food safety management and concern about food recalls are key factors influencing their protection behavior intention (Liao, 2020). This is further supported in a study where it was found that direct engagement in agriculture and income are predictors of trust in the food supply chain (Robinson, 2020). However, incidents of food fraud may not necessarily increase food risk perceptions, suggesting a complex relationship between consumer perceptions and actual risk (Kendall, 2019). To address these challenges, it would be recommended that recalling firms combine self-sanction and information-sharing strategies to repair consumer trust during a food recall crisis (Liao, 2020).

2.3 Locally Sourced Foods

2.3.1 . Economic Considerations and Food Affordability

Food affordability is an important component of global food security, affecting food choices and health outcomes (Lee et al., 2013). Recent research shows that the average cost of healthy food is five times higher than unhealthy food choices, putting at least 3 billion people out of affordability worldwide (Bongaarts, 2021) Factors such as conflict, economic crisis, climate change and the COVID -19 pandemic. has increased insecurity, with projections that the United Nations Sustainable Development Group goal of ending hunger by 2030 will not be met (Bongaarts, 2021). Food affordability scores vary widely in the Mediterranean region, with many countries facing a high dependence on imported rice (Capone et al., 2014). To address these challenges, researchers propose policies to control food prices and affordability (Lee et al., 2013) and recommend reforms in the national income policy in, reduce wage inequality, and transition to a progressive tax system (Reshetnikova, 2020). Transforming the food system to ensure affordable, nutritious food while maintaining environmental sustainability is critical to global food security (Bongaarts, 2021).

There is a critical role of affordability and economic considerations in sustainable food consumers' decisions. Studies have highlighted the growing consumer interest in locally sourced foods, with a particular focus on the barriers and motivations for purchasing these products. While consumers are generally enthusiastic about local foods, price and inconvenience are significant barriers to their purchase (Chambers, 2007; Aprile, 2016). Adams (2011) emphasized the importance of understanding the complex forces driving local food purchases, with accessibility and attitudes playing a more significant role than traditional demand factors such as cost. These findings suggest that while consumers are interested in purchasing locally sourced foods, affordability and convenience remain key considerations.

Research consistently shows that while sustainability is a consideration for consumers, other factors such as price, quality, and convenience play a more significant role in their purchasing decisions (Nilssen, 2018). However, when it comes to sustainable food, packaging, production methods, and animal welfare are key priorities for consumers (Clonan, 2010). Family and friend support, as well as health incentives, are strong predictors of interest in sustainable food, with price accessibility having less impact on this interest (Hsu, 2020). Economic factors, including prices and income, are crucial in shaping consumer food choices and nutritional outcomes (Blaylock, 1999).
Food prices have a significant influence on purchasing behavior, with many consumers prioritizing cheap foods over health and environmental impact (Seubelt, 2022; Miller, 2021). This underscores the need for policy interventions to incentivize healthy and environmentally friendly diets. It can be emphasized the importance of affordable nutrient density as a key indicator of access to sustainable healthy diets, proposing the use of economic indicators to better integrate economic and sustainability considerations in nutrition policy (Drewnowski, 2021).

a) Research on the willingness of Portuguese consumers to pay premium prices for locally produced foods and the perceived value of supporting local farmers.

In several European countries, including Portugal, it has been shown that consumers are willing to pay a premium for locally produced foods (Tranter, 2009). This willingness is often influenced by factors such as education level (Cappelli, 2020) and the perceived benefits of local products, such as supporting the local economy and better product quality (Ortiz, 2010). Furthermore, consumers are also willing to pay more for sustainable food products, including those that are both organic and locally produced (de-Magistris, 2016). These findings suggest that there is a potential market for locally produced foods in Portugal, and that consumers may be willing to pay a premium for these products.

2.3.2. Cultural and Social Factors

Complex social and cultural interactions influence food intake. Food choices are shaped by cultural capital, social divisions, and conflict, with consumers often making conscious or coerced decisions (Enríquez & Archila-Godinez, 2021). Sociocultural influences, such as identity, gender, and religion, play an important role in determining dietary patterns and preferences (Monterrosa et al., 2020). For older adults, age-related changes in socioeconomic status, cognitive functioning, and social emotional needs affect their social and cultural responses (Sung & Yoon, 2023). Diet is influenced by many factors such as economic, social, cultural, personal, psychological, and biological factors (Duralia,2023). Understanding these effects is important to achieve a sustainable food culture and inform policy decisions (Enríquez & Archila-Godinez, 2021; Monterrosa et al., 2020). There is a need to analyze food consumption through different methods, considering the implications for market dynamics and the importance of developing ethical and social behaviors (Duralia, 2023).

The growing preference for locally sourced foods, with a focus on the values and opinions associated with this trend (Ditlevsen, 2020) is influenced by prosocial helping behavior, including empathic and social concern, and local patriotism (Skallerud, 2019). The importance of geographical proximity in food production and the willingness to pay a premium for organic products have also been identified as key factors (Denver, 2019). Furthermore, the concept of locavorism, which encompasses environmental attitude, community attachment, and health consciousness, has been found to drive consumer preferences for local food in restaurants (Choi, 2021).

Frequent consumers of rural provenance food products value sensorial features, convenience, national provenance, and the impacts on rural development (Figueiredo, 2022). This is influenced by positive images of the products and their territories of origin, which are connected to familiarity. Education level, age, and regional differences play a role in seafood consumption preferences, with older consumers favoring wild fish and coastal populations preferring wild and whole fish (Cardoso, 2016 & 2013). Product attributes, food-related personality traits, and motivations are very important in influencing visitors' intentions to consume and recommend local agro-food products (Madaleno, 2018). These studies collectively suggest that cultural and social influences, such as familiarity, education, age, and regional differences, significantly shape consumer preferences for locally sourced foods in Portugal.

Recent studies on Portuguese food culture consumers have revealed several key trends. JC (2022) found that most of Portuguese consumers are open to trying cultured meat, indicating a potential shift in traditional meat consumption. This is in line with the findings of Flores (2020), who identified a growing interest in organic fruits and vegetables, driven by post-materialist values and environmental awareness. Ramos (2023) further explored the relationship between food consumption and social class, highlighting the influence of education, income, and environment on the choice of organic products. Silva (2022) emphasized the importance of food labeling, noting that while Portuguese consumers recognize its significance, there is a need for greater education and literacy in this area. These studies collectively suggest a shift towards more sustainable and informed food choices among Portuguese consumers.

a) Studies on the role of food culture and culinary heritage in shaping Portuguese consumers' attitudes towards locally sourced foods.

A range of studies have explored the impact of local food culture on Portuguese consumer decisions. Produce freshness, price, and traditional products are important in influencing consumer choices (Siopa, 2016; Sampaio, 2010). These findings suggest that a strong connection to local food culture, including a preference for traditional products and a sense of national pride, significantly influences consumer decisions in Portugal.

Portuguese consumers have a high meat consumption rate, with a majority willing to try cultured meat (JC 2022). They also have a preference for wild fish and chilled fish over other types of seafood (Cardoso 2013). Despite a shift from the traditional Mediterranean diet, they still have a high daily availability of components such as cereals, pulses, fruits, and fish (Rodrigues 2007). However, there is a need for greater education and literacy in food and nutrition, particularly in understanding food labels, like mentioned before (Silva 2022).

Research on Portuguese culinary consumers' attitudes towards healthy eating and sustainable food choices reveals a preference for white meat over red meat, with chicken being the most favored (Guiné, 2021). There is a growing awareness of the environmental and health impacts of excessive animal-based consumption, with more informed and environmentally conscious consumers showing a greater inclination towards plant-based meals (Pais, 2023). Seafood consumption preferences vary by gender and region, with a preference for wild and fat fish, and chilled fish over other types (Cardoso, 2013). The Portuguese government has implemented a comprehensive strategy for promoting healthy eating, including measures such as food availability standards in public healthcare institutions, a sugar tax on sweetened beverages, and a voluntary agreement with the food industry for food reformulation (Graça, 2018).

2.4 Emerging Trends and Innovations

More recently, recent food trends reflect growing concerns about sustainability, health and environmental impacts. There has been a shift to plant-based diets, with increased consumption of legumes, nuts and fish, while decreased availability of animal products (Vitale et al., 2021). This is consistent with efforts to reduce greenhouse gas emissions and promote healthy eating habits. Digitalization is transforming the ways food is produced and consumed, with new technologies such as artificial intelligence and blockchain being used in smart farms and food industries (Hassoun et al., 2022). Global challenges such as climate change and population growth are driving the need for sustainable intensive agriculture and efficient use of crops (Fróna et al., 2019). The COVID-19 pandemic has increasingly affected food trends, emphasizing hedonic needs related to physical and mental well-being (Wiśniewska, 2022). These evolving trends highlight the importance of nutrition education and support for the food system to promote food safety and environmental sustainability.

In Portugal, various studies have explored the potential of digitalization and media in promoting sustainable food consumption, highlighting the role of technological modernization in the agri-food sector (Gaspar, 2015 & 2021). However, it can be pointed out the need for more effective policy implementation to drive a major transformation in the Portuguese food system, suggesting that while digitalization and media can play a role, they are not a solution for the challenges of sustainable food consumption (Galli, 2020).

A range of innovative strategies such as a simple awareness campaign is effective in reducing plate waste in a university canteen (Pinto, 2018). This approach could be expanded to other settings to further reduce food waste and shows the potential of even small educational interventions to promote sustainable food consumption.

A series of sustainable food policies have been implemented in Portugal, particularly in the last decade. These policies have aimed to improve dietary habits, nutritional status, and health of the population (Graça 2020). However, there are still significant gaps in the implementation of these policies, particularly at the local level, due to weak policy commitment and coordination (Galli 2020). In the Azores Region, the lack of coordination among actors, institutions, and policies has been identified as a key challenge (Hernández 2018). Despite these challenges, the Integrated Strategy for the Promotion of Healthy Eating (EIPAS) has been introduced, which includes actions such as the implementation of a sugar tax on sweetened beverages and the regulation of marketing of unhealthy foods to children (Graça 2018). These policies represent a significant step towards a more sustainable food system in Portugal.

It was also observed a growing demand for healthier and more sustainable food choices, particularly plant-based options (Pais, 2023). These trends suggest a complex and evolving food landscape in Portugal, with a mix of traditional and modern dietary influences.

Additionally, there is a potential of active, intelligent, and green packaging technologies to enhance food safety and reduce environmental impact (Han, 2018). Also, there is an importance of systemic innovation in transforming the food system, with a focus on technologies for food production, land use, emissions, diets, and waste management (Herrero, 2020).

There is a growing trend of sustainable food consumption, particularly in the context of plant-based foods and proteins (Aschemann-Witzel, 2020). This trend is driven by a need to address environmental concerns and the challenges of sustainable food technology (Tolnay, 2020). However, there is a need for further consumer education and innovation in this area (Aschemann-Witzel, 2020). Sustainable food consumption is also being promoted in marketing, with a focus on creating awareness and changing consumption patterns (Salgado-Beltrán, 2020). Consumers are increasingly concerned about food safety, environmental sustainability, and social justice, leading to new consumption practices (Migliore, 2021).

Recent research has highlighted the potential of online platforms in promoting sustainable food consumption. International grocery store chains are leading the way in this regard (Vide, 2021). Li (2020) emphasized the need to mitigate the negative impacts of online food delivery and promote its positive aspects (Li, 2020). Therefore, gaining insights into the underlying motivations and the current social media influence in driving consumer behavior can be crucial for developing effective strategies to promote sustainable, healthy, and locally sourced food consumption (Barbosa & Añaña, 2023). The use of digital nudging and green food labels, respectively, in online grocery stores seem to encourage healthy and sustainable food choices (Berger, 2020; Jiang, 2019). This collectively underscores the importance of leveraging digital tools and platforms to drive sustainable food promotion.

Research in Portugal's agro-industry has identified the potential of Internet of Things (IoT) technology to enhance sustainability and productivity (Gaspar, 2021). This is in line with the emphasis on local production, short supply chains, and organic products in the transition to a sustainable food system (Salavisa, 2020). Lean management has been shown to reduce food waste and improve sustainability in the retail fresh food market (Marques, 2021). Furthermore, energy-efficient measures, such as improved door protection and defrost optimization, have been identified in the sausages industry, with the potential to achieve significant electricity savings (Nunes, 2016). These studies collectively highlight the potential of technology and innovation in promoting sustainable food practices in Portugal.

Overall, the examination of emerging trends and innovations underscores the importance of a multifaceted approach to promoting sustainable food consumption. By harnessing technological advancements, implementing effective policies, understanding consumer preferences, and deploying targeted marketing strategies, stakeholders can drive positive change towards a more sustainable and healthy food system in Portugal.

a) Adoption of alternative food production methods, such as urban farming, vertical gardening, and food tech solutions, among Portuguese consumers.

The potential of urban agriculture, including allotment gardens, urban farms, and short food chains, in promoting sustainable development in Portugal (Delgado, 2017). This is particularly relevant in the context of increasing urban populations and decreasing available land (Nwosisi, 2018). Innovative techniques such as vertical gardening and food tech solutions, including hydroponics, aeroponics, and aquaponics, have been identified as key drivers of sustainable urban horticulture (Khan, 2020). However, the integration of food system concerns and urban agriculture into municipal planning is crucial for promoting urban resilience and a sustainable food system (Marat-Mendes, 2021).

2.5 Literature Review Conclusion

Several key findings have emerged, shedding light on the motivations driving Portuguese consumers to prioritize sustainable, healthy, and locally sourced food. The multifaceted nature of these motivations has concerns about the environmental impact of food production, appreciation for the qualities of local agro-food products, and individual food-related personality traits. Additionally, the perceived health benefits of organic products play a significant role in shaping consumer choices.

Despite the information gathered, there exist notable gaps in this topic. While individual motivations have been explored, a deeper investigation into the societal and cultural factors shaping consumer behavior is needed. Furthermore, the existing gaps in national and local food policies highlight the need for interventions to provoke a shift in the Portuguese food system. These gaps should be addressed while offering a more holistic understanding of the dynamics influencing consumer food choices.

As consumers increasingly prioritize sustainability, health, and local sourcing, there is a clear opportunity for policymakers to make informed policies that align with these preferences. Supporting and incentivizing local producers who adhere to sustainable practices can contribute to both economic growth and environmental conservation. Producers could capitalize on this growing demand by adapting their practices to align with consumer values, thereby creating a more responsive food industry.

In conclusion, this literature review not only provides a comprehensive analysis of consumer motivations in Portugal but also serves as a foundation for future research endeavors. By identifying gaps and proposing topics for further exploration, this review contributes to the investigation on sustainable, healthy, and locally sourced food choices. The margin for action found for policymakers and stakeholders offers insights to shape and create marketing and business strategies that meet both consumer preferences and societal goals.

Having in mind these several critical insights into the motivations behind these consumer preferences, we can highlight concerns about the environmental impact of food production, appreciation for local agro-food products, and individual food-related personality traits are key factors. Additionally, the health benefits perceived in organic products significantly shape consumer choices. However, gaps remain in understanding the societal and cultural influences on these behaviors and the impact of national and local food policies.

This next model encapsulates the central drivers behind consumer behavior regarding sustainable, healthy, and locally sourced foods in Portugal. A summary of the variables under analysis is presented, along with a brief description of the concepts and a framework for the complete investigation.

Model Component	**Definition**
Core Motivations	Fundamental drivers influencing Portuguese consumers to prioritize sustainable, healthy, and locally sourced foods.
Environmental Concerns	Awareness of environmental issues related to food production and willingness to support eco-friendly practices.
Local Food Systems	Role of local food systems in promoting sustainability and fostering community connections among Portuguese consumers.
Nutritional Awareness	Understanding of nutrition and its influence on food choices among Portuguese consumers.
Food Quality and Safety	Perceptions of food quality, safety, and trust in food labeling and certification systems among Portuguese consumers.
Economic Considerations	Role of economic factors in consumers' decisions to purchase locally sourced foods, including price sensitivity and affordability issues.

Cultural and Social Factors	Investigation of cultural and social influences on consumer preferences for locally sourced foods in Portugal, including traditions, food rituals, and social norms.
Emerging Trends and Innovations	Examination of emerging trends and innovations in sustainable, healthy, and locally sourced food consumption in Portugal.
Consumer Behaviour Outcomes	The desired results or actions by consumers based on their decision-making and interactions with products or services

Table 1 - Conceptual Model Description

The table represents a conceptual model defining and considering a number of elements that impact consumer behavior in sustainable, healthy, and locally sourced food within Portugal. Each element—Core Motivations, Environmental Concerns, Local Food Systems, Nutritional Awareness, Food Quality and Safety, Economic Considerations, Cultural and Social Factors, Emerging Trends and Innovations, Consumer Behavior Outcomes—has a definition and each explores its own contribution to forming consumer decisions. In all, these factors come together into a general framework (below) that accounts for the complicated dynamics underlying food preference and consumption patterns among Portuguese consumers. This will be the model intended to be used as basis for the continuation of the research, during the stages related to the methodology and analysis and discussion of the results.

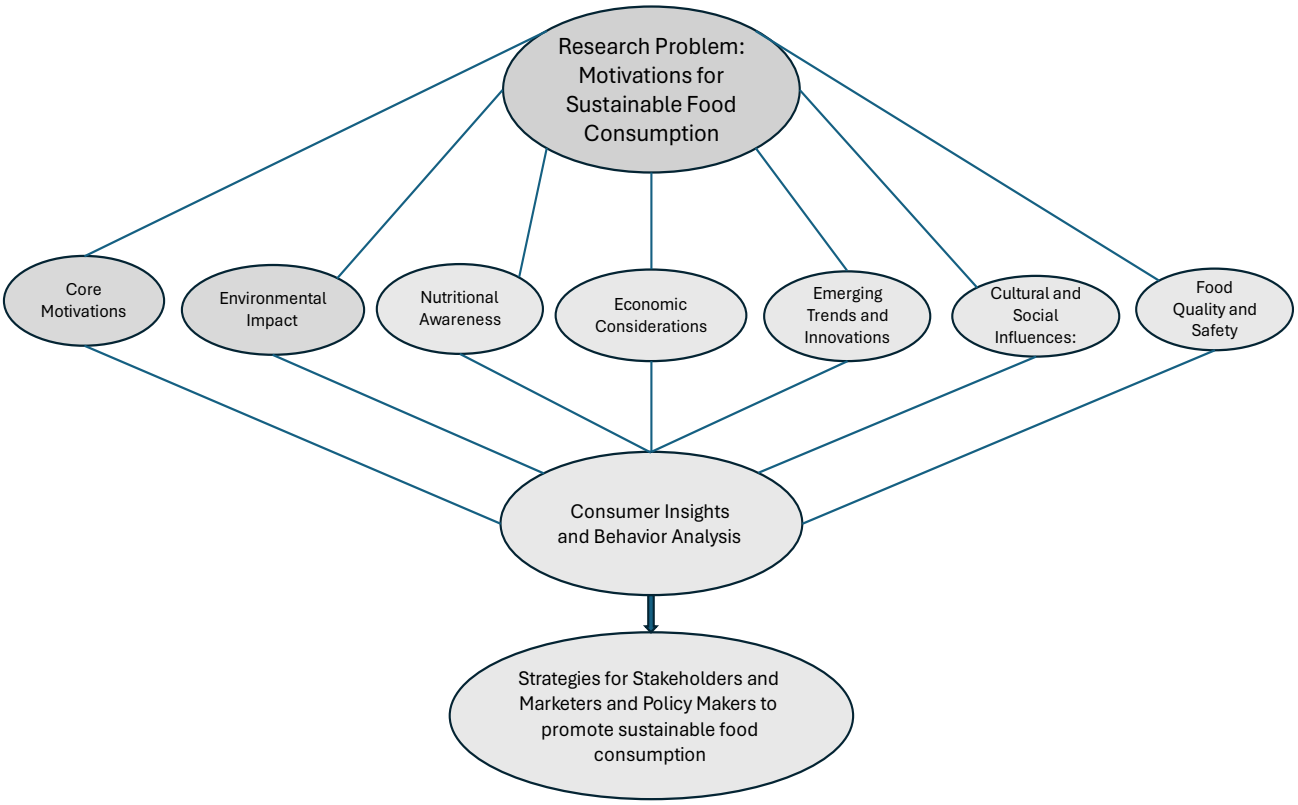

Figure 1 - Conceptual Model Framework

3. METHODOLOGY

3.1 Research Approach

This study adopts a quantitative approach, utilizing surveys through structured questionnaires to gather data on Portuguese consumers' attitudes and behaviors towards sustainable, healthy, and locally sourced foods.

3.1.2 Sampling Procedure

Sampling was conducted using convenience sampling, a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand. The sample included Portuguese consumers of varying demographics, including age, income, education level, and geographical location.

3.1.3 Data Collection Instrument

A structured questionnaire served as the primary data collection instrument. The questionnaire was developed based on the presented literature review and conceptual model, addressing variables such as core motivations, environmental concerns, local food systems, nutritional awareness, food quality and safety, economic considerations, cultural and social factors, emerging trends and innovations and consumer behavior outcomes.

A table outlining the studies derived from the literature review, of which the survey questions have been compiled from, was made to provide a structured overview of the questionnaire construction process:

Construct	Reference (Author and Year)
Central Motivations	Scalvedi, M. and Saba, A. (2018). Mancini, P., Marchini, A., & Simeone, M. (2017). Ferrão, A.C., Guiné, R.P., Correia, P.M., & Ferreira, M. (2020).
Environmental Concerns	Graça, P., Gregório, M.J., & Freitas, M.G. (2020) Żakowska-Biemans, S. (2011).
Local Food Systems	Peterson, H.H., Taylor, M., & Baudouin, Q. (2015) Tranter, R., Bennett, R., Costa, L., Cowan, C., Holt, G., Jones, P.J., Miele, M., Sottomayor, M., & Vestergaard, J. (2009).
Nutritional Awareness	Monteiro, M., Fontes, T., & Ferreira-Pêgo, C. (2021) Feteira-Santos, R., et al. (2021)

Food Quality and Safety	Wu W, Zhang A, van Klinken RD, Schrobback P, Muller JM. (2021)
Economic Considerations	Drewnowski, A., Darmon, N., & Monsivais, P. (2021) de-Magistris, T., & Gracia, A. (2016). Cappelli, L., et al. (2020).
Cultural and Social Factors	Truninger, M. (2013).
Emerging Trends and Innovations	Herrero, M., et al. (2020). Nair, A. and Bhattacharyya, S. (2019). Oliveira, J., et al. (2021). Barbosa, B. and Añaña, E. (2023). Berger, M., Müller, C., & Nüske, N. (2020) Barbosa, B. and Añaña, E. (2023).
Consumer Behavior Outcomes	Fuchs, D., Glaab, K., & Lorek, S. (2016).

Table 2 - Survey Index

3.1.4 Data Collection Procedure

Questionnaires were distributed to participants through various channels, including online platforms, social media, and community/university organizations. Clear instructions for completion were be provided, and efforts were be made to maximize response rates through reminders and incentives, if applicable.

3.1.5 Data Analysis

Quantitative data analysis techniques was employed to analyze the survey responses. Descriptive statistics and frequency analysis were utilized to identify patterns, correlations, and trends in consumer behavior towards sustainable foods.

By incorporating a quantitative approach, this study aims to gain a comprehensive understanding of consumer motivations, preferences, and behaviors towards sustainable and healthy food consumption in Portugal.

3.1.6 Ethical Considerations

Ethical considerations will be observed throughout the research process. Informed consent will be obtained from all participants, ensuring voluntary participation and confidentiality of their responses. The study will adhere to ethical guidelines and regulations regarding data collection, storage, and use.

4. RESULTS

The findings of the structured survey done for this thesis are presented below. Chapter four is targeted on the systematic analysis of data from the conducted survey with respect to the attitudes, behaviors, and preferences of subjects regarding choices of sustainable, healthy, and locally sourced food in Portugal.

It ends with an overall summary of the survey results, including demographic details such as age distributions and data on core motivations, environmental concern, local food systems, nutritional awareness, perceived quality and safety of foods, economic considerations, cultural and social considerations, emerging trends, and consumer behavior outcomes. It synthesizes the findings of a survey through quantitative analyses and graphical representations that facilitate the testing of the thesis in terms of consumer motivations and behaviors towards sustainable food consumption.

4.1. Respondents Demographic Information

Total respondents - 201

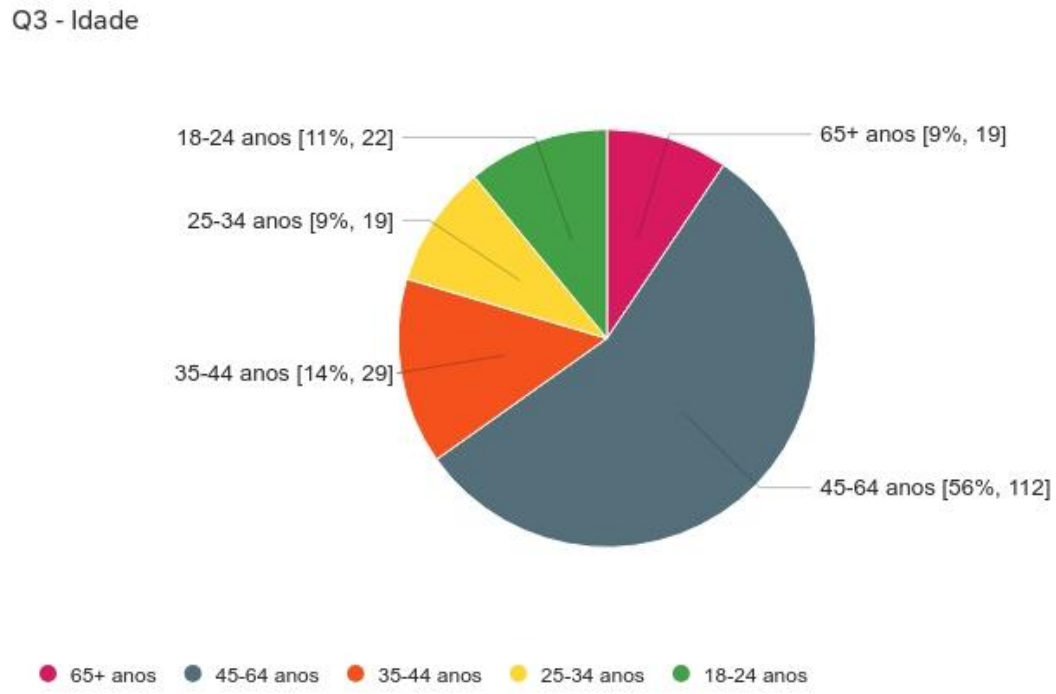

Figure 2 – Age

In the figure above the respondents' age is presented. Divided into 5 age groups: 18 to 24 years old, 25 to 23. 35 to 44, 45 to 64 and 65 plus. We can observe the majority of the respondents are 45 to 64 years old (56%), expected due to the bigger gap between these ages (20 years) when comparing to the remaining age groups, which are well balanced between themselves.

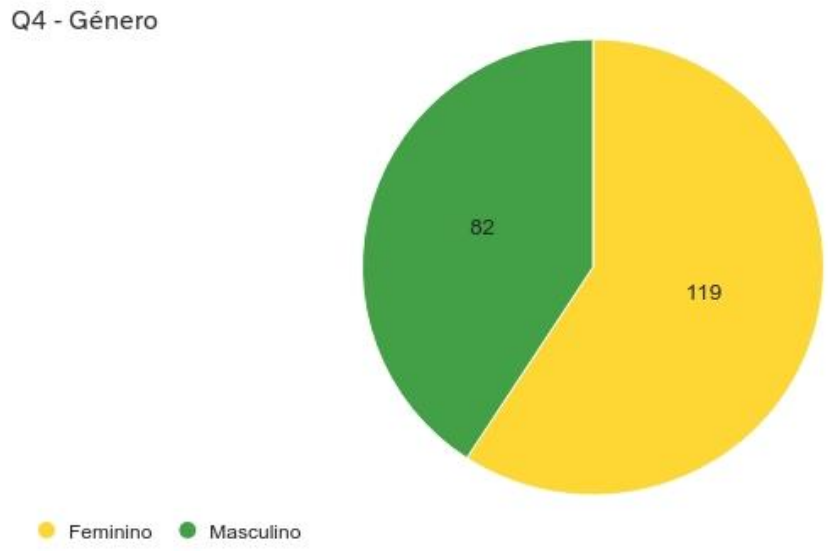

Figure 3 – Gender

In the figure above we can see the respondents gender, showing us that the majority of the respondents of the survey were women (119)

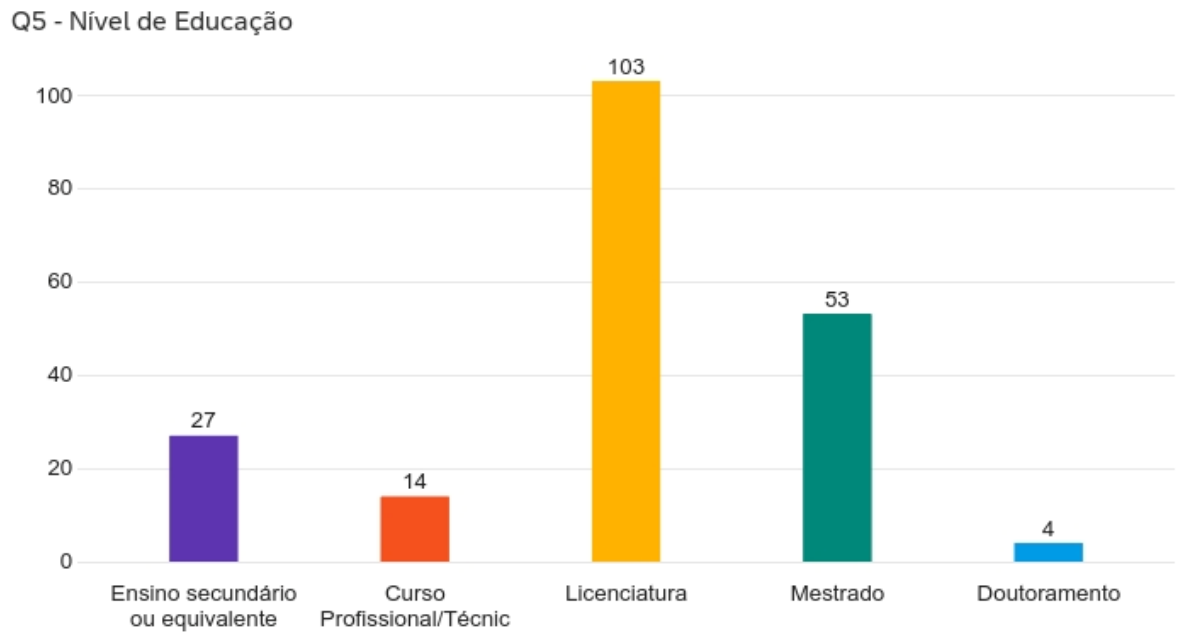

Figure 4 - Education Background

Figure 4 illustrates the different education backgrounds of the respondents of the survey. With a majority of respondents having reached the maximum level of a bachelor's and master's degree. (103 and 53 respectively).

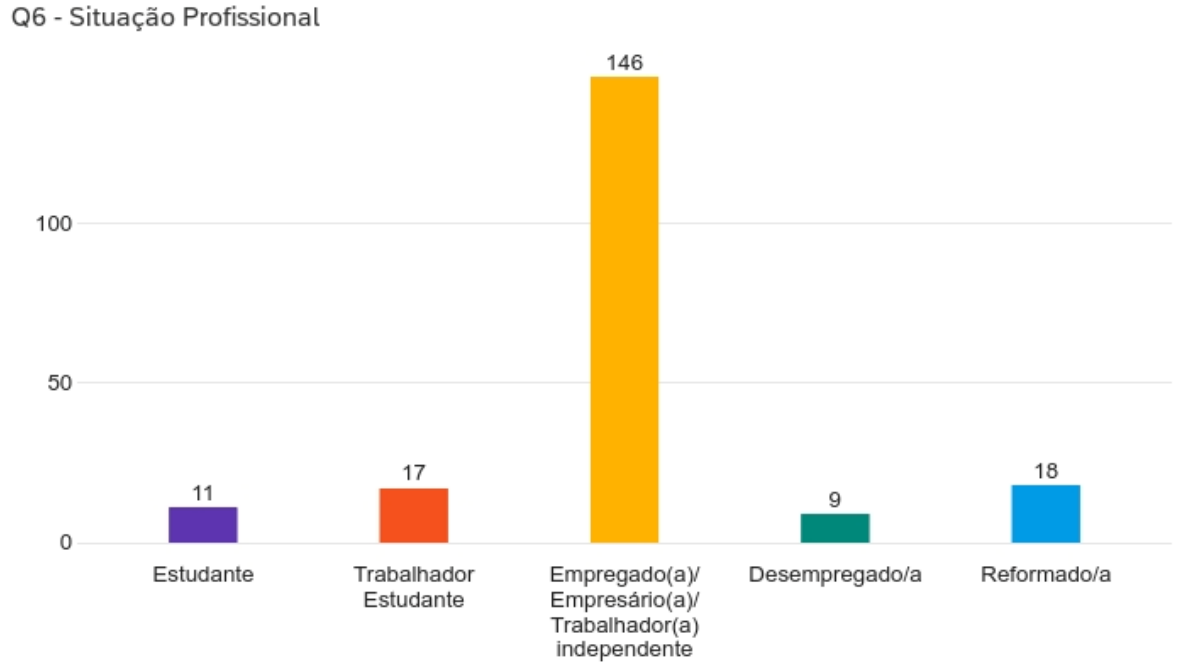

Figure 5 - Professional Status

In figure 5 we can see the current professional status of the respondents, illustrating that the big majority of them are employed or work for themselves (146 respondents).

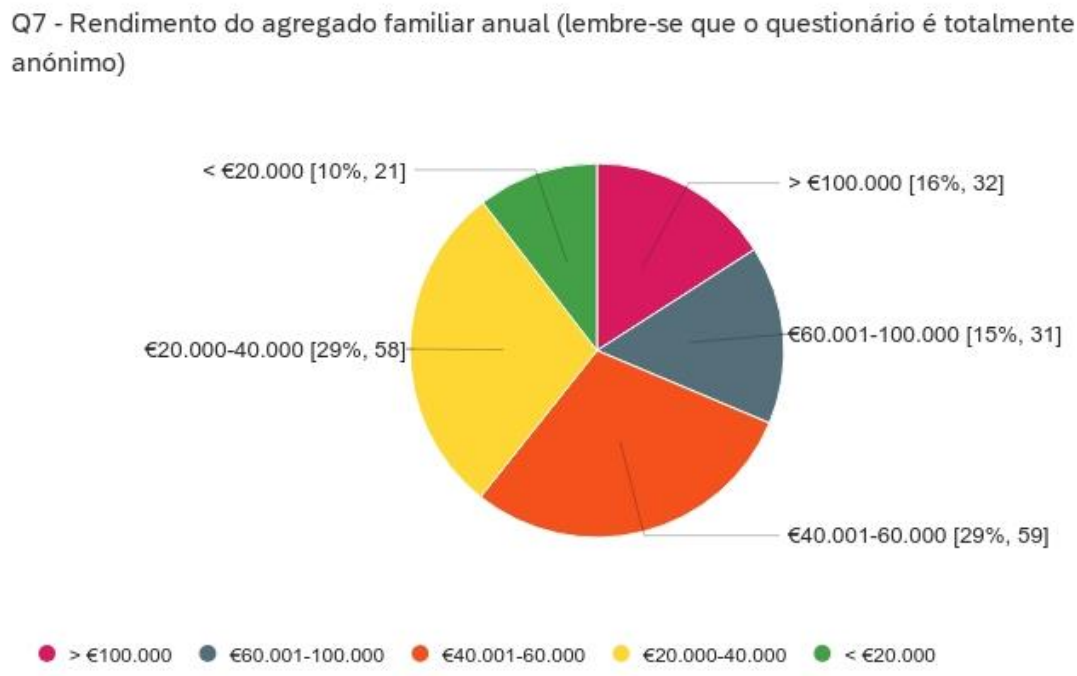

Figure 6 - Income Range

Figure 6 is illustrating the income range of the respondents, ranging from a 20.000€ yearly salary to more than 100.000€. We can see it is well balanced between the 201 respondents.

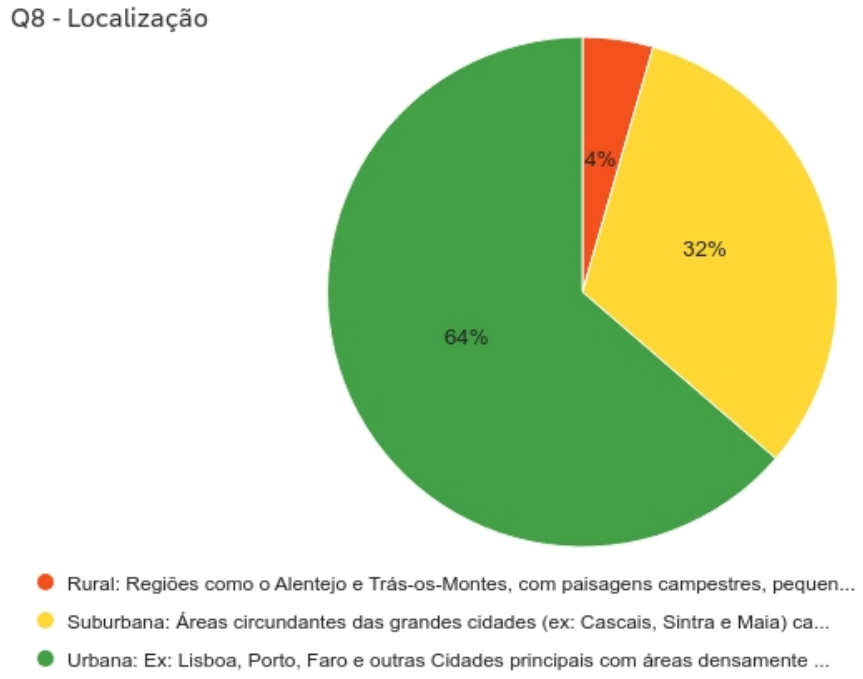

Figure 7 - Location

Above, in figure 7, we can see the location of the respondents, with the majority of respondents being from an urban area, followed by suburban areas with 32% and with a few 4% of respondents from rural areas.

4.2. Construct Results Analysis

Central Motivations

Questions	Mean	Standard Deviation	Responses
Q9 - Quão importantes são os fatores de sustentabilidade, saúde e origem local nas suas decisões de compra? - Saúde	3.63	0.84	201
Quão importantes são os fatores de sustentabilidade, saúde e origem local nas suas decisões de compra? - Sustentabilidade	3.17	0.88	201
Quão importantes são os fatores de sustentabilidade, saúde e origem local nas suas decisões de compra? - Origem Local	3.15	0.94	201
Q10 - Dos seguintes fatores, indique de 1 a 5 a influência na sua preferência por... - Impacto ambiental	3.23	0.94	201
Dos seguintes fatores, indique de 1 a 5 a influência na sua preferência por... - Benefícios para a saúde	4.05	0.74	201
Dos seguintes fatores, indique de 1 a 5 a influência na sua preferência por... - Apoio a produtores locais	3.39	0.94	201
Dos seguintes fatores, indique de 1 a 5 a influência na sua preferência por... - Sabor	4.13	0.71	201
Dos seguintes fatores, indique de 1 a 5 a influência na sua preferência por... - Preço	3.73	0.77	201

Table 3 – Central Motivations Results

Questions	Responses	Frequency Distribution
Q11 - Qual considera ser o maior obstáculo para adotar uma dieta mais saudável ou sustentável? - Falta de disponibilidade de opções sustentáveis	1	5.56%

Qual considera ser o maior obstáculo para adotar uma dieta mais saudável ou sustentável? - Preço mais alto de produtos saudáveis/sustentáveis	100	50.51%
Qual considera ser o maior obstáculo para adotar uma dieta mais saudável ou sustentável? - Falta de informação/educação	20	10.10%
Qual considera ser o maior obstáculo para adotar uma dieta mais saudável ou sustentável? - Preferências pessoais de sabor	35	17.68%
Qual considera ser o maior obstáculo para adotar uma dieta mais saudável ou sustentável? - Conveniência	32	16.16%

Table 4 – Central Motivations Survey Results (2)

Results Analysis (Table 3 & 4)

Several key insights relating to consumer motivations and obstacles are provided herein based on analysis for consumer motivation toward the adoption of healthier and more sustainable diets, using data from Tables 3 and 4.

Health benefits and flavor are ranked first, with mean ratings of 4.05 and 4.13 accordingly. These drive consumer preference much more in comparison with sustainability, with a mean = 3.17, and local origin with a mean = 3.15. This means that while sustainability and local origin are important, they still become secondary in comparison to health and taste.

Of the respondents, 50.51% have answered that the largest obstacle was the price of healthy and sustainable products. This underlines the critical question of affordability, directly to be addressed in the promotion of both healthier and more sustainable diets.

Also very relevant are the availability of the markets and education. Whereas the major obstacle— lack of available options — was reported only by the 5.56% of the respondents to this question, this indicator nevertheless describes the need to build up the market presence of such an offer. In addition, approximately 10.10% of the responses mentioned that a lack of information or education is an obstacle.

Any new recommendations must ensure that taste and convenience are addressed to achieve widespread consumer adoption for a healthier, more sustainable diet. In this regard, 17.68% of the responses showed that personal taste preferences act as a constraint, whereas enhancing taste and appeal in healthy and sustainable products can make all the difference. On the other hand, a similar percentage, 16.16%, mentioned convenience, that is, increases in everyday access to these options could make a huge difference in uptake.

Although health and flavor are the two main drivers of consumers' food choices, limited economic capacity, market availability, education, taste preferences, and different degrees of convenience are constraints that are to be tackled in order to diffuse healthier and more sustainable diets among Portuguese consumers.

Environmental Concerns

Question	Mean	Standard Deviation
Q12 - Nível de preocupação - Questões ambientais	3.29	0.97
Q13 - Nivel de Disposição : Escolher Produtos Orgânicos	3.43	0.97
Comprar alimentos de origem local	3.73	0.85
Reduzir o consumo de carne	2.84	1.27
Evitar plástico de consumo único	3.89	0.91

Table 5 – Environmental Concerns Survey Results

Results Analysis (Table 5)

The fact that the mean concern for environmental issues was 3.29 implies some awareness and a reasonable level of concern, but probably may not emerge as one of the most critical drivers for consumer behavior. This suggests that there is a continuous need for raising the importance of environmental issues in the public consciousness.

It also showed that consumers clearly prefer locally sourced, with a mean of 3.73, and organically produced products, with a mean of 3.43. This preference comes in line with the general interest in sustainability and support of local economies and reflects a willingness for making environmentally friendly choices when it comes to food sourcing.

There is, however, some pronounced resistance to reducing meat consumption (mean = 2.84), a possible implication of which is that promoting plant-based diets or generally low meat intake may be challenging. This lower willingness may indicate that more focused education and raising awareness are required to shift consumer attitudes toward the environment-related benefits that can be derived from a reduced meat diet.

The mean for single-use plastics is 3.89, indicating major concern over plastic wastes. This means consumers would be highly motivated by efforts geared toward reducing plastic pollution and likely to support initiatives and products that have reducing plastic use as their goal.

In summary, the environment was considered a slightly important factor by consumers, while support for purchasing local and organic products and avoiding single-use plastics was high. Promoting reduced meat consumption might thus require more work than the usual change in a consumer's attitude. These insights can help formulate strategies on greater consumer engagement with issues appurtenant to the environment and the adoption of more sustainable consumption behaviors.

Local Food Systems

Question	Mean	Standard Deviation	Responses
Q14 - Frequência de consumo - Mercados/Feiras Locais	2.75	0.95	201

Table 6 – Local Food Systems Survey Results

Question	Responses	Frequency Distribution
Q15 - Qual dos seguintes é o seu maior motivador para apoiar os sistemas alimentares locais? - Apoiar economia local	112	55.72%
- Frescura e qualidade dos produtos	48	23.88%
- Benefícios ambientais	22	10.95%
- Conexões comunitárias	15	7.46%
- Nenhum	3	1.49%
- Outro	1	0.50%

Table 7 – Local Food Systems Survey Results (2)

Results Analysis (Table 6 & 7)

The mean rating for local markets was 2.75, indicating that, on average, consumers do visit them at reasonable frequencies. This suggests that while interest in local food systems may be high, some constraints, like convenience or access, might reduce the number of frequent and regular visits. Addressing these barriers could yield greater participation in local markets.

The chief driving force behind supporting local food systems is economic support, with 55.72% of those indicating the main reason as boosting the local economy. This supports the fact that considerations for economic welfare markedly form a large portion within the process of decision-making among consumers, and hence any campaign somewhat aiming at hammering on these gains accruable to local producers and businesses will likely strike a chord with consumers.

Other key motivators are product quality and freshness, as pointed out by 23.88 percent of the respondents. According to the consumers, the products are of better quality and more recent at the local markets. If promotional activities revolve around the quality and freshness of local produce, it is bound to draw much-needed consumer engagement toward the local food systems.

Other successful themes included environment-related benefits and community connections, but these ranked well below—10.95% and 7.46%, respectively —either of the top two themes, which related to support of the economy and quality of foodstuffs. Hence, although such themes should be included in promotional strategies, they cannot dominate them.

That less than 1.49 percent of the consumers did not have a particular motivation or other reasons to purchase locally produced food indicates a diversity in attitudes and priorities. It is this diversity that proves there can be no single approach toward increasing local food systems.

So, generally, there is only moderate engagement with local markets, however, the two key raisons d'être are economic support and perceived quality and freshness of local products..

Nutritional Awareness

Question	Mean	Standard Deviation
Q16 - Nível de Confiança - Compreensão do impacto nutricional na saúde	3.34	0.94
Q17 - Nível de Atenção aos Rótulos Nutricionais	3.63	1.09

Table 8 – Nutritional Awareness Survey Results

Results Analysis (Table 8)

The mean for consumer confidence about knowing on nutrition was 3.34, showing that some knowledge exists and at the same time, improvements can be made by education and clearer information among consumers on nutrition.

Definitely, although there was a mean of 3.34 for consumer confidence in knowing about nutrition, there was strong attention to nutritional labels with a mean of 3.63. This proactive approach shows that at least the consumers are aware of the role of nutrition in health, marking a welcome trend in consumer behavior.

The variability of nutritional confidence and the identification with labels reflect the difference in the level of nutritional literacy. These could then be addressed by targeted educational approaches to bridge the gaps and enhance overall nutritional understanding.

There is a potential mismatch between moderate levels of confidence and high levels of label attention that would provide the scope for making a difference through educational intervention. Fair nutritional information, more accessible and comprehensible to the consumer, empowers him to make a good choice.

Since consumers are label attentive, it becomes very important that the labels are clear, accurate, and unambiguous. Further simplification of nutritional information and highlighting the key health benefits could contribute more to consumer engagement and better decision-making.

Food Quality and Safety

Question	Mean	Standard Deviation
Q18 - Nível de Confiança - Qualidade e Segurança	3.21	0.76

Table 9 – Food Quality and Safety Survey Results

Results Analysis (Table 9)

Consumers exhibit moderate confidence in the quality and safety of food products, with a mean score of 3.21. This indicates a general trust, but also highlights potential areas for improvement.

The low variation in responses, indicated by a standard deviation of 0.76, suggests that consumer opinions on food quality and safety are relatively consistent across the population.

There is a clear opportunity to enhance consumer confidence by improving communication and transparency about product safety. Providing detailed information on quality control measures and safety standards can help build trust and assurance among consumers.

Econcomic Considerations

Question	Mean	Standard Deviation
Q19 - Nível de Influência – Preço	3.53	0.77
Q20 - Nível de Disposição – Pagar preço premium por produtos produzidos de forma sustentável	2.86	0.82

Table 10 - Economic Considerations Survey Results

Table 8

Question	Responses	Frequency Distribution
Q21 - Qual dos seguintes fatores considera mais provável de justificar pagar um preço mais elevado por este tipo de produtos? - Maior qualidade/frescura	93	46.27%
- Benefícios Ambientais (Justificação para pagar um preço mais elevado por produtos sustentáveis)	4	1.99%
- Apoio à economia local (Justificação para pagar um preço mais elevado por produtos sustentáveis)	18	8.96%
- Benefícios para a saúde (Justificação para pagar um preço mais elevado por produtos sustentáveis)	84	41.79%
- Outro: (Por favor indique qual) (Justificação para pagar um preço mais elevado por produtos sustentáveis)	2	0.99%

Table 11 - Economic Considerations Survey Results (2)

Insights

The influence of price on purchasing decisions is strong but not overwhelming, with a mean of 3.53. In other words, this means that for most of the consumers, the price will be an important parameter but certainly not a single determinant. With a rather moderate standard deviation of 0.77, there is bound to be variability in just how strongly price impacts different consumers, thus, some are more price-sensitive than others who may put more emphasis on other factors.

Generally, consumer willingness to pay a premium for sustainably produced products is low-binned in the 2.86 mean score. The extent of variability in opinions on this issue is as represented by the standard deviation of 0.82, basically, this puts it that some consumers are willing to pay more, while a proportionately large group is not.

The suggested reasons for paying a premium are enlightening. Nearly half the respondents, 46.27%, are willing to spend a higher price to receive better quality and fresher products, thus, the perceived quality would be a strong motivator. The health benefits also play a critical role: 41.79% of consumers are willing to pay more for health-related reasons, showing that health considerations are about as important as quality and freshness. What drives them to the premium could generally be highlighted: support for the local economy inspires 8.96% of the respondents, a motive that is less compelling than the problems at the top related to quality and health benefits. Environmental benefits are even less motivating to this end, with only 1.99% who will pay more for sustainability. This suggests that on its own, sustainability is not a strong enough incentive. Other reasons were indicated by at least 0.99%, underscoring that the main drivers are quality, health, and to a lesser extent, local economic support.

The economic considerations in general demonstrate that while price drives purchasing, there is, overall, some reluctance to paying a premium for sustainability. In this regard, drivers of spending more would be quality and freshness, health benefits, and support for the local economy and the environment, which is less of a driver. This conversation stresses that the front and center of marketing strategies have to be the product quality and health benefits as a means of justifying higher prices for sustainable products.

Cultural and Social Factors

Question	Mean	Standard Deviation
Q22 - Nível de Importância - Fatores Culturais e Sociais	3.00	0.83

Table 12 - Cultural and Social Factors Survey Results

Results Analysis (Table 12)

The cultural and social factors that help determine all types of consumer decision-making processes about food and product choices rated, on average, 3.00—thereby grading as moderately important. So, while they were not quite as influential on consumer choice as more dominant factors such as price, quality, and health benefit factors, they are definitely contributing factors to a degree in shaping consumer preference and behavior.

The standard deviation of 0.83 clearly shows there is some variation in terms of how these factors influence various consumers, which, therefore, implies that cultural and social considerations influence different people in different ways. There is variation in the preferences and motivation of consumers, which further tells that what may be important, based on cultural and social factors to some, is less important to others.

Though not major determinants, cultural and social factors are relevant and hence have to be taken into account in approaching marketing strategy formulation and consumer engagement activities. The respect shown by recognizing these factors will help the concerned brand engage with its chosen target segments in diverse consumer markets.

Trends & Emerging Factors

Question	Mean	Standard Deviation	Frequency Distribution
Q23 - Nível de disposição - Produtos derivados de novas tecnologias alimentares	2.84	0.87	-

Q24 - Utiliza ou já utilizou Delivery Apps (Ex: Uber Eats, Glovo, Bolt Food, etc)?	-	-	Não: 24% (49), Sim: 76% (152)
Q25 - Quão importantes são as considerações de saúde e sustentabilidade ao escolher refeições em delivery apps? - Saúde	2.64	1.00	-
- Sustentabilidade	2.55	0.97	-
Q26 - Nível de concordância – Delivery Apps promove o consumo sustentável/saudável	2.33	0.83	-
Q27 - Que funcionalidades nas Delivery Apps ou Websites (Ex: Supermercados ou Mercearias on-line) o(a) incentivam/incentivariam a escolher mais opções sustentáveis e saudáveis?	-	-	Indicação clara (labels, banners): 34.8% (70) Promoções: 48.8% (98), Informações ambientais: 19.9% (40) Recomendações: 20.4% (41) Nenhuma: 9.5% (19) Outra: 1.5% (3)
Q28 - Utiliza com frequência Redes Sociais e visualiza o conteúdo de páginas e influencers?	-	-	Não: 38% (77), Sim: 62% (124)
Q29 - Nível de concordância - Redes Sociais e o seu impacto	3.56	0.87	N/A
Q30 - Nível de Influência - Influencers	2.24	0.99	N/A
Q31 - Que tipo de conteúdo nas redes sociais impacta mais as suas escolhas alimentares?	-	-	Videos/Reels de Comida: 34.2% (68), Alternativas Saudáveis: 27.0% (54), Revisões e Recomendações: 18.4% (37), Anúncios

			Publicitários: 3.5% (7), Nenhum: 10.4% (21)

Table 13 - Trends & Emerging Factors Survey Results

Results Analysis (Table 13)

The survey shows a way forward in terms of key insights concerning the current consumer behaviors and preferences on the choice of food influenced by technological advancements and social media engagements.

A middle process usually exists in a consumer's enthusiasm for trying new technology-derived foodstuffs. This is on the fact that consumers are somewhat cautious but can stretch out towards innovation in food production. From Table 2, the mean score of 2.84 infers willingness to explore but has a variability in the consumer attitude brought out by the 0.87 standard deviation.

The use of food delivery apps such as Uber Eats, Glovo, and Bolt Food is very popular, at 76%, they become the most used. Of these, convenience is a core driver of use, while health seems to trump sustainability in meal choices significantly at 2.64, against 2.55 for sustainability, when consumers order through these apps. This is also the case with deeper sustainability practices that these apps promote, which actually scored the lowest at a mean score of 2.33, indicating preference for healthier options but much less so for sustainability.

Features that really stand out as making a big difference in the consumer's final choice in delivery apps are clear indications of sustainable options with 34.8%, promotional offers with 48.8%, and environmental information, with 19.9%. These findings support an argument for the possibility that the more serious integration of some of these features would certainly hold potential for effective encouragement of sustainable consumer behaviors.

Social media is an influential determinant of consumer food preferences, as 62% of the respondents were active social media users and consumed content provided by pages and influencers. Among them, 34.2% of the content was videos and reels of food, while 27.0% of the content comprised healthy alternatives. This finding underlines the great potential of social media to turn consumers toward healthier and more sustainable choices regarding food.

The fact that technological developments are converging with social media engagement opens up great potentials to drive sustainability and health in consumer food choices. Deliveries can be explicitly indicated, promoted, and environmentally informed through applications, which will importantly nudge consumers toward more sustainable options. Similarly, the activities of health benefits-oriented influencers and engaging social media content on alternative food choices can also be leveraged to further drive these preferences. They provide valuable guidance to businesses and policymakers seeking to make consumer behaviors align more closely with sustainability goals through innovative digital strategies and targeted content creation.

Consumer Behavior Outcomes

Question	Mean	Standard Deviation
Q32 - Qual dos seguintes resultados ou mudanças considera mais importante de ver como resultado dos esforços para promover o consumo de alimentos saudáveis, sustentáveis, ou de origem local? -Aumento da disponibilidade de alimentos de origem local	3.60	0.90
-Melhoria dos rótulos alimentares e transparência	3.73	0.85
-Maior acesso a opções saudáveis alimentares e acessíveis	3.95	0.84
-Preços mais baixos de produtos sustentáveis	4.04	0.83
-Campanhas de educação e sensibilização sobre nutrição e sustentabilidade	3.87	0.92

Table 14 - Consumer Behavior Outcomes Survey Results

Results Analysis (Table 14)

The top priorities that consumers would like to see realized are lower price for sustainability, as seen through the high mean score of 4.04 with a low standard deviation of 0.83. It underlines the role of affordability as a critical factor in consumers' decisions on sustainable food choices.

Apart from the price, there were a number of other factors brought out by respondents as very important to them, such as the availability of locally sourced foods was valued highly with a mean score of 3.60. This generally indicates a high preference for supporting local economies, which, at the same time, reduces the environmental impact associated with food transportation.

This is followed by improved food labelling and transparency, having a mean score of 3.73. Better and clearer labelling of food will make informed decisions about matters of health and sustainability essential. Therefore, improving trust and confidence in consumers' purchases.

Another emergent issue in the survey was the strong interest respondents showed in better access to healthy and relatively cheap foodstuffs, with an average score of 3.95. This underlines the fact that accessibility is the enabler of healthily living and propelling more sustainable consumption patterns.

One clever idea on which consumers agreed was educational campaigns around nutrition and sustainability, with a mean score of 3.87. Consumers want more information regarding that, and they will work towards it based on the knowledge acquired. Hence, education propels awareness and, through it, action towards sustainable behavior.

These findings collectively underline the multi-faceted beliefs that consumers have about sustainable food consumption. Planners of interventions focused on affordability, transparency, access, and education will very likely tap into consumer resonance and hence wider choices for sustainable and healthy food. Businesses and policymakers can adapt these findings usefully to shape their

approaches and initiatives in ways such that consumer preferences can align better with sustainability goals.

5. DISCUSSION

The research question seeks to uncover the primary motivations, including emerging factors, that lead Portuguese consumers to prioritize sustainable, healthy, and locally sourced foods. This investigation is critical for understanding consumer behavior trends in the context of environmental sustainability, health consciousness, and support for local economies.

Portuguese consumers exhibit a multifaceted approach to food choices, where health benefits and flavor preferences emerge as primary motivators driving their purchasing decisions. The survey results indicate that health considerations, such as nutritional value and dietary impact, hold significant importance (Q9). Consumers value foods that contribute positively to their well-being, reflected in their high ratings for health-related factors (Q10). This emphasis on health aligns with broader global trends towards healthier lifestyles and dietary choices (Silva, 2022; Tallon, 2019).

Sustainability and local origin, while also important, play secondary roles compared to health and taste preferences. The survey reveals moderate ratings for sustainability and local origin factors (Q9), indicating that while consumers consider environmental impacts and support for local producers when making food choices, these factors do not outweigh health and taste considerations (Galli et al., 2017; Marques, 2022).

Economic factors, particularly the higher cost of sustainable and healthy products, emerge as significant barriers (Q11). The survey highlights that affordability remains a critical concern for consumers, influencing their ability to adopt more sustainable and nutritious diets. This finding underscores the importance of addressing price disparities through subsidies, incentives, or market interventions to make healthier options more accessible (Chambers, 2007; de-Magistris, 2016).

Consumer engagement with local food systems also reveals insights into motivations and preferences (Q14, Q15). The survey indicates moderate participation in local markets, driven primarily by economic motives such as supporting the local economy and the perceived quality of fresh produce. These findings suggest that campaigns emphasizing economic benefits and product freshness are likely to resonate well with consumers interested in local food systems (Siopa, 2016; Ditlevsen, 2020).

Environmental concerns among Portuguese consumers are moderate (Q12, Q13). While there is awareness and a willingness to choose organic and locally sourced products (Q13), there is less enthusiasm for reducing meat consumption (Q13), indicating challenges in promoting plant-based diets. However, there is strong support for reducing single-use plastics (Q13), reflecting a broader societal concern about environmental sustainability (Gaspar, 2021; Berger, 2020).

Technological advancements and digital platforms, such as delivery apps, are embraced for their convenience but have limited influence on promoting sustainable or healthy food choices (Q24, Q25,

Q26). Social media and influencers play a significant role in shaping consumer behavior towards healthier and more sustainable options, highlighting the importance of engaging content and clear information in digital platforms to drive consumer preferences (Q28, Q29, Q30, Q31).

Overall, Portuguese consumers' motivations for prioritizing sustainable, healthy, and locally sourced foods are driven by health considerations, taste preferences, and to a lesser extent, sustainability and local origin. Economic factors such as affordability and consumer education play crucial roles in shaping food choices. Addressing these factors through targeted policies, education campaigns, and improved market access can effectively promote more sustainable and healthier dietary practices among Portuguese consumers.

5.1. Theoretical Discussion

This is the analysis of the motivational factors leading the Portuguese consumers to give more importance to sustainable, healthy, and locally sourced foods by synthesizing the insights of the data from the surveys and existing research literature. Health benefits and taste were the main predominating factors oscillating around the consumer decision-making process. Although sustainability and origin are recognized, they usually are the secondary role in decision-making; therefore, strategies are needed that emphasize not only the environmental and economic value of local and sustainable food but also underscore their health and sensory advantages.

It has been shown that economic considerations can indeed drive decision-making. Affordability is a major obstacle for making healthy and sustainable consumption choices. This is further reinforced by the literature, as price sensitivity has a strong role in consumer choice. Thus, initiatives focused on enhancing affordability or driving perceptions of better value can result in more rapid uptake.

Thus, environmental awareness among Portuguese consumers stands out, an element that conditions others regarding the willingness to adopt other sustainable behaviors, such as reducing meat consumption or avoiding single-use plastics. An effective educational campaign must be initiated hand in hand with policy interventions to increase environmental awareness for the practice of sustainability. Literature showed that these are most likely to enlist human behavior.

There is some evidence of support for local food systems, with moderate reported engagement with farmers' markets and very strong motivations to support local economies while gaining access to fresh, high-quality products. Only by addressing issues of accessibility and convenience can promotors of local food systems take advantage of these motivations.

Information and education manifest as chief vectors of consumer decisions. Nutritional labeling is one of the most valued devices by consumers to inform food choices and promote nutrition literacy. In this respect, information empowerment, in line with the health needs and values of consumers, could mean supporting sustainable practices, which, according to the literature, is a role that education plays in driving sustainable food choices.

Technology integration, in particular through food delivery applications and social media influencers, seems to be a key determinant for consumer food preferences. Messages about sustainable and healthy food choices can be amplified through these channels, consequently increasing the likelihood of consumer engagement and adoption. According to the literature, technological innovations are transforming contemporary consumer behaviors related to food consumption.

5.2. Managerial Discussion

Managerially, while educational efforts have been very successful in raising awareness, they need to be enhanced further in order to really promote sustainable choices effectively. Schools, community groups, and media will be key partners in developing meaningful campaigns that stimulate action and point out exactly how consumer decisions are really impacting local food systems and the environment.

Building trust in sustainable initiatives requires advocating for stronger policies. In some cases, managers should stand up for policies that will promote sustainable agriculture and other productive practices, greatly reducing food waste, therefore providing clarity on product labels. Perhaps working with policymakers in standardizing certification labels will improve consumer trusting and understanding, proliferating literature pointing out the important role of policy in driving sustainable practices.

More influential opportunities in technological innovations on the transformation of food systems toward sustainability lie through partnerships with companies dealing in technologies around smart farming, blockchain for transparent supply chains, and intelligent packaging for food safety. These innovations return the power of information into consumers' hands, to be well-placed in making decisions toward sustainable practices, as literature has surmised in shaping modern consumption behaviors of food.

The majority will act sustainably only if accessible choices are available. Tight cooperation among local producers and retailers is definitely required for establishing effective strategies of pricing and financing so that sustainable choices would reach all pocket types. Sustainability to be promoted as a viable lifestyle choice: Sustainability should be slowly projected to people's minds as one of the viable choices of lifestyles. The goals of sustainability should align with consumer values and preferences, interpreted from market research.

Industry and sector collaboration are indispensable to attaining sustainability goals. Knowledge-sharing and collective action can take place through active engagement from agricultural associations, the industry leaders, academia, and organizations involved in civil society. This would mean amplifying consumer engagement initiatives through collaborative means, plus highlighting a uniform approach toward the sustainability of food consumption, as described in literature covering collective action in solving challenges in food sustainability.

The monitoring should provide continuous improvement in testing the effectiveness of programs on sustainability. In other words, setting up monitoring mechanisms provides an opportunity to continue seeking indicators for adoption of sustainable behavior and best agronomic practices; evidence that can

help in responding to the changing consumer preference and environmental challenges. This is, therefore, in line with literature that advises on adaptive management practices to food sustainability.

6. CONCLUSIONS

In summary, the current dissertation gives nuanced insight into the question of what drives consumer food choices in Portugal, pointing to a complex interplay of health, taste, sustainability, and economic considerations. Joining forces toward strategies that not only meet stakeholder preferences but also remove recognized barriers to behavior can move forward stakeholder efforts in line with sustainable, healthy, and locally produced food consumption in Portugal.

Specific conclusions that can be drawn from the study are: Health and Taste as Primary Drivers: The study confirms health-benefit and taste as primary drivers among Portuguese consumers while choosing food products. These factors dominate purchasing decisions and dwarf other considerations, such as sustainability and origin, in comparison.

Economic Barriers: Cost of green and healthy remains high. The findings indicate that affordability is a critical concern, and generally, it does affect consumers' decisions to make sustainable food choices; addressing this through subsidies, incentives, or pricing strategies will be germane to its expanded adoption.

Sustainability and local origin bear moderate influence; these are regarded as important but secondary to health and taste. The results indicate that while consumers are moderately interested in environment-friendly and locally sourced products, more effective communication and education are required to enhance these factors in consumer decision-making.

Support for Local Food Systems: Here also, local market participation remained at a moderate level, largely because of the brighter motivators like benefits accruing to the economy and high-quality fresh produce. It underlines the potential for campaigns to advance local food systems by touting economic benefits and quality associated with local products.

Environmental: The Portuguese consumer shows moderate levels of environmental concern. There is broad support for reducing single-use plastics, but much less for changing diets toward more plant-based diets. This suggests that focused educational campaigns are necessary to raise awareness about the overall environmental impact of food choices.

Role of Technology and Social Media: Technology integration—especially through delivery apps and social media—plays a large role in consumer behavior. However, these channels play a limited role in encouraging or promoting sustainable and healthy food choices. Engaging content and clear information are needed to drive consumer preference through digital channels.

Finally, an integrated approach with education, advocacy in policy, technological innovation, cost affordability, collaboration among stakeholders, and regular evaluation can facilitate the promotion of sustainable food consumption in Portugal. Pre-emptive adoption of these measures will further strengthen all stakeholders' capacity towards contributing to a sustainable transformation process for food systems now and in the near future. There were a number of limitations to this study that must be recognized while considering its findings. First, the research study focused relatively more on urban areas than rural areas; hence, it may not be able to represent rural consumer behaviors. Second, the used period for collecting such kinds of data is six months; by this, seasonal changes in consumer preferences and behaviors might have been left out. Last but not least, the research tool relied so much on self-reported data, where response bias was given, affecting the accuracy of consumer perceptions. This research thus provides the stepping stone that will turbocharge further investigations and interventions towards the achievement of sustainable, healthy, and locally sourced food consumption in Portugal for a more sustainable and health-sensitive society.

BIBLIOGRAPHICAL REFERENCES

Adams, D.C., & Adams, A.E. (2011). DE-PLACING LOCAL AT THE FARMERS' MARKET: CONSUMER CONCEPTIONS OF LOCAL FOODS.

Alves, R.F., & Precioso, J. (2020). Knowledge, Attitude and Practice on Healthy Diet among University Students in Portugal.

Aprile, M., Caputo, V., & Nayga, R.M. (2016). Consumers' Preferences and Attitudes Toward Local Food Products. Journal of Food Products Marketing, 22, 19 - 42.

Arcese, G., Flammini, S., Lucchetti, M.C., & Martucci, O. (2014). Open Sustainability Innovation in the Food Sector.

Aschemann-Witzel, J., Gantriis, R.F., Fraga, P., & Perez-Cueto, F.J. (2020). Plant-based food and protein trend from a business perspective: markets, consumers, and the challenges and opportunities in the future. Critical Reviews in Food Science and Nutrition, 61, 3119 - 3128.

Barbosa, B. and Añaña, E. (2023). The influence of instagrammers' recommendations on healthy food purchase intention: the role of consumer involvement. Cuadernos De Gestión, 23(1), 75-86. https://doi.org/10.5295/cdg.221693ea

Berger, M., Müller, C., & Nüske, N. (2020). Digital Nudging in Online Grocery Stores - Towards Ecologically Sustainable Nutrition. International Conference on Interaction Sciences.

Blaylock, J.R., Smallwood, D.M., Kassel, K., Variyam, J.N., & Aldrich, L.M. (1999). Economics, food choices, and nutrition. Food Policy, 24, 269-286.

Bongaarts, J. (2021). FAO, IFAD, UNICEF, WFP and WHOThe State of Food Security and Nutrition in the World 2020. Transforming food systems for affordable healthy dietsFAO, 2020, 320 p. Population and Development Review.

Borda, D., Mihalache, O.A., Dumitrașcu, L., Gafițianu, D., & Nicolau, A.I. (2021). Romanian consumers' food safety knowledge, awareness on certified labelled food and trust in information sources. Food Control, 120, 107544.

Caira, S., & Ferranti, P. (2015). Innovation for Sustainable Agriculture and Food Production.

Capone, R., Bilali, H.E., Debs, P., Cardone, G., & Driouech, N. (2014). Food Economic Accessibility and Affordability in the Mediterranean Region: an Exploratory Assessment at Micro and Macro Levels.

Cappelli, L., D'Ascenzo, F., Arezzo, M.F., Ruggieri, R., & Gorelova, I. (2020). The Willingness to Pay in the Food Sector. Testing the Hypothesis of Consumer Preferences for Some Made in Italy Products. Sustainability.

Cardoso, C.L., Lourenço, H.M., Costa, S.B., Gonçalves, S., & Leonor Nunes, M. (2016). Survey Into the Seafood Consumption Preferences and Patterns in the Portuguese Population: Education, Age, and Health Variability. Journal of Food Products Marketing, 22, 421 - 435.

Cardoso, C.L., Lourenço, H.M., Costa, S.B., Gonçalves, S., & Nunes, M.L. (2013). Survey into the seafood consumption preferences and patterns in the portuguese population. Gender and regional variability. Appetite, 64, 20-31.

Cardoso, P.R., & Schoor, M. (2017). Portuguese Consumers' Green Purchase Behavior: An Analysis of its Antecedents and a Proposal of Segmentation.

Chambers, S.A., Lobb, A.E., Butler, L.T., Harvey, K., & Traill, W.B. (2007). Local, national and imported foods: A qualitative study. Appetite, 49, 208-213.

Choi, J., Park, J., Jeon, H., & Asperin, A.E. (2021). Exploring local food consumption in restaurants through the lens of locavorism. Journal of Hospitality Marketing & Management, 30, 982 - 1004.
Clonan, A., Holdsworth, M., Swift, J.A., & Wilson, P. (2010). UK Consumers Priorities for Sustainable Food Purchases.

Delgado, C. (2017). Mapping urban agriculture in Portugal: Lessons from practice and their relevance for European post-crisis contexts. Moravian Geographical Reports, 25, 139 - 153.

Deller, S.C., Lamie, D., & Stickel, M. (2017). Local foods systems and community economic development. Community Development, 48, 612 - 638.

de-Magistris, T., & Gracia, A. (2016). Consumers' willingness-to-pay for sustainable food products: the case of organically and locally grown almonds in Spain. Journal of Cleaner Production, 118, 97-104.

Dentoni, D., Tonsor, G.T., Calantone, R., & Peterson, H.C. (2009). The Direct and Indirect Effects of 'Locally Grown' on Consumers' Attitudes towards Agri-Food Products. Agricultural and Resource Economics Review, 38, 384 - 396.

Denver, S., Jensen, J.D., Olsen, S.B., & Christensen, T. (2019). Consumer Preferences for 'Localness' and Organic Food Production. Journal of Food Products Marketing, 25, 668 - 689.

Diekmann, L.O., Gray, L., & Thai, C.L. (2020). More Than Food: The Social Benefits of Localized Urban Food Systems. Frontiers in Sustainable Food Systems.

Dionela, T., Evangelista, A., Lansang, C.M., & Sato, M. (2022). Sustainable Marketing: Studying the Effects of Environmental Consciousness and Involvement Degree on Purchasing Behavior of Consumers. Journal of Business and Management Studies.

Ditlevsen, K., Denver, S., Christensen, T., & Lassen, J. (2019). A taste for locally produced food - Values, opinions and sociodemographic differences among 'organic' and 'conventional' consumers. Appetite, 147.

Dove, M., Balasubramanian, A., & Narayanan, B.G. (2020). Transparency As A Way Of Attaining Quality, Safety And Optimal Food Purchases. SocioEconomic Challenges.

Drewnowski, A., Darmon, N., & Monsivais, P. (2021). Affordable Nutrient Density: Toward Economic Indicators of Sustainable Healthy Diets. Sustainability.

Duralia, O. (2023). Food Consumption Behaviour-Influencing Factors and Trends. Studies in Business and Economics, 18, 109 - 123.

Enríquez, J.P., & Archila-Godinez, J.C. (2021). Social and cultural influences on food choices: A review. Critical Reviews in Food Science and Nutrition, 62, 3698 - 3704.

Fernandes, E., & Saraiva, A. (2021). Alternative consumer practices for a sustainable identity: the perspective of organic food consumption. Journal of Marketing Management, 38, 279 - 308.

Ferrão, A.C., Correia, P.M., Ferreira, M., & Guiné, R.P. (2019). Perceptions Towards Healthy Diet of the Portuguese According to Area of Work or Studies. Slovenian Journal of Public Health, 58, 40 - 46.

Ferrão, A.C., Guiné, R.P., Correia, P.M., & Ferreira, M. (2020). Influence of Environmental and Political Determinants on Food Choices in a Sample of Portuguese Population. Current Nutrition & Food Science, 16, 689-697.

Feteira-Santos, R., Alarcão, V., Santos, O., Virgolino, A., Fernandes, J., Vieira, C., … & Graça, P. (2021). Looking ahead: health impact assessment of front-of-pack nutrition labelling schema as a public health measure. International Journal of Environmental Research and Public Health, 18(4), 1422. https://doi.org/10.3390/ijerph18041422

Figueiredo, E., Forte, T., Eusébio, C., Silva, A., & Couto, J. (2022). Rural ties and consumption of rural provenance food products—evidence from the customers of urban specialty stores in portugal. Foods, 11(4), 547. https://doi.org/10.3390/foods11040547

Figueiredo, E., Forte, T., Eusébio, C., Silva, A., & Couto, J.S. (2022). Rural Ties and Consumption of Rural Provenance Food Products—Evidence from the Customers of Urban Specialty Stores in Portugal. Foods, 11.

Flores, A.M., Sánchez, V.M., Saragoça, J., Baltazar, M., & Ramos, I. (2020). Análisis comparativo de consumidores de verduras y frutas ecológicas en España y Portugal.

Fróna, D., Szenderák, J., & Harangi-Rákos, M. (2019). The Challenge of Feeding the World. Sustainability.

Galli, A., Pires, S M., Iha, K., Alves, A., Lin, D., Mancini, M S., & Teles, F. (2020, December 1). Sustainable food transition in Portugal: Assessing the Footprint of dietary choices and gaps in national and local food policies.

Gaspar, P., Soares, V.N., Caldeira, J.M., Andrade, L.P., & Domingues, C.P. (2015). Potential for Technological Modernisation and Innovation Based on ICT in Agri-Food Companies of Central Region of Portugal.

Gaspar, P.D., Fernández, C.M., Soares, V.N., Caldeira, J.M., & Silva, H. (2021). Development of Technological Capabilities through the Internet of Things (IoT): Survey of Opportunities and Barriers for IoT Implementation in Portugal's Agro-Industry. Applied Sciences, 11, 3454.

Gertrude, L.D. (2021). Awareness Of Nutrition Among School Students Through Media.

Goiana-Da-Silva, F., & Santos, L. (2021). Nutri-Score: The most efficient front-of-pack nutrition label to inform Portuguese consumers on the nutritional quality of foods and help them identify healthier options in purchasing situations. Nutrients, 13(12), 4335.

Goiana-da-Silva, F., Cruz-E-Silva, D., Gregório, M.J., Nunes, A.M., Calhau, C., Hercberg, S., Rito, A.I., Bento, A., Cruz, D., Almeida, F., Darzi, A., & Araújo, F.F. (2019). Nutri-Score: A Public Health Tool to Improve Eating Habits in Portugal. Acta medica portuguesa, 32 3, 175-178 .

Graça, P., Gregório, M.J., & Freitas, M.G. (2020). A Decade of Food and Nutrition Policy in Portugal (2010–2020). Portuguese Journal of Public Health, 38, 94 - 118.

Graça, P., Gregório, M.J., de Sousa, S.M., Brás, S., Penedo, T., Carvalho, T., Bandarra, N.M., Lima, R.M., Simão, A.P., Goiana-da-Silva, F., Freitas, M.G., & Araújo, F.F. (2018). A new interministerial strategy for the promotion of healthy eating in Portugal: implementation and initial results. Health Research Policy and Systems, 16.

Haas, R., Imami, D., Miftari, I., Ymeri, P., Grunert, K.G., & Meixner, O. (2021). Consumer Perception of Food Quality and Safety in Western Balkan Countries: Evidence from Albania and Kosovo. Foods, 10.

Han, J., Ruiz-Garcia, L., Qian, J., & Yang, X. (2018). Food Packaging: A Comprehensive Review and Future Trends. Comprehensive reviews in food science and food safety, 17 4, 860-877 .

Hassoun, A., Boukid, F., Pasqualone, A., Bryant, C.J., García, G.G., Parra-López, C.A., Jagtap, S., Trollman, H., Cropotova, J., & Barba, F.J. (2022). Emerging trends in the agri-food sector: Digitalisation and shift to plant-based diets. Current Research in Food Science, 5, 2261 - 2269.

Hempel, C. and Hamm, U. (2016). Local and/or organic: a study on consumer preferences for organic food and food from different origins. International Journal of Consumer Studies, 40(6), 732-741. https://doi.org/10.1111/ijcs.12288

Hernández, P.A., Guimarães, M.H., Rivera, M.D., & Silva, E. (2018). Assessing Sustainable Food Systems Governance in EU's Outermost Regions—The Case of the Azores in Portugal. Sustainability.

Herrero, M., Thornton, P.K., Mason-D'Croz, D., Palmer, J., Benton, T.G., Bodirsky, B.L., Bogard, J.R., Hall, A., Lee, B.X., Nyborg, K., Pradhan, P., Bonnett, G.D., Bryan, B.A., Campbell, B.M., Christensen, S., Clark, M.A., Cook, M.T., de Boer, I.J., Downs, C., Dizyee, K., Folberth, C., Godde, C.M., Gerber, J.S., Grundy, M., Havlík, P., Jarvis, A., King, R., Loboguerrero, A.M., Lopes, M.A., McIntyre, C.L., Naylor, R.L., Navarro, J.,

Obersteiner, M., Parodi, A., Peoples, M.B., Pikaar, I., Popp, A., Rockström, J., Robertson, M.J., Smith, P., Stehfest, E., Swain, S.M., Valin, H., van Wijk, M.T., van Zanten, H.H., Vermeulen, S.J., Vervoort, J., & West, P.C. (2020). Innovation can accelerate the transition towards a sustainable food system. Nature Food, 1, 266 - 272.

Hsu, S.Y., Wang, H., Ho, J., & Chen, H. (2020). Exploring Consumers' Interest in Choosing Sustainable Food. Frontiers in Psychology, 11.

Jiang, Y., Wang, H.H., Jin, S., & Delgado, M.S. (2019). The Promising Effect of a Green Food Label in the New Online Market. Sustainability.

Kandiah, J., & Jones, C.A. (2002). Nutrition Knowledge and Food Choices of Elementary School Children. Early Child Developm Febriyana, S.A., & Sefrina, L.R. (2022). JGK-Vol.14, No.1 Januari.ent and Care, 172, 269 - 273.

Kendall, H., Clark, B., Rhymer, C.M., Kuznesof, S., Hajšlová, J., Tomaniova, M., Brereton, P., & Frewer, L.J. (2019). A systematic review of consumer perceptions of food fraud and authenticity: A European perspective. Trends in Food Science and Technology, 94, 79-90.

Khan, M.M., Akram, M.T., Janke, R., Qadri, R.W., Al-Sadi, A.M., & Farooque, A.A. (2020). Urban Horticulture for Food Secure Cities through and beyond COVID-19. Sustainability, 12, 9592.

Khrushch, O., & Karpiuk, Y. (2021). Psychological Aspects of Building Environmental Consciousness. Grassroots Journal of Natural Resources, 4, 120-135.

Korez Vide, R., Juhart, S., & Hunjet, A. (2021). Sustainable food consumption promotion through online marketing communication: The case of Slovenian and Croatian grocery stores. Archives of Business Research.

Krause, D.R. (1993). Environmental Consciousness. Environment and Behavior, 25, 126 - 142.

Lee, A., Mhurchu, C.N., Sacks, G., Swinburn, B., Swinburn, B., Snowdon, W., Snowdon, W., Vandevijvere, S., Hawkes, C., L'Abbé, M.R., Rayner, M., Sanders, D., Barquera, S., Friel, S., Kelly, B., Kumanyika, S.K., Lobstein, T., Ma, J., Macmullan, J., Mohan, S., Monteiro, C.A., Neal, B., & Walker, C. (2013). Monitoring the price and affordability of foods and diets globally. Obesity Reviews, 14.

Liao, C., Luo, Y., & Zhu, W. (2020). Food Safety Trust, Risk Perception, and Consumers' Response to Company Trust Repair Actions in Food Recall Crises. International Journal of Environmental Research and Public Health, 17.

Lysianska, T., & Bielousova, N. (2020). THE CONCEPT OF "ENVIRONMENTAL CONSCIOUSNESS" IN THE MODERN PSYCHOLOGICAL SPACE. PSYCHOLOGICAL JOURNAL.

Madaleno, A., Eusébio, C., & Varum, C.A. (2018). Determinants of Visitors' Intentions to Consume and Recommend Local Agro-Food Products. Journal of Food Products Marketing, 25, 159 - 186.

Madaleno, I.M. (2022). HOW TO BUILD FOOD-SUSTAINABLE CITIES AND GIVE HEALTH TO THE AGEING URBAN RESIDENTS: A TALE OF TWO COMMUNITY GARDENS IN LISBON, PORTUGAL. WIT Transactions on The Built Environment

Mancini, P., Marchini, A., & Simeone, M. (2017). Which are the sustainable attributes affecting the real consumption behaviour? consumer understanding and choices. British Food Journal, 119(8), 1839-1853. https://doi.org/10.1108/bfj-11-2016-0574

Marat-Mendes, T., Borges, J.C., Dias, A.M., & Lopes, R. (2021). Planning for a sustainable food system. The potential role of urban agriculture in Lisbon Metropolitan Area. Journal of Urbanism: International Research on Placemaking and Urban Sustainability, 14, 356 - 386.

Marques, P.A., Carvalho, M., Jos, & Santos, O. (2021). Improving Operational and Sustainability Performance in a Retail Fresh Food Market Using Lean: A Portuguese Case Study.

Martinho, C., Correia, A.C., Gonçalves, F.J., Abrantes, J.L., Carvalho, R.G., & Guiné, R.P. (2013). Study About the Knowledge and Attitudes of the Portuguese Population About Food Fibres. Current Nutrition & Food Science, 9, 180-188.

Matos, E. (2014). Os factores influenciadores do consumo de produtos nacionais em Portugal.

Migliore, G. (2021). Sustainable Food Consumption Practices: Insights into Consumers' Experiences. Sustainability, 13, 5979.

Miguel, L., Marques, S., & Duarte, A.P. (2022). The influence of consumer ethnocentrism on purchase of domestic fruits and vegetables: application of the extended theory of planned behaviour. British Food Journal.

Miller, K.B., Eckberg, J.O., Decker, E.A., & Marinangeli, C.P. (2021). Role of Food Industry in Promoting Healthy and Sustainable Diets. Nutrients, 13.

Monteiro, M., Fontes, T., & Ferreira-Pêgo, C. (2021). Nutrition Literacy of Portuguese Adults—A Pilot Study. International Journal of Environmental Research and Public Health, 18.

Monterrosa, E.C., Frongillo, E.A., Drewnowski, A., de Pee, S., & Vandevijvere, S. (2020). Sociocultural Influences on Food Choices and Implications for Sustainable Healthy Diets. Food and Nutrition Bulletin, 41, 59S - 73S.

Moreira, S. (2022). Communication for food commons: a comparative analysis of community supported agriculture in Portugal. Comunicación y Sociedad.

Murthy, A., Galli, A., Madeira, C., & Moreno Pires, S. (2023). Consumer Attitudes towards Fish and Seafood in Portugal: Opportunities for Footprint Reduction. Sustainability

Nagyová, Ľ., Andocsová, A., Géci, A., Zajác, P., Palkovič, J., Košičiarová, I., & Golian, J. (2019). Consumers´ awareness of food safety. Potravinarstvo Slovak Journal of Food Sciences.

Nair, A. and Bhattacharyya, S. (2019). Is sustainability a motive to buy? an exploratory study in the context of mobile applications channel among young indian consumers. Foresight, 21(2), 177-199. https://doi.org/10.1108/fs-05-2018-0048

Nasution, N.H., & Hadiansah, I. (2020). ECOLOGICALLY CONSCIOUS CONSUMER BEHAVIOR: STUDENT PERSPECTIVES AS A CONSUMER. Proceeding of the International Conference on Family Business and Entrepreneurship.

Nilssen, R., Bick, G., & Abratt, R. (2018). Comparing the relative importance of sustainability as a consumer purchase criterion of food and clothing in the retail sector. Journal of Brand Management, 26, 71-83.

Nunes, J.C., Silva, P.D., Andrade, L.P., & Gaspar, P.D. (2016). Key points on the energy sustainable development of the food industry – Case study of the Portuguese sausages industry. Renewable & Sustainable Energy Reviews, 57, 393-411.

Nwosisi, S., & Nandwani, D. (2018). Urban Horticulture: Overview of Recent Developments.
Oliveira, J., Santos, T., Sousa, M., Lopes, J., Gomes, S., & Oliveira, M. (2021). Physical health of food consumers during the covid-19 pandemic. Social Sciences, 10(6), 218. https://doi.org/10.3390/socsci10060218

Ortiz, A. (2010). Customers' willingness to pay premium for locally sourced menu items.

Pais, D.F., Marques, A.C., & Fuinhas, J.A. (2023). How to Promote Healthier and More Sustainable Food Choices: The Case of Portugal. Sustainability.

Perez-Cueto, F. (2019). An Umbrella Review of Systematic Reviews on Food Choice and Nutrition Published between 2017 and-2019. Nutrients, 11.

Peterson, H.H., Taylor, M., & Baudouin, Q. (2015). Preferences of locavores favoring community supported agriculture in the United States and France. Ecological Economics, 119, 64-73.

Pino, G., Peluso, A., & Guido, G. (2012). Determinants of regular and occasional consumers' intentions to buy organic food. Journal of Consumer Affairs, 46(1), 157-169. https://doi.org/10.1111/j.1745-6606.2012.01223.x

Pinto, R.S., Pinto, R.M., Melo, F.F., Campos, S.S., & Cordovil, C.M. (2018). A simple awareness campaign to promote food waste reduction in a University canteen. Waste management, 76, 28-38 .

Pires, A., & Costa, M. (2022). Food waste perception of workplace canteen users—A case study. Sustainability, 14(3), 1324
.
Poínhos, R., Franchini, B., Afonso, C., Correia, F., & Almeida, M.D. (2010). Factors perceived by Portuguese adults as influent in food consumption.

Portugal: Food waste a “very serious problem” - United Against Waste movement. (2023, September 28). Macau Business.

Ramos, V. (2023). Food consumption, social class and taste in contemporary Portugal. Journal of Consumer Culture, 23, 903 - 925.

Reshetnikova, E.G. (2020). Экономическая доступность продовольствия: инструменты обеспечения в условиях новых вызовов. Economics and Management, 26, 128-136.

Robinson, C., Ruth, T.K., Easterly, R.T., Franzoy, F., & Lillywhite, J.M. (2020). Examining Consumers' Trust in the Food Supply Chain. Journal of applied communications, 104, 5.

Rodrigues, S.S., Franchini, B., Pinho, I.S., & Graça, A.P. (2021). The Portuguese mediterranean diet wheel: development considerations. British Journal of Nutrition, 128, 1315 - 1321.

Rosing, H. (2012). Demystifying the Local: Considerations for Higher Education Engagement with Community Food Systems. The Journal of Agriculture, Food Systems, and Community Development, 2, 79-84.

Royne, M.B., Levy, M., & Martinez, J.D. (2011). The Public Health Implications of Consumers' Environmental Concern and Their Willingness to Pay for an Eco-Friendly Product. Journal of Consumer Affairs, 45, 329-343.

Sadílek, T. (2019). Perception of Food Quality by Consumers: Literature Review. EUROPEAN RESEARCH STUDIES JOURNAL.

Salavisa, I., & Ferreiro, M.D. (2020). Business Model Innovation and Transition to a Sustainable Food System: A Case Study in the Lisbon Metropolitan Area. Contributions to Management Science
Salgado-Beltrán, L., & Beltrán-Morales, L.F. (2020). Sustainable food consumption in marketing.

Sampaio, J., Cunha, L.M., Moura, A.P., & Rocha, A. (2010). Fresh produce valuation in Portuguese traditional food markets: consumer perspectives.

Santos JC and Vaz-Fernandes P. (2022). Perception of Portuguese Consumers Regarding the Consumption of Cultured Meat. Int J Nutr Sci. 7(1): 1065.

Scalvedi, M. and Saba, A. (2018). Exploring local and organic food consumption in a holistic sustainability view. British Food Journal, 120(4), 749-762. https://doi.org/10.1108/bfj-03-2017-0141
Schoolman, E.D. (2020). Local Food and Civic Engagement: Do Farmers Who Market Local Food Feel More Responsible for Their Communities? Rural Sociology, 85, 806-839.

Schrank, Z., & Running, K. (2018). Individualist and collectivist consumer motivations in local organic food markets. Journal of Consumer Culture, 18, 184 - 201.

Seubelt, N., Michalke, A., & Gaugler, T. (2022). Influencing Factors for Sustainable Dietary Transformation—A Case Study of German Food Consumption. Foods, 11.

Silva, B., Lima, J.P., Baltazar, A.L., Pinto, E., & Fialho, S. (2022). Perception of Portuguese Consumers Regarding Food Labeling. Nutrients, 14.

Siopa, C., Lopes, S., Ferreira, C., & López, P.L. (2016). Consumer profile of Portuguese local food restaurants. European Journal of Tourism, Hospitality and Recreation, 7, 112 - 116.

Skallerud, K., & Wien, A.H. (2019). Preference for local food as a matter of helping behaviour: Insights from Norway. Journal of Rural Studies.

Sung, Y., & Yoon, C. (2023). Social and cultural influences on older consumers. Current opinion in psychology, 55, 101740 .

Tallon, J.M., Dias, R.S., Costa, A.M., Narciso, J., Barros, A., & Silva, A. (2019). Pilot evaluation of an interactive multimedia platform to provide nutrition education to Portuguese adolescents. European journal of public health.

Tolnay, A., Nath, A., & Koris, A. (2020). Challanges of sustainable food technology. Analecta Technica Szegedinensia.

Tranter, R., Bennett, R., Costa, L., Cowan, C., Holt, G., Jones, P.J., Miele, M., Sottomayor, M., & Vestergaard, J. (2009). Consumers' willingness-to-pay for organic conversion-grade food: Evidence from five EU countries. Food Policy, 34, 287-294.

Truninger, M. (2013). Connecting Food Memories with the Rural: The Case of Portuguese and British Consumers.

Ventura-Lucas, M.R. (2004). Consumer Perceptions and Attitudes Towards Food Safety in Portugal.

Ventura-Lucas, M.R., & Marreiros, C.G. (2013). Consumer behaviour towards organic food in Portugal.

Villamiel, M., & Méndez-Albiñana, P. (2022). Update of challenges for food quality and safety management. Journal of Agriculture and Food Research.

Vitale, M., Giosuè, A., Vaccaro, O., & Riccardi, G. (2021). Recent Trends in Dietary Habits of the Italian Population: Potential Impact on Health and the Environment. Nutrients, 13.

Wang, E., Lin, H., & Tsai, M. (2021). Effect of institutional trust on consumers' health and safety perceptions and repurchase intention for traceable fresh food. Foods, 10(12), 2898.

Weber Macena, M., Carvalho, R., Cruz-Lopes, L.P., & Guiné, R.P. (2021). Plastic Food Packaging: Perceptions and Attitudes of Portuguese Consumers about Environmental Impact and Recycling. Sustainability

Wiśniewska, M.Z. (2022). Ewolucja trendów i zagrożeń w konsumpcji żywności w świetle celów zrównoważonego rozwoju. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie.

Wu W, Zhang A, van Klinken RD, Schrobback P, Muller JM. Consumer Trust in Food and the Food System: A Critical Review. Foods. 2021; 10(10):2490. https://doi.org/10.3390/foods10102490

Żakowska-Biemans, S. (2011). Polish consumer food choices and beliefs about organic food. British Food Journal, 113(1), 122-137. https://doi.org/10.1108/00070701111097385

APPENDIX

Survey:

Introduction:

My name António Maria Cordeiro de Sousa Ruela e Silva, a student at the NOVA Information Management School enrolled in the Data-Driven Marketing Master's program. As part of my thesis research, titled "Consumer Drivers in Portugal: Exploring Motivations and Emerging Factors Behind Sustainable and Healthy Food Choices," I am conducting a comprehensive survey to delve into various domains of consumer behavior. Your participation in this survey is crucial and will significantly contribute to our understanding of consumer dynamics in Portugal.

This survey aims to gather information about your food purchasing decisions, healthy and sustainable food choices, nutritional awareness, and perceptions of food quality and safety, emerging trends and innovations, among other factors. Your responses will remain anonymous and confidential. Please select the most appropriate answer for each question or rate your agreement on a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree.

Your participation in this survey is entirely voluntary. By continuing, you acknowledge that you have read and understood the information provided below, and you consent to participate in this study. You also understand that your responses will be kept confidential and anonymized. You can withdraw from the survey at any time without consequence, and your responses will only be used for research purposes.

Please indicate your agreement by checking the box below:

[ ] I have read and understood the information provided above, and I consent to participate in this study.

Demographic Information:

Age:

Under 18
18-24
25-34
35-44
45-54
55-64
65 or older

Gender:
Male

Female
Other
Prefer not to say

Education level:
High school or equivalent
Bachelor's degree
Master's degree
Doctoral degree
Other

Employment status:
Employed
Unemployed
Student
Retired
Other

Household income:
Under 20,000 EUR
20,000 - 40,000 EUR
40,001 - 60,000 EUR
60,001 - 80,000 EUR
Over 80,000 EUR
Prefer not to say

Location:

Urban: Lisbon, Porto, and other major cities with densely populated areas and extensive infrastructure.

Suburban: Areas surrounding major cities (ex: Cascais, Sintra, and Maia) characterized by residential neighborhoods and commercial districts.

Rural: Regions such as the Alentejo and Trás-os-Montes, featuring countryside landscapes, small villages, and agricultural activities.

1. Core Motivations

a) How important are sustainability, health, and locality factors in your food purchasing decisions?
- 1 (Strongly disagree)
- 2 (Disagree)
- 3 (Neutral)
- 4 (Agree)
- 5 (Strongly agree)

b) To what extent do you prioritize sustainable, healthy, and locally sourced foods over conventional options?
- Always
- Often
- Sometimes
- Rarely
- Never

c) What factors influence your preference for sustainable food choices?
- Environmental impact
- Health benefits
- Supporting local producers
- Price
- Convenience
- Taste
- Other (please specify): [Open-ended]

d)What do you think is the biggest barrier to adopting a more sustainable diet?

- Lack of availability of sustainable options
- higher cost of sustainable foods,
- lack of information/education,
- personal taste preferences,
- convenience,
- other (please specify)

2. Environmental Concerns:

a) How concerned are you of environmental issues related to food production, such as carbon emissions, water usage, and biodiversity loss?
- 1 (Not concerned at all)
- 2 (Slightly concerned)
- 3 (Moderately concerned)
- 4 (Very concerned)
- 5 (Extremely concerned)

b) Are you willing to support eco-friendly practices in food production, such as organic farming and sustainable fishing?

- 1 (Strongly disagree)
- 2 (Disagree)
- 3 (Neutral)
- 4 (Agree)

- 5 (Strongly agree)

c) What actions have you taken to reduce your environmental impact through food choices?
- Choosing organic products
- Buying locally sourced foods
- Reducing meat consumption
- Avoiding single-use plastics
- Other (please specify): [Open-ended]

3. Local Food Systems:

a) How often do you purchase food from local farmers' markets, community-supported agriculture (CSA) programs, or food cooperatives?
- Regularly
- Occasionally
- Rarely
- Never

b) What motivates you to support local food systems?
- Supporting local economy
- Freshness and quality of produce
- Environmental benefits (e.g., reduced carbon footprint)
- Community connections
- Other (please specify): [Open-ended]

4. Nutritional Awareness:
a) How confident are you in your knowledge of nutrition and its impact on health?
- 1 (Not confident at all)
- 2 (Slightly confident)
- 3 (Moderately confident)
- 4 (Very confident)
- 5 (Extremely confident)

b) Do you pay attention to nutritional labels when purchasing food products?
- Always
- Often
- Sometimes
- Rarely
- Never

c) What factors influence your food choices based on nutrition?
- Caloric content
- Macronutrient balance (carbohydrates, proteins, fats)
- Micronutrient content (vitamins, minerals)
- Fiber content

- Sugar and sodium levels
- Other (please specify): [Open-ended]

5. Food Quality and Safety:

a) How confident are you in the quality and safety of the food products you purchase?
- 1 (Not confident at all)
- 2 (Slightly confident)
- 3 (Moderately confident)
- 4 (Very confident)
- 5 (Extremely confident)

b) How important are food labeling and certification systems in influencing your purchasing decisions?
- 1 (Not important at all)
- 2 (Slightly important)
- 3 (Moderately important)
- 4 (Very important)
- 5 (Extremely important)

c) What information do you look for on food labels to assess quality and safety?
- Expiration date
- Ingredient list
- Nutritional information
- Country of origin
- Certification logos (e.g., organic, fair trade)
- Other (please specify): [Open-ended]

6. Economic Considerations:

a) How much does price influence your decision to purchase locally sourced foods?
- 1 (Not at all influential)
- 2 (Slightly influential)
- 3 (Moderately influential)
- 4 (Very influential)
- 5 (Extremely influential)

b) Are you willing to pay a premium price for sustainably produced or for locally sourced foods?
- Yes
- No

c) What factors would make you more likely to purchase locally sourced foods, even if they were more expensive?
- Higher quality
- Environmental benefits
- Supporting local economy

- Health benefits
- Other (please specify): [Open-ended]

7. Cultural and Social Factors:

a) How important are cultural and social factors (e.g., traditions, community values) in influencing your food choices?
- 1 (Not important at all)
- 2 (Slightly important)
- 3 (Moderately important)
- 4 (Very important)
- 5 (Extremely important)

b) Do you feel a sense of connection to local food traditions and culinary heritage?
- Yes
- No

c) What cultural or social factors influence your preference for certain food products?
- Tradition
- Family customs
- Regional cuisine
- Social norms
- Other (please specify): [Open-ended]

8. Emerging Trends and Innovations:

a) How familiar are you with emerging trends and innovations in sustainable food production and consumption?
- 1 (Not familiar at all)
- 2 (Slightly familiar)
- 3 (Moderately familiar)
- 4 (Very familiar)
- 5 (Extremely familiar)

b) Are you open to trying new food technologies or alternative production methods (e.g., cultured meat, vertical farming)?
- Yes
- No

c) What factors would motivate you to adopt new food technologies or alternative production methods?

- Environmental benefits

- Health benefits
- Convenience
- Cost-effectiveness
- Other (please specify): [Open-ended]

9. Research Framework:
a) How likely are you to participate in research studies or initiatives related to sustainable or healthy food consumption in the future?

- 1 (Not likely at all)
- 2 (Slightly likely)
- 3 (Moderately likely)
- 4 (Very likely)
- 5 (Extremely likely)

10. Outcomes and Recommendations:
a) What outcomes or changes would you like to see as a result of efforts to promote healthy or sustainable food consumption?

- Increased availability of locally sourced foods
- Improved food labeling and transparency
- Greater access to healthy and affordable food options
- Stronger support for local farmers and producers
- Other (please specify): [Open-ended]

b) What recommendations would you provide to policymakers, food producers, or other stakeholders to promote sustainable food consumption?

- Implement policies supporting local food systems
- Enhance education and awareness campaigns on nutrition and sustainability
- Improve access to affordable healthy food options
- Strengthen food safety regulations and labeling standards
- Other (please specify): [Open-ended]

Thank You,

Your participation in this survey is sincerely appreciated.

NOVA Information Management School
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