

MASTER

INNOVATION AND RESEARCH FOR SUSTAINABILITY

MASTER'S FINAL WORK

PROJECT

**UNDERSTANDING CONSUMER RESISTANCE TO PLANT-BASED FOOD IN
SPAIN**

BY MAX LLAHUET CLARAMUNT

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Glossary

EIB – European Investment Bank.

ENISA – Empresa Nacional de Innovación S.A., Spanish public entity supporting entrepreneurship and innovation.

EU – European Union.

FAO – Food and Agriculture Organization of the United Nations.

FMCG – Fast-Moving Consumer Goods.

GMP – Good Manufacturing Practices.

JEL – Journal of Economic Literature classification system used for economic research.

MFW – Master’s Final Work.

NOVA system – A food classification framework that categorises foods according to degree of processing, developed by researchers at the University of São Paulo.

NOVAFOODS – Pseudonym used in this thesis to refer to the focal Spanish plant-based food-tech company.

OECD – Organisation for Economic Co-operation and Development.

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AI Disclosure statement

This thesis was developed in accordance with the university's academic integrity and ethical standards. For transparency, I disclose that artificial intelligence (AI) tools were used in a limited and supportive capacity during its preparation.

AI tools were used for language refinement, grammar correction, clarity improvements, and occasional brainstorming or structural organisation. Suggestions for paraphrasing were reviewed and adapted critically.

All substantive arguments, data analysis, interpretations, and conclusions are entirely my own work. AI tools were not used to generate empirical data, fabricate references, or replace independent scholarly reasoning.

I take full responsibility for the content and originality of this thesis.

Abstract

Despite growing sustainability awareness and rapid technological development in the plant-based sector, mainstream adoption of plant-based food alternatives remains uneven across Europe. This thesis examines how socio-cultural and behavioural mechanisms shape consumer resistance to plant-based protein alternatives in Spain, a context characterised by strong meat-centred culinary traditions.

While existing research has identified recurring barriers such as price sensitivity, taste expectations, and concerns about processing, these factors are typically examined as isolated predictors using survey-based approaches. To address this limitation, this study adopts a qualitative case study design centred on a Spanish plant-based food-tech company, drawing on eight semi-structured interviews with consumers, industry practitioners, and food-service actors. The analysis employs an inductive thematic approach inspired by grounded theory principles.

The findings demonstrate that resistance operates as an interactional configuration rather than as the additive effect of discrete barriers. Economic perceptions, sensory legitimacy, cultural identity, and trust interpretations co-evolve within everyday food practices, reinforcing one another through stabilising feedback loops. In the Spanish context, meat consumption functions as a marker of social normality and belonging, rendering plant-based substitution culturally sensitive, most specifically in collective meal settings. Sensory disappointment generalises beyond individual products to affect category legitimacy, whereas processing concerns are shaped more by unfamiliarity than by objective ingredient complexity.

By foregrounding relational dynamics and practice-based stabilisation mechanisms, this thesis advances a contextualised explanation for the persistent gap between sustainability awareness and everyday dietary change. It contributes to consumer resistance scholarship and sustainability transition literature by proposing an interactional framework that clarifies why plant-based innovation diffusion remains slow in Mediterranean food cultures.

Resumo

Apesar do aumento da consciencialização para a sustentabilidade e do crescimento do investimento em proteínas alternativas, a adoção generalizada de alternativas proteicas de origem vegetal em Espanha permanece limitada. Esta tese analisa os principais fatores que impedem os consumidores espanhóis de integrar proteínas vegetais no consumo quotidiano, recorrendo a um estudo de caso qualitativo de uma empresa espanhola líder no setor food-tech plant-based (designada como NOVAFOODS).

A investigação adota uma abordagem qualitativa, combinando análise de dados secundários com dados primários recolhidos através de sete entrevistas semiestruturadas a consumidores, profissionais do setor alimentar, especialistas da indústria e um influenciador plant-based. A análise baseia-se em codificação temática inspirada na grounded theory e na metodologia Gioia, permitindo uma compreensão aprofundada da resistência dos consumidores para além de explicações puramente informativas ou atitudinais.

Os resultados demonstram que a resistência às alternativas proteicas vegetais resulta da interação de quatro mecanismos principais: (1) identidade cultural e normas sociais que associam a carne à tradição e pertença; (2) expectativas sensoriais que comparam os produtos vegetais à carne como referência absoluta; (3) preocupações relacionadas com confiança, naturalidade e perceções de processamento; e (4) constrangimentos económicos e estruturais, nomeadamente sensibilidade ao preço e limitações de escala.

Em conjunto, estes fatores criam um ciclo autorreforçado que dificulta a normalização e a adoção em larga escala, apesar de atitudes favoráveis à sustentabilidade. A tese contribui para a literatura sobre transições alimentares sustentáveis e oferece implicações práticas para empresas e decisores políticos.

KEYWORDS: Plant-based proteins; Consumer resistance; Food culture; Sustainability transitions; Food-tech innovation; Spain

PALAVRAS-CHAVE: Proteínas de origem vegetal; Resistência dos consumidores; Cultura alimentar; Transições para a sustentabilidade; Inovação em tecnologia alimentar; Espanha

JEL CODES: D12; Q18; M31; L66; O33; Z13

1. INTRODUCTION

Global food systems are increasingly recognised as central to some of the most pressing societal challenges of the twenty-first century, including climate change, biodiversity loss, resource depletion, and public health concerns (Rockström et al., 2009). Over recent decades, global meat production and consumption have expanded rapidly, driven by population growth, urbanisation, and rising incomes. Livestock production alone accounts for a substantial share of anthropogenic greenhouse gas emissions while also contributing to deforestation, extensive land and water use, and ecosystem degradation (Gerber et al., 2013; Poore and Nemecek, 2018). Beyond environmental pressures, high levels of meat consumption have also generated ethical and health-related concerns associated with animal welfare, zoonotic disease risks, and diet-related non-communicable diseases (Willett et al., 2019).

In response to these interconnected challenges, increasing attention has been directed toward alternative dietary patterns that reduce dependence on animal-based proteins. Among these, plant-based food alternatives have emerged as one of the most visible market-driven responses within the broader sustainability transition of food systems (Sexton et al., 2019). Advances in food technology have enabled the development of products designed to replicate the taste, texture, and functionality of meat and dairy products, including plant-based burgers, sausages, dairy substitutes, and hybrid foods (Grunert, 2018).

Consumer motivations for reducing meat consumption are commonly linked to environmental concerns, animal welfare considerations, and perceived health benefits (Graça, Oliveira and Calheiros, 2015). At the same time, food-tech companies increasingly position plant-based innovation not only as a sustainability solution, but also as a scalable commercial opportunity within rapidly evolving consumer markets (Tziva et al., 2020).

Despite growing public awareness of sustainability issues and continued investment in plant-based innovation, consumer adoption remains uneven across regions and demographic groups.

Even in Northern European markets often described as leaders in the protein transition, aggregate meat consumption has remained relatively stable despite increasing numbers of consumers identifying as flexitarian (Dagevos and Verbeke, 2022). In Southern European contexts such as Spain, this tension appears particularly pronounced. Although vegetarian, vegan, and flexitarian diets have gained visibility in recent years, Spain remains among the highest meat-consuming countries in Europe, especially regarding pork consumption, which is deeply embedded in national culinary traditions and social practices (Font-i-Furnols and Guerrero, 2022).

At the same time, the plant-based sector has shown signs of slowing growth following an initial period of rapid expansion, with several companies facing declining demand, increased competition, and market consolidation (Guadarrama et al., 2023).

These developments reveal a broader paradox: increasing sustainability awareness does not necessarily translate into substantial dietary change. Existing research identifies several barriers to the adoption of plant-based foods, including price sensitivity, taste expectations, perceptions of processing and naturalness, and limited trust in novel food technologies (Grunert, 2018; Noguerol et al., 2021). However, these barriers are often examined as isolated predictors through survey-based approaches that focus primarily on individual consumer preferences. While such studies provide valuable insights into what constrains adoption, they offer more limited understanding of how resistance is socially and culturally produced within everyday life.

This limitation is particularly relevant in Mediterranean contexts such as Spain, where food consumption is closely tied to identity, tradition, social belonging, and emotional attachment (Counihan, 2021). Meat consumption is not only a nutritional practice but also a culturally embedded element of family routines, gastronomy, and collective identity. Consequently, resistance to plant-based foods cannot be fully understood through economic or sensory factors alone. Greater attention is therefore needed to understand how cultural norms, trust interpretations, emotional meanings, and behavioural routines interact to shape consumer resistance to dietary change. To address this gap, this thesis investigates the following research question:

How do socio-cultural and behavioural mechanisms shape consumer resistance to plant-based food alternatives in Spain?

To explore this question, the research adopts a qualitative case study approach centred on NOVAFOODS, a Spanish plant-based food-tech company operating within the alternative protein sector. The company initially focused on developing meat substitutes designed to closely replicate conventional meat products, before gradually expanding toward categories more easily integrated into consumers' everyday routines. This strategic evolution reflects broader tensions within plant-based innovation between technological substitution and the normalisation of new eating practices.

The empirical analysis draws on semi-structured interviews, secondary data, and existing academic literature to examine how consumers interpret, negotiate, and respond to plant-based foods within their daily lives. By focusing on a Southern European context, this thesis contributes to literature on sustainability transitions, food-tech innovation, and consumer behaviour that has

largely concentrated on Northern European markets (Janssen et al., 2022). More specifically, the study highlights the cultural, emotional, and trust-based dimensions of consumer resistance, extending existing discussions beyond purely functional barriers such as price and taste.

From a managerial perspective, the findings also provide insights for food-tech companies seeking to broaden plant-based adoption beyond niche consumer groups. Understanding the socio-cultural mechanisms underlying resistance may help firms develop more effective strategies related to product design, communication, pricing, and portfolio diversification.

The remainder of this thesis is structured as follows. Chapter 2 reviews the literature on plant-based innovation and consumer resistance. Chapter 3 outlines the research methodology and case selection. Chapters 4 and 5 present and discuss the empirical findings, while Chapter 6 concludes with theoretical implications, managerial recommendations, limitations, and directions for future research.

2. LITERATURE REVIEW

2.1. Historical and Market Context

2.1.1 The Food Landscape in Spain

Spain's food culture is strongly shaped by meat-centred traditions embedded in everyday life, regional heritage, and social rituals (Font-i-Furnols and Guerrero, 2022). Products such as jamón ibérico function both as dietary staples and cultural symbols of identity and conviviality (Counihan, 2021). Meat consumption therefore extends beyond nutrition, reinforcing belonging within family meals, tapas culture, and festive gatherings.

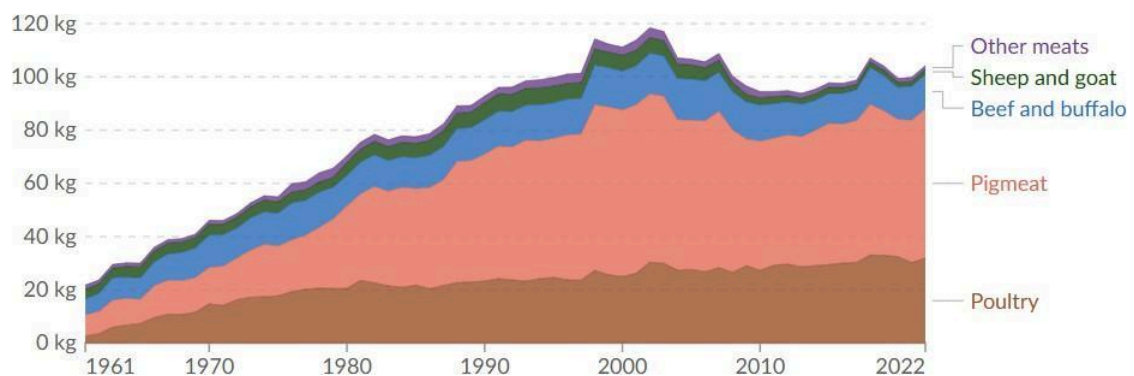


Figure 1. Per capita meat supply by type in Spain, 1961–2022 (kg per person per year).

Source: FAO Food Balance Sheets (2024), via Our World in Data.

Per capita meat consumption in Spain has increased since the 1960s and remains relatively high despite recent declines (FAO, 2023). Pork accounts for a significant share of consumption due to its integration into culinary traditions and production systems (Font-i-Furnols and Guerrero, 2022). Although sustainability awareness has increased, consumption patterns remain stable, reflecting a persistent attitude–behaviour gap (Grunert et al., 2020; Dagevos and Verbeke, 2022).

From a social practice perspective, meat consumption is embedded in meanings, competences, and material infrastructures, making dietary substitution a disruption of routinised practices rather than a simple preference shift (Shove et al., 2012).

2.1.2 The Rise of Food-Tech Innovation

Over the past decade, Spain has strengthened its position within Europe's sustainable food innovation landscape (EIT, 2025; European Investment Bank, 2023). This reflects the convergence of entrepreneurial activity, public financing, and alignment with European sustainability strategies,

particularly the Farm to Fork Strategy under the European Green Deal (European Commission, 2020; ENISA, 2025).

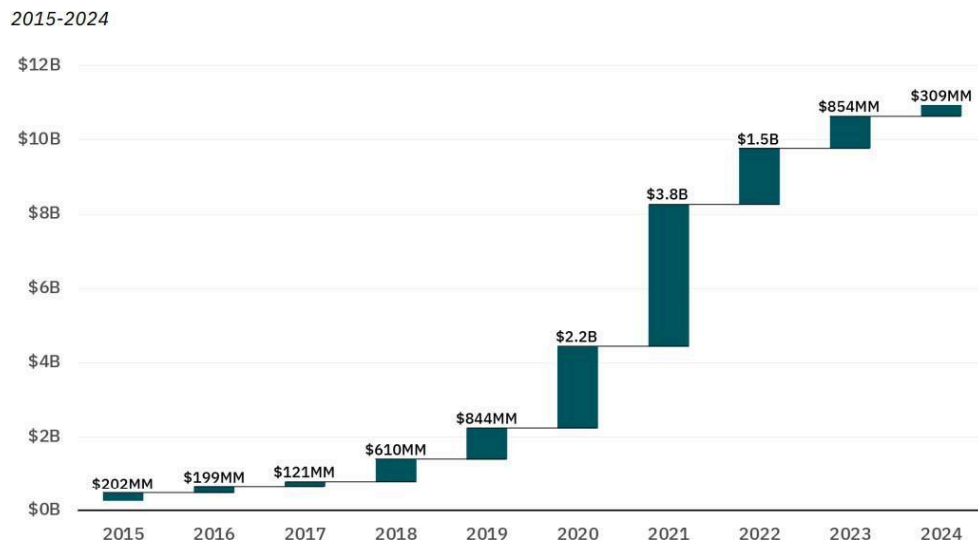


Figure 2. Cumulative and annual investment in plant-based companies worldwide, 2015–2024 (USD). Source: Good Food Institute (2024), *State of the industry: Plant-Based Meat, Seafood, Eggs, Dairy and Ingredients*, based on data from Net Zero Insights

Despite this favourable innovation environment, consumer adoption of plant-based alternatives remains uneven. Evidence suggests that Southern European markets, including Spain, show lower levels of regular plant-based consumption compared to Northern Europe (Guadarrama et al., 2023; Janssen et al., 2022). From a sustainability transitions perspective, this reflects tensions between niche innovation and regime-level consumption practices (Geels, 2002; Tziva et al., 2020).

This study sits at the intersection of sustainability transitions and consumer resistance literature. While transitions theory explains structural tensions between innovation and established regimes (Geels, 2002), consumer research has predominantly focused on attitudinal and behavioural predictors, often through survey-based segmentation and barrier scales (Perez-Cueto et al., 2022). However, these approaches often fail to explain how resistance is socially produced and stabilised in everyday life, limiting their explanatory depth.

Consumer resistance to plant-based food alternatives can be understood through the interaction of behavioural, socio-cultural, and practice-based mechanisms embedded in everyday food practices. From a behavioural perspective, the Theory of Planned Behavior suggests that behaviour is shaped by attitudes, subjective norms, and perceived behavioural control. While this framework is useful for explaining intention formation, it primarily focuses on individual cognition.

In food consumption contexts, however, positive sustainability attitudes often fail to

translate into actual behaviour due to strong normative and habitual influences, reinforcing the well-documented attitude–behaviour gap (Vermeir and Verbeke, 2006; Grunert et al., 2020). This indicates that behavioural intentions are systematically constrained by social and contextual conditions. While the Theory of Planned Behavior explains decision-making at the individual level, it does not fully account for the social embedding of food practices. Social practice theory (Shove et al., 2012) therefore shifts the analytical focus from individual attitudes to routineised practices shaped by meanings, materials, and competences. From this perspective, resistance emerges not as a cognitive failure but as the disruption of stabilised food routines in which meat consumption is normalised and materially supported through everyday infrastructures.

Complementing this structural perspective, consumer resistance literature highlights identity-based and symbolic mechanisms. Resistance may function as a form of identity protection when innovations are perceived as misaligned with cultural norms, social roles, or group identities (Kleijnen et al., 2009; Iyer and Muncy, 2009). In food contexts, this includes perceptions of plant-based diets as ideological, artificial, or socially distant from mainstream eating practices.

Taken together, these frameworks offer complementary explanations operating at different levels: cognitive intentions, socially embedded routines, and identity-based meaning systems. This multi-layered perspective highlights that resistance is not driven by isolated barriers, but by interacting behavioural and socio-cultural mechanisms.

2.1.3 *NOVAFOODS: Mission and Evolution*

NOVAFOODS is a Spanish plant-based food-tech company founded in the late 2010s with the aim of accelerating a transition towards plant-based proteins (Company publications, 2024). The company positions itself as a mainstream food innovator focused on systemic dietary change.

Its initial strategy prioritised replication of conventional meat formats, based on evidence that sensory familiarity and culinary fit are key barriers in meat-attached markets (Perez-Cueto et al., 2022). Over time, the company diversified into higher-frequency product categories such as spreads and cooking fats, which require lower behavioural and cultural adjustment (Grunert, 2018).

NOVAFOODS illustrates the tension between technological innovation and persistent consumer resistance. Despite institutional support and innovation capacity, adoption remains constrained by cultural norms, sensory expectations, and price sensitivity, demonstrating that technological development alone is insufficient to drive behavioural change (Janssen et al., 2022; Counihan, 2021).

2.1.4 Challenges and Cultural Resistance

Resistance to plant-based alternatives in Spain is strongly shaped by cultural meanings attached to food. Meat is associated with authenticity, tradition, and social cohesion (Font-i-Furnols and Guerrero, 2022; Counihan, 2021). As a result, dietary substitution can be perceived as cultural disruption rather than neutral choice.



Figure 3. Reported barriers to choosing plant-based food alternatives (Spain, % of respondents). Source: Smart Protein Project (2023), European Consumer Survey on Plant-Based Foods (n=7,500)

Plant-based foods are often framed as artificial or externally imposed, reinforcing symbolic distance from mainstream food practices (Bennasser Verger, 2019). In Spain, meat consumption remains closely tied to identity and social normality, particularly in collective eating contexts (Guadarrama et al., 2023).

Sensory expectations further reinforce resistance. Taste, texture, and satiety consistently outweigh environmental motivations in food choice (Grunert, 2018; Realini et al., 2022). When plant-based alternatives fail to match meat expectations, they are perceived as inferior, limiting repeat adoption.

2.2. Consumer Barriers to Adoption

While the literature converges around recurring barriers, disagreement persists regarding their relative weight and causal sequencing. Some studies emphasise economic constraints as primary (Perez-Cueto et al., 2022; Escribano et al., 2021), whereas others highlight sensory legitimacy, meat attachment, and cultural norms as decisive (Font-i-Furnols and Guerrero, 2022). This variation suggests that barriers may operate differently across contexts rather than as

universally ranked predictors.

Despite this convergence, the majority of empirical studies rely on cross-sectional surveys and stated preference measures (Vermeir and Verbeke, 2006; Guadarrama *et al.*, 2023; Janssen *et al.*, 2022). Conversely these approaches quantify associations between attitudes and purchase intentions, they often treat barriers as isolated predictors and offer limited insight into how resistance is enacted, negotiated, and stabilised within everyday social interactions and routines (Perez-Cueto *et al.*, 2022; Dagevos and Verbeke, 2022).

2.2.1 *Economic and Practical Barriers*

Price remains the most frequently cited barrier to plant-based adoption in Spain (Escribano *et al.*, 2021; Guadarrama *et al.*, 2023). Retail data indicate that plant-based meat alternatives are typically priced 30–80% above conventional meat, reinforcing perceptions of premium positioning and limiting economies of scale.

Indicator	Reported Price Premium
Plant-based meat alternatives vs conventional meat (Spain)	Approximately 30%–80% higher per kg

Table 1. Reported retail price differential between plant-based meat alternatives and conventional meat in Spain.

Source: Author's elaboration based on Escribano *et al.*, 2021, 13(15), 8235, and Smart Protein Project (2023), European Consumer Survey on Plant-Based Foods.

Choice-experiment studies confirm low willingness to pay among omnivorous consumers, particularly where taste expectations and beliefs about protein necessity remain salient (Perez-Cueto *et al.*, 2022). Even consumers expressing pro-sustainability attitudes frequently revert to cheaper and more familiar meat options in habitual purchasing contexts (Font-i-Furnols, 2023).

2.2.2 *Cultural and Symbolic Barriers*

Beyond economic constraints, cultural and symbolic factors play a central role in shaping resistance to plant-based protein alternatives in Spain (Font-i-Furnols and Guerrero, 2022). Food consumption operates as a social and identity-forming practice through which traditions and collective belonging are reproduced (Counihan, 2021). In this context, meat occupies a privileged symbolic position, functioning as a marker of authenticity, conviviality, and cultural continuity (Font-i-Furnols and Guerrero, 2022; Counihan, 2021).

Anthropological research highlights that food choices are closely tied to food identity, defined by habitual diets and shared meanings attached to specific products (Counihan, 2021). In

Spain, meat-based foods (particularly pork) are embedded in tapas culture, family meals, and festive occasions, reinforcing their association with social normality (Font-i-Furnols and Guerrero, 2022).

As a result, plant-based alternatives may be perceived not simply as different options, but as culturally misaligned (Font-i-Furnols, 2023; Bennasser Verger, 2019).

Survey evidence supports the strength of these symbolic associations, significantly among omnivorous segments whose dietary self-identification reinforces attachment to conventional meat norms (Guadarrama *et al.*, 2023; Perez-Cueto *et al.*, 2022). According to the Smart Protein European Consumer Survey, over 60% of Spanish respondents link meat consumption to tradition and cultural heritage, a higher proportion than in several Northern European countries (Guadarrama *et al.*, 2023). This cultural anchoring increases resistance to substitution by framing dietary change as departure from shared norms.

Symbolic resistance is further intertwined with gender and identity dynamics. Research shows that meat consumption is often associated with strength and traditional masculinity, whereas plant-based diets may be perceived as less aligned with dominant gender norms (Counihan, 2021). Such associations reinforce the construction of plant-based eating as socially distinct, primarily in collective meal settings where conformity and cohesion are valued (Font-i-Furnols and Guerrero, 2022). In addition, veganism and plant-based diets are frequently framed as lifestyle or ideological choices linked to specific social groups rather than mainstream practices (Bennasser Verger, 2019).

Consumer research indicates that this framing can generate social distance among individuals who do not identify with activist or moral narratives (Grunert, 2018). In Spain, a notable share of consumers describe vegan diets as “extreme” or unrepresentative of everyday eating, reinforcing boundaries between “normal” and “alternative” food practices (Guadarrama *et al.*, 2023).

Consequently, resistance to plant-based protein alternatives cannot be reduced to informational deficits. It is embedded in identity, belonging, and symbolic order (Font-i-Furnols, 2023). These dynamics help explain why sustainability awareness alone does not translate into widespread behavioural change in the Spanish context (Guadarrama *et al.*, 2023; Álvarez-Álvarez *et al.*, 2024).

Although cultural attachment is widely acknowledged as a constraint, findings are not uniform across contexts. In some Northern European studies, cultural resistance appears weaker and more easily offset by environmental concern (Janssen *et al.*, 2022), whereas Southern European contexts exhibit stronger symbolic anchoring (Font-i-Furnols and Guerrero, 2022). This variation

suggests that cultural factors do not operate as universal barriers but are context-sensitive mechanisms that require deeper qualitative examination.

2.2.3 *Sensory and Emotional Barriers*

Sensory experience remains central to plant-based adoption. Taste, texture, and satiety consistently outweigh environmental considerations in everyday food choice (Grunert, 2018; Realini et al., 2022). Plant-based products are typically evaluated against meat as the reference standard; when resemblance falls short, products are judged not merely as different but as inferior, reducing repeat purchase (Bryant and Sanctorem, 2021).

Sensory evaluation is closely tied to emotional attachment and habit. Meat consumption is embedded in routines and collective rituals, making substitution psychologically demanding (Counihan, 2021). When plant-based alternatives fail to deliver expected pleasure or authenticity, resistance persists despite expressed sustainability support (Vermeir and Verbeke, 2006). Although sensory performance is widely recognised as decisive, it is often treated as a static attribute rather than as a relational process shaped by cultural expectations and comparison standards.

2.2.4 *Informational and Trust Barriers*

In addition to economic and sensory concerns, informational ambiguity and trust deficits constrain the adoption of plant-based protein alternatives in Spain. Under conditions of uncertainty, consumers rely on heuristics such as “processing equals unhealthy,” which may override detailed nutritional information (Román et al., 2017). At the same time, the contemporary food environment is saturated with overlapping claims about health, sustainability, and processing, often generating confusion rather than clarity (Grunert, 2018; Bryant and Barnett, 2018). For plant-based products, credibility is therefore fragile.

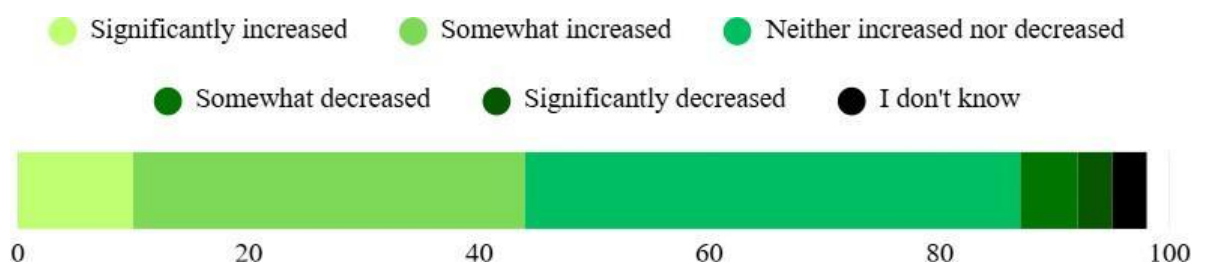


Figure 4. Trust perceptions related to plant-based alternatives in Spain (% of respondents). Author's elaboration based on data from Smart Protein Project (2023), European Consumer Survey on Plant-Based Eating.

One recurring issue concerns uncertainty about nutritional value. Although plant-based

alternatives are frequently marketed as healthier options, many consumers remain unsure about their protein quality, ingredient composition, and overall health impact (Grunert, 2018). Survey data indicate that fewer than 40% of Spanish consumers feel confident in understanding the nutritional profile of plant-based meat alternatives (Guadarrama et al., 2023), a lack of clarity that weakens purchase intention, particularly among mainstream consumers who rely on simplified cues.

Trust is further complicated by skepticism toward sustainability communication. Environmental and health claims are increasingly questioned when perceived as vague or marketing-driven (Grunert, 2018). Where sustainability messaging dominates while production processes remain opaque, suspicion may intensify rather than diminish (Grunert, 2018; Polyportis et al., 2025). Processing concerns add another layer of distrust. Many plant-based meat alternatives available in Spanish supermarkets are classified as ultra-processed under the NOVA system (Gómez-Luciano et al., 2023). Survey evidence suggests that more than half of Spanish consumers express concern about processing levels, a perception strongly associated with lower trust and reduced purchase intention (Guadarrama et al., 2023).

Importantly, existing research often frames processing concerns as reactions to objective product characteristics. However, perceptions of “ultra-processing” are socially constructed and unevenly applied across food categories. Conventional processed meats are rarely subjected to equivalent scrutiny, suggesting asymmetries in interpretive standards that remain underexplored (Román et al., 2017; Bryant and Barnett, 2020). Addressing this gap requires moving beyond attitudinal measurement toward analysing how trust and legitimacy are culturally interpreted within everyday food practices, particularly in Mediterranean contexts such as Spain.

Taken together, the literature suggests that resistance to plant-based food alternatives in Spain cannot be understood through isolated barriers, but rather as the outcome of interacting socio-cultural and behavioural mechanisms embedded in everyday food practices. Economic constraints, sensory expectations, cultural meanings, and trust deficits operate in combination rather than in isolation.

From a behavioural perspective, positive sustainability attitudes frequently fail to translate into action due to strong normative and habitual influences, reinforcing the attitude–behaviour gap (Vermeir and Verbeke, 2006; Grunert et al., 2020). Behaviour is therefore shaped not only by intentions but by contextual and social constraints.

At the socio-cultural level, food practices are embedded in identity, shared meanings, and cultural norms (Counihan, 2021). In Spain, meat consumption is closely associated with tradition, conviviality, and social belonging, meaning that dietary change is often interpreted as symbolic deviation rather than neutral substitution (Font-i-Furnols and Guerrero, 2022). These meanings interact with habitual routines, reinforcing the normalisation of meat-based diets.

Sensory and emotional mechanisms further reinforce resistance by anchoring food choice in embodied experience. Taste, texture, and satiety remain dominant evaluation criteria, often overriding sustainability considerations (Grunert, 2018; Realini et al., 2022). These expectations are culturally shaped, positioning meat as the reference standard against which alternatives are judged.

Finally, informational ambiguity and trust-related mechanisms contribute to uncertainty in evaluation. Heuristics such as “processing equals unhealthy” simplify decision-making under complexity but may distort perceptions of plant-based alternatives (Román et al., 2017). Trust is therefore shaped by perceived legitimacy and cultural narratives rather than objective product attributes alone (Bryant and Barnett, 2020).

Overall, these mechanisms are mutually reinforcing rather than independent. Cultural norms shape sensory expectations; sensory disappointment reinforces scepticism; and informational ambiguity strengthens reliance on existing habits and social norms. Consequently, resistance to plant-based food alternatives should be understood as an emergent outcome of interacting socio-cultural and behavioural systems embedded within everyday life.

However, despite growing literature on individual barriers and consumption predictors, there is still limited understanding of how these mechanisms dynamically interact and reinforce each other within everyday food practices, particularly in meat-dominant Southern European contexts such as Spain. This study addresses this gap by adopting a practice-oriented and socio-culturally embedded perspective on consumer resistance.

3. METHODOLOGY

This chapter outlines the methodological approach adopted to address the research question:

“How do socio-cultural and behavioural mechanisms shape consumer resistance to plant-based food alternatives in Spain?”

Because much of the existing literature on plant-based adoption relies on survey-based approaches that identify predictors without explaining how resistance is socially produced and stabilised (Bryant and Barnett, 2020; Janssen et al., 2022), this study adopts a qualitative case study design. The chapter details the research strategy, epistemological stance, data sources, sampling logic, data collection procedures, analytical approach, and ethical considerations.

3.1 Research Design and Rationale

This research adopts a qualitative case study strategy. Resistance to plant-based food is not treated as an objective variable to be measured, but as a socially constructed phenomenon embedded in cultural meanings, routines, and identity (Guba and Lincoln, 1994).

While quantitative studies have identified recurring predictors such as price sensitivity, taste expectations, and trust concerns (Grunert, 2018; Font-i-Furnols, 2023), they offer limited insight into how these factors interact within everyday practices. Because the literature review highlighted a gap in understanding how resistance becomes socially reinforced in Mediterranean food cultures, a qualitative design is necessary to uncover interpretive processes, justificatory narratives, and shared meanings.

A case study approach is appropriate when investigating complex phenomena within real-life contexts (Yin, 2018). Rather than aiming for statistical generalisation, the objective is analytical generalization, developing theoretically informed insight into how socio-cultural mechanisms operate in a specific national setting. The selected case provides a context in which innovation strategies and consumer interpretations intersect, allowing resistance to be examined as a dynamic process rather than a static attitude.

3.2 Data Sources

To enhance analytical robustness, this study combines secondary data analysis with primary qualitative data collection, enabling triangulation between established knowledge and empirical insights (Cope, 2014).

Data Type	Source Category	Key Examples	Analytical Purpose
Secondary Data	Peer-reviewed academic literature (Spain-focused)	Font-i-Furnols (2023); Font-i-Furnols and Guerrero (2022); Álvarez-Álvarez et al. (2024); Escibano et al. (2021); Dagevos and Verbeke (2022)	To establish theoretical foundations on meat consumption patterns, cultural resistance, sensory expectations, and sustainability perceptions in Spain.
Secondary Data	Consumer behaviour and market research	Guadarrama et al. (2023); Escibano et al. (2021); Bryant and Barnett (2020); Bryant and Sanctorem (2021)	To identify reported barriers to plant-based adoption, including price sensitivity, trust, health perceptions, and willingness to pay.
Secondary Data	Policy and institutional reports	European Commission (2020); CORDIS (2025); ENISA (2025); European Investment Bank (2023); FAO (2019; 2023); OECD-FAO (2023)	To contextualise food-tech development within European sustainability strategies and national innovation funding frameworks.
Secondary Data	Industry and ecosystem documentation	Guadarrama et al. (2023); European Investment Bank (2023); CORDIS (2025)	To analyse ecosystem positioning, funding structures, and strategic narratives in the European plant-based transition.
Primary Data	Semi-structured interviews	Consumers (flexitarian, sceptical, anti plant-based); Industry professionals; Restaurant owners; Food-tech executives	To explore lived experiences of resistance, trust formation, sensory evaluation, and cultural negotiation within the Spanish context.
Primary Data	Internal company material (NOVAFOODS)	Strategic documents; communication campaigns; operational insights	To understand firm-level strategy, market positioning, and adoption challenges.

Table 2. Overview of primary and secondary data sources used in this study. Own elaboration

Secondary data provided theoretical and contextual grounding and included:

- Peer-reviewed literature on meat consumption, dietary transitions, consumer resistance, food naturalness, and sustainability perceptions in Spain and Europe (e.g., Font-i-Furnols and Guerrero, 2022; Román et al., 2017).
- Institutional and policy documents (e.g., Smart Protein Project reports; European Commission Farm to Fork Strategy).
- Industry and company publications relevant to innovation strategies and sectoral dynamics.

In addition, selected documentary films were reviewed as discursive artefacts to contextualise dominant public narratives around plant-based diets. These materials were not treated as scientific evidence but as culturally influential frames that shape consumer perceptions. Viewing such media materials as discursive artefacts aligns with qualitative approaches that treat public narratives as constitutive of social meaning rather than neutral information (Moisander and Valtonen, 2006).

This combination of sources supports theoretical triangulation and situates interview data within broader structural and discursive contexts.

3.3 Sample and Primary Data Collection

Primary data were collected through semi-structured, in-depth interviews with eight participants selected through purposive sampling (Patton, 1990). This strategy is appropriate when participants possess specific experiential or professional relevance to the phenomenon under investigation.

Pseudonym	Role	Profession / Background	Organization / Industry	Location
Raül	Flexitarian consumer	Non-vegetarian consumer experimenting with plant-based products	End consumer	Spain
Sophie	Skeptical consumer	Former plant-based consumer; currently meat-consuming	End consumer	Spain (previously Netherlands)
Ramón	“Anti” consumer	Regular meat consumer with negative perception of plant-based alternatives	End consumer	Spain
Marco	Restaurant owner	Owner of vegan food restaurants	Hospitality / Food Service	Spain
David	Vegan influencer	Content creator focused on plant-based lifestyle	Digital Media / Influencer Marketing	Spain
Juanjo	Influential figure in veganism	Chef, Founder of Vegan Fest; Member of Associació Vegana Catalunya	Vegan advocacy / Gastronomy	Spain
Ángel	R&D professional	R&D specialist in plant-based food company	Plant-based food industry	Spain
Julia	Operations professional	Operations & supply chain manager in plant-based company	Plant-based food industry	Spain

Table 3. Overview of interview participants, including role, professional background, industry affiliation, and location (own elaboration based on primary data).

The sample reflects a multi-actor perspective on the plant-based food system and includes stakeholders occupying different positions within production, communication, and consumption contexts. This diversity supports analysis of how resistance is interpreted across roles rather than confined to a single consumer segment. Interviews were conducted both in person and online, depending on participant availability. The mixed format facilitated access while preserving conversational depth.

Interview guides were adapted to participant profiles but maintained thematic consistency. Open-ended questions encouraged participants to articulate perceptions, experiences, and doubts in their own terms (Rubin and Rubin, 2012). Interviews lasted between 30 and 60 minutes, were recorded with consent, and transcribed verbatim.

Given the mechanism-oriented focus of the study, the objective was not representativeness but depth and interpretive richness. The sample size aligns with qualitative research designs that prioritise analytical depth over statistical generalisation (Creswell and Poth, 2018). Data collection continued until thematic saturation was reached, defined as the point at which additional interviews did not generate substantively new conceptual insights (Guest et al., 2006).

3.4 *Analytical Strategy*

The data were analysed using inductive thematic analysis informed by grounded theory principles (Charmaz, 2006) and inspired by the Gioia methodology (Gioia et al., 2013). This approach is suited to examining emergent, context-specific phenomena while maintaining systematic analytical rigor.

The analysis followed an iterative three-stage process:

- First-order coding, grounded in participants' own language, capturing recurring expressions, concerns, and justificatory narratives.
- Second-order themes, developed through interpretive abstraction and dialogue with existing literature on food culture, trust, identity, and sustainability.
- Aggregate dimensions, synthesising second-order themes into higher-level analytical categories aligned with the research question.

This structured coding process ensured transparency in the transition from raw data to conceptual interpretation. The resulting four aggregate dimensions form the backbone of the findings chapter (see Figure 5).

Importantly, this approach enables examination not only of what barriers exist, but how they interact and become reinforced within everyday practices.

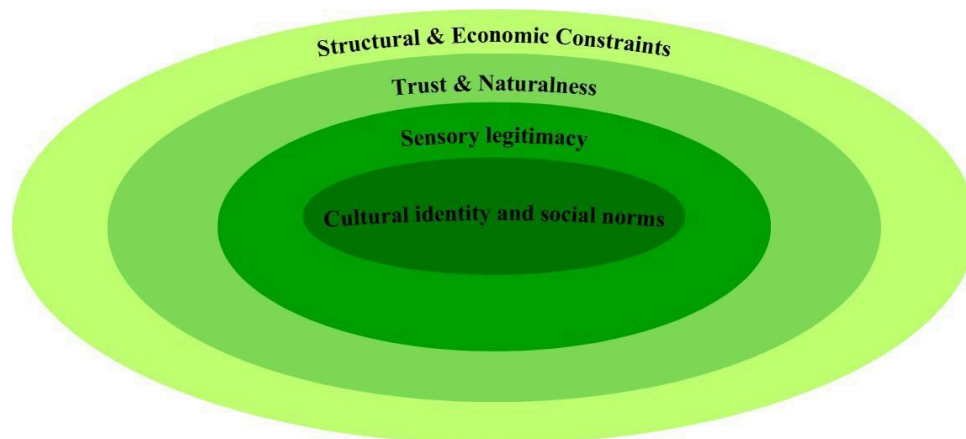


Figure 5. Multi-layered model of consumer resistance to plant-based protein alternatives in Spain. Own elaboration.

3.5 *Validity, Saturation and Ethical Considerations*

Methodological credibility was enhanced through data triangulation across interviews, secondary literature, and policy reports (Cope, 2014). Analytical decisions were made iteratively, with codes continuously compared across participants to ensure internal coherence and conceptual consistency. The study adheres to established qualitative criteria of credibility, dependability, and confirmability (Lincoln and Guba, 1985). Saturation was reached when additional interviews no longer yielded new second-order themes. While qualitative saturation is interpretive rather than statistical, recurring narrative patterns across heterogeneous participants supported analytical robustness. Ethical standards were maintained through informed consent, anonymisation of participants, and removal of identifiable information. Pseudonyms were assigned, and sensitive organisational details were generalised where necessary.

3.6 *Researcher Positionality*

The researcher's prior professional exposure to the case organisation provided contextual familiarity and facilitated access to relevant actors. However, such proximity requires reflexive awareness to minimise interpretive bias. Reflexivity is central to qualitative rigor, as researchers inevitably influence data interpretation through their theoretical positioning and experiential background (Berger, 2015). To mitigate bias, data were analysed comparatively across participants occupying different roles and levels of involvement. Interpretations were continuously cross-checked against secondary sources and existing literature. This reflexive process aimed to balance contextual sensitivity with analytical distance, strengthening credibility without compromising insider insight.

4. FINDINGS

This chapter presents the empirical findings derived from eight semi-structured interviews with consumers, food-service professionals, industry practitioners, and a plant-based influencer. Rather than emerging as isolated themes, resistance to plant-based food was articulated through interconnected justificatory narratives. Participants rarely invoked price, taste, trust, or culture independently. Instead, these concerns appeared bundled within everyday reasoning, suggesting that resistance operates as a relational configuration embedded in social practice.

4.1 *Cultural Identity, Social Norms and Food Traditions*

“Resistance is identity-based rather than informational”

Across interviews, resistance was framed less as ignorance and more as alignment with socially shared norms. Participants demonstrated awareness of environmental and health arguments, yet anchored their choices in collective routines and identity.

Raúl (flexitarian) illustrates this situational logic: while choosing plant-based options alone or during the workweek, he defaults to meat in family meals and social gatherings. “Meat is something I eat in more social situations... with family, with friends, out of habit.” In these contexts, meat signals continuity and belonging. Plant-based food, by contrast, becomes a visible deviation. Resistance therefore appears relational and context-dependent rather than absolute. Generational narratives reinforce this boundary-making. Ramón (anti plant-based consumer) frames plant-based products as “not for my generation,” placing them outside his identity before considering their attributes. Here, tradition functions as a legitimacy filter.

Conversely, Juanjo (chef, Vegan Fest) observes gradual generational shifts. Younger consumers display greater ethical sensitivity, yet transition occurs incrementally rather than through radical conversion. Even partial reduction (60–70%) represents cultural movement. David (vegan influencer) further highlights social pressure during shared meals. Choosing plant-based options can be perceived as implicit moral positioning. Customers often preface orders with disclaimers “I’m not vegan” signaling identity before taste. Together, these accounts show that resistance often functions as a mechanism of social alignment. Rejecting plant-based food preserves normality within group settings. Change, when it occurs, is negotiated gradually and socially.

4.2 *Product Experience and Sensory Legitimacy*

“Sensory performance operates as a legitimacy threshold”

Plant-based products are evaluated almost exclusively against meat, which serves as the unquestioned benchmark. Ángel (R&D) notes that consumers expect “a 100% replica.” Texture, juiciness, and flavor must match meat standards. Any deviation is interpreted not as difference, but as failure. Raúl confirms that products perceived as “too dry” or “rubbery” immediately discourage repeat purchase. Sophie adds: “it’s not worth paying more if the taste isn’t there.”

Importantly, sensory disappointment rarely remained isolated. Participants frequently linked sensory dissatisfaction with price and trust concerns: if the product tastes worse and costs more, skepticism intensifies. From the culinary side, Juanjo and Marco stress that execution matters. When dishes are prepared with technical rigor, skepticism softens. Experiential exposure can temporarily suspend symbolic resistance. However, repeated sensory underperformance reinforces distrust and reduces willingness to experiment.

Sensory evaluation therefore functions not merely as preference, but as a legitimacy threshold. Once legitimacy fails, resistance expands beyond taste to the entire category.

4.3 *Trust, Naturalness and Familiarity*

“Unfamiliar processing triggers interpretive risk.”

Distrust emerged primarily around processing and ingredient unfamiliarity. Raúl describes discomfort with products perceived as “over-designed.” Sophie scrutinizes additives and complex labels. Yet industry participants note that plant-based processes are often no more complex than conventional meat production. The difference lies in familiarity. Participants equated unfamiliarity with risk. Ingredient lists became signals of artificiality, especially when contrasted with culturally anchored meat products. Importantly, distrust frequently intensified after sensory disappointment: poor taste led to closer ingredient scrutiny, which reinforced skepticism.

Juanjo highlights the mitigating role of experiential spaces such as Vegan Fest. When plant-based food is encountered through gastronomy rather than packaging, perceived risk declines. Familiarization through cooking and social interaction appears to reduce distrust more effectively than informational campaigns. Trust therefore operates relationally: it is shaped by experience, comparison standards, and cultural anchoring rather than objective processing levels.

4.4 *Economic and Structural Constraints of Adoption*

“Adoption is structurally and symbolically constrained”

Price emerged consistently across interviews, but rarely alone. Sophie compares plant-based products to low-cost chicken, emphasizing greater satiety at lower cost. Raúl explains that high prices reduce willingness to experiment when combined with sensory uncertainty.

Ángel describes a “vicious circle”: low demand sustains high prices, which restrict further demand. Julia adds that immature supply chains and scaling challenges reinforce this cycle. Crucially, price was frequently intertwined with legitimacy judgments. Participants were less willing to pay a premium for products perceived as culturally marginal or sensorially inferior. Economic hesitation amplified symbolic and sensory doubt.

Juanjo notes that festivals create temporary low-barrier spaces for experimentation. However, outside these environments, affordability and distribution remain decisive.

When plant-based products remain consistently priced above meat, they risk being perceived as niche or elitist. Economic constraints therefore reinforce cultural distance.

4.5 *Mechanism of Stabilisation*

Across interviews, resistance did not emerge as a set of isolated barriers but as a recurring interactional pattern. Participants frequently linked sensory disappointment, ingredient scrutiny, trust concerns, economic reasoning, and social justification within the same narrative. This suggests that resistance stabilises through a self-reinforcing dynamic embedded in everyday food practices.

The cycle often began with sensory comparison to meat as the benchmark. When plant-based products deviated in texture or flavour, dissatisfaction triggered closer scrutiny of ingredients and processing, increasing perceptions of artificiality. This scrutiny reinforced erosion of trust and category legitimacy, reducing willingness to pay, in particular when prices exceeded those of conventional meat. High price then justified reverting to familiar meat options.

Reversion was further stabilised by social norms, especially in shared meals and culturally meaningful contexts where meat remains the default. This restored meat as the benchmark and effectively reset the cycle. Figure 6 synthesises this interactional mechanism.

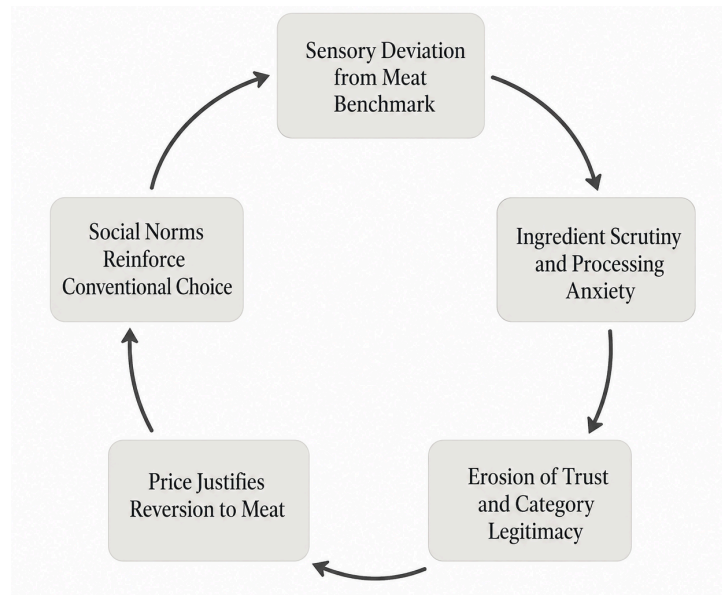


Figure 6. *Interactional Cycle of Consumer Resistance to Plant-Based Alternatives in Spain. Own elaboration.*

The model illustrates how sensory deviation, ingredient scrutiny, trust erosion, economic rationalisation, and social norms mutually reinforce one another. Rather than discrete predictors, these elements form a circular evaluative process that stabilises conventional consumption. Resistance therefore appears less as explicit opposition to sustainability and more as the preservation of practice stability within a culturally anchored food system.

5. CONCLUSION

This study set out to examine how socio-cultural and behavioural mechanisms shape consumer resistance to plant-based food alternatives in Spain. Drawing on qualitative interviews across multiple actors in the food system, the findings demonstrate that resistance cannot be explained through isolated barriers such as price, taste, or trust alone. Instead, it operates as an interactional configuration embedded in everyday food practices, where economic perceptions, sensory expectations, cultural identity, and trust interpretations mutually reinforce one another.

Sensory disappointment does not function solely as a product-level evaluation but frequently triggers broader reassessments of legitimacy and trust. When plant-based products are judged against meat as the dominant reference point, even relatively small sensory deviations can generalise into category-wide scepticism. This process intensifies ingredient scrutiny and reinforces perceptions of artificiality or excessive processing. Trust and sensory evaluation therefore emerge as sequential and relationally constructed rather than independent determinants of acceptance.

Economic perceptions further consolidate this dynamic. Price is not evaluated in isolation but becomes particularly salient under conditions of unfamiliarity and perceived risk. High prices reduce willingness to experiment, limiting trial and reinforcing the low-volume conditions that sustain price premiums. This feedback structure contributes to the persistence of plant-based products as niche offerings rather than mainstream substitutes.

Cultural and social dimensions play a central role in stabilising resistance. In the Spanish context, meat consumption remains embedded in shared routines as a marker of normality, continuity, and belonging. Plant-based alternatives are therefore not evaluated as neutral substitutes but as socially situated deviations from established expectations. While consumers may express openness at the attitudinal level, adoption is highly context-dependent, with experimentation more likely in private settings and conventional consumption reinforced in collective eating contexts as a form of social alignment.

Taken together, the findings indicate that resistance is not primarily a consequence of informational deficits or technological limitations, but of the reproduction of practice stability within a culturally embedded food system. The Spanish case illustrates that dietary choices are shaped through the interaction of meaning, routine, and social legitimacy in everyday contexts rather than through isolated decision-making processes.

Beyond its empirical contribution, this thesis advances a relational understanding of consumer resistance. Rather than treating price, taste, and trust as independent predictors, it demonstrates how these dimensions co-evolve within lived experience. Resistance emerges through reinforcing feedback

loops in which sensory dissatisfaction strengthens distrust, distrust reduces willingness to pay, price reinforces perceived risk, and cultural norms legitimise reversion to conventional consumption. Stability is therefore socially reproduced through practice rather than individually determined.

From a theoretical perspective, the study extends existing research on plant-based adoption and sustainability transitions by shifting the analytical focus from variable-based explanations to interactional mechanisms. In doing so, it aligns with social practice theory by emphasising that consumption is structured through interdependent meanings, materials, and competences rather than isolated preferences. The findings further highlight the importance of identity and social alignment in shaping not only what individuals consume, but also the situational contexts in which alternative choices are considered appropriate.

The Spanish case should not be interpreted simply as a “lagging” market in the protein transition, but rather as a context in which resistance is embedded in a Mediterranean food-practice configuration characterised by strong culinary traditions and collective eating structures. In contrast to contexts where flexitarian identities are more culturally normalised, substitution in Spain is more frequently experienced as a disruption to social cohesion and culinary continuity.

A key implication of these findings is that technological improvement and price optimisation, while necessary, are insufficient on their own. Even when sensory performance is improved, plant-based products must also achieve cultural and situational legitimacy. Accordingly, successful diffusion depends not only on product optimisation, but on practice integration, meaning the embedding of plant-based alternatives within familiar routines, shared meals, and socially meaningful consumption contexts.

Practical implications

The findings suggest that strategies aimed at increasing adoption should move beyond a substitution logic towards an integration logic, focusing on embedding plant-based alternatives within existing food practices rather than positioning them as direct replacements for meat.

Communication strategies should prioritise cultural familiarity and culinary normalisation over ideological or explicitly sustainability-oriented framing. Overemphasis on environmental or technological messaging may inadvertently increase scrutiny and reinforce perceptions of difference.

In this context, reducing symbolic distance is likely to be more effective than increasing informational content. Transparency strategies should also be carefully considered. The findings suggest that distrust is often rooted in unfamiliarity rather than in specific knowledge deficits. Excessive technical detail may therefore amplify uncertainty rather than reduce it. Simplicity and comparability may be more effective

in facilitating acceptance. Price remains a structural constraint, particularly when combined with symbolic uncertainty and sensory risk. Consequently, scaling strategies, retail integration, and strategic partnerships are important not only for cost reduction but also for processes of normalisation that reduce perceived risk over time.

Future research and limitations

This study identifies several directions for future research. Comparative studies could examine whether the interactional configuration observed in Spain is context-specific or present across different cultural and culinary systems. Rather than categorising contexts as “advanced” or “lagging,” such research should examine how identity, sensory legitimacy, trust formation, and price sensitivity interact under varying socio-cultural conditions.

Longitudinal research would help determine whether the stabilising feedback loops identified in this study persist over time or weaken through repeated exposure, generational change, and evolving interpretive frameworks. In particular, future research could examine how early-life exposure and routine integration influence long-term normalisation of plant-based consumption.

Further research should also broaden the range of actors considered, including retailers, food-service providers, distributors, and policymakers, in order to better understand how structural conditions shape the environments in which consumption decisions are made. Experimental and mixed-method designs could complement these insights by testing specific mechanisms identified in this study, such as the role of cultural framing, endorsement effects, or contextual cues in reducing symbolic resistance and increasing willingness to adopt plant-based alternatives.

This study is subject to limitations inherent to qualitative research. The findings are not statistically generalisable and should be interpreted as theoretically informative rather than population-representative. The empirical focus on predominantly urban contexts may also limit transferability to other settings, particularly rural food environments. In addition, as with all qualitative research, the analysis reflects interpretive positioning and is based on self-reported accounts.

Overall, this research demonstrates that resistance to plant-based food alternatives in Spain is not a simple function of individual preferences or informational gaps, but a socially embedded and interactionally produced phenomenon. It is sustained through the continuous alignment of sensory experience, cultural meaning, economic perception, and trust evaluation within everyday food practices.

By reframing resistance as a dynamic system of reinforcing mechanisms rather than a set of isolated

barriers, this thesis provides a more comprehensive explanation of the persistent gap between sustainability awareness and dietary change. It further suggests that the transition towards plant-based consumption depends not only on technological and economic optimisation, but also on the restructuring of the social contexts in which food is produced, shared, and interpreted.

REFERENCES

- Aalborg University (2020) *The influence of realfooding on consumer behaviour in Spain*. Master's thesis. Aalborg University.
- Álvarez-Álvarez, I., Martínez-González, M.A., Sánchez-Villegas, A. and Bes-Rastrollo, M. (2024) 'Evolution of dietary patterns in the Spanish adult population: adherence to Mediterranean and alternative diets', *Nutrients*, 16(4), pp. 1–15.
- Bennasser Verger, M.M. (2019) *Veganism and vegetarianism in Spain: motivations and impact on the industry*. Undergraduate thesis. Universidad Pontificia Comillas.
- Berger, R. (2015) 'Now I see it, now I don't: Researcher's position and reflexivity in qualitative research', *Qualitative Research*, 15(2), pp. 219–234.
- Bryant, C. (2022) 'Plant-based meat substitutes in the flexitarian era: Market evolution and consumer perceptions', *Foods*, 11(18), 2875.
- Bryant, C. and Barnett, J. (2020) 'Consumer acceptance of cultured meat: A systematic review', *International Journal of Consumer Studies*, 44(5), pp. 435–445.
- Bryant, C. and Sanctorem, H. (2021) 'Alternative proteins, evolving attitudes: comparing consumer acceptance of plant-based and cultured meat', *Trends in Food Science & Technology*, 115, pp. 1–11.
- Charmaz, K. (2006) *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- Cope, D.G. (2014) 'Methods and meanings: Credibility and trustworthiness of qualitative research', *Oncology Nursing Forum*, 41(1), pp. 89–91.
- CORDIS (2025) *EU research and innovation results database*. Available at: <https://cordis.europa.eu> (Accessed: 12 February 2026).
- Creswell, J.W. (2013) *Qualitative inquiry and research design: Choosing among five approaches*. 3rd edn. Thousand Oaks, CA: Sage.
- Dagevos, H. and Verbeke, W. (2022) 'Meat consumption and flexitarianism in the Low Countries', *Meat Science*, 192, 108894.
- ENISA (2025) *AgroInnpulso funding programme*. Available at: <https://www.enisa.es> (Accessed: 12 February 2026).
- Escribano, X., et al. (2021) 'Consumer preferences and willingness to pay for plant-based and cultured meat in Spain', *Sustainability*, 13(15), 8235.

- European Commission (2020) *A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system*. Brussels: European Commission.
- European Investment Bank (2023) *Financing sustainable food innovation*. Available at: <https://www.eib.org> (Accessed: 12 February 2026).
- FAO (2019) *The state of food and agriculture 2019*. Rome: FAO. FAO (2023) *FAOSTAT: Food balance sheets*. Rome: FAO.
- Font-i-Furnols, M. (2023) 'Meat consumption, sustainability and alternatives: motives and barriers', *Foods*, 12(11), 2144.
- Font-i-Furnols, M. and Guerrero, L. (2022) 'Spanish perspective on meat consumption and consumer attitudes', *Meat Science*, 189, 108841.
- Geels, F.W. (2002) 'Technological transitions as evolutionary reconfiguration processes', *Research Policy*, 31(8–9), pp. 1257–1274.
- Gerber, P.J., et al. (2013) *Tackling climate change through livestock*. Rome: FAO.
- Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2013) 'Seeking qualitative rigor in inductive research', *Organizational Research Methods*, 16(1), pp. 15–31.
- Graça, J., Oliveira, A. and Calheiros, M.M. (2015) 'Meat, beyond the plate', *Appetite*, 90, pp. 80–90.
- Grunert, K.G. (2018) 'Consumer perceptions of food quality and safety', *Trends in Food Science & Technology*, 77, pp. 14–23.
- Guadarrama, E., Spahic, A., Nosten, P., Alexandre, M., Faber, I., Schouteten, J., Rini, L., Frøst, M.B. and De Steur, H. (2023) *Evolving appetites: An in-depth look at European attitudes towards plant-based eating*. Brussels: ProVeg International (Smart Protein Project, funded by Horizon 2020, Grant No. 862957).
- Guest, G., Bunce, A. and Johnson, L. (2006) 'How many interviews are enough?', *Field Methods*, 18(1), pp. 59–82.
- Guba, E.G. and Lincoln, Y.S. (1994) 'Competing paradigms in qualitative research', in Denzin, N.K. and Lincoln, Y.S. (eds.) *Handbook of qualitative research*. Thousand Oaks, CA: Sage, pp. 105–117.
- Hall, J., Daneke, G. and Lenox, M. (2010) 'Sustainable development and entrepreneurship', *Journal of Business Venturing*, 25(5), pp. 439–448.

- Janssen, M., Busch, C., Rödiger, M. and Hamm, U. (2022) 'Motives of consumers following a vegan diet', *Food Quality and Preference*, 94, 104251.
- Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Moisander, J. and Valtonen, A. (2006) *Qualitative marketing research: A cultural approach*. London: Sage.
- OECD-FAO (2023) *OECD-FAO Agricultural Outlook 2023–2032*. Paris: OECD.
- Patton, M.Q. (1990) *Qualitative evaluation and research methods*. 2nd edn. Newbury Park, CA: Sage.
- Poore, J. and Nemecek, T. (2018) 'Reducing food's environmental impacts through producers and consumers', *Science*, 360(6392), pp. 987–992.
- Polyportis, A., et al. (2025) 'Not on my plate', *British Food Journal*, ahead-of-Print.
- Rockström, J., et al. (2009) 'A safe operating space for humanity', *Nature*, 461, pp. 472–475.
- Rubin, H.J. and Rubin, I.S. (2012) *Qualitative interviewing: The art of hearing data*. 3rd edn. Thousand Oaks, CA: Sage.
- Sexton, A.E., Garnett, T. and Lorimer, J. (2019) 'Framing the future of food', *Annual Review of Environment and Resources*, 44, pp. 453–477.
- Shove, E., Pantzar, M. and Watson, M. (2012) *The dynamics of social practice: Everyday life and how it changes*. London: Sage.
- Tziva, M., Negro, S.O., Kalfagianni, A. and Hekkert, M.P. (2020) 'Understanding the protein transition', *Environmental Innovation and Societal Transitions*, 35, pp. 217–231.
- Vermeir, I. and Verbeke, W. (2006) 'Sustainable food consumption', *Journal of Agricultural and Environmental Ethics*, 19(2), pp. 169–194.
- Willett, W., et al. (2019) "Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems"
- Yin, R.K. (2018) *Case study research and applications*. 6th edn. Thousand Oaks, CA: Sage.

Appendix

Appendix A: Purchase Dynamics for Plant-Based Categories

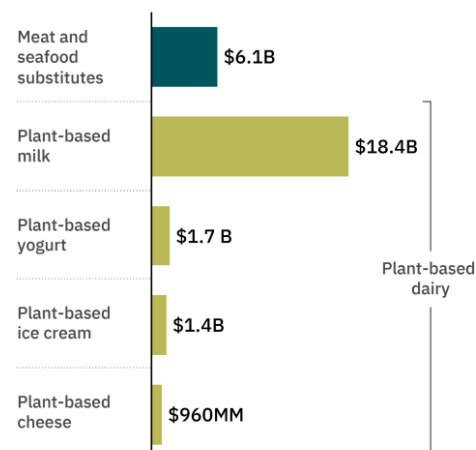
Table 5. Purchase dynamics for plant-based categories
2024

	Household penetration	Repeat rate
Total plant-based foods	59%	79%
Milk	40%	76%
Meat and seafood	13%	63%
Yogurt	6%	58%
Cheese	4%	54%
Eggs	1%	56%
Ice cream and frozen novelties	9%	53%
Creamer	14%	66%
Butter	8%	55%
Tofu, tempeh, and seitan	7%	59%

Household data note: SPINS uses a separate process from the sales data to pull household panel data which may result in minor category differences. Source: SPINS, National Consumer Panel (powered by Circana), All Outlets, 52 Weeks Ending 12/1/2024.

Appendix B: Global plant-based foods retail sales estimates by category

Figure 6. Global plant-based foods retail sales estimates by category
2024



Source: Euromonitor International Limited 2024 © All rights reserved: Staple Foods 2024, Meat & seafood substitutes; Snacks 2024, Plant-based ice cream; Dairy Products and Alternatives 2023, retail value RSP incl sales tax, US\$ fixed 2024 exchange rate, current prices.

Appendix C: Interview Guides

Research Topic: *How do socio-cultural and behavioural mechanisms shape consumer resistance to plant-based food alternatives in Spain?*

All interviews were semi-structured and flexible. Questions were adapted depending on participant profile and conversational flow.

C R&D Professional (Plant-Based Company)

Focus: Sensory expectations, naturalness, and product development Role & Context

C.1 Can you describe your role in R&D within the company?

C.2 How does consumer feedback reach the R&D department?

Sensory Expectations

C.3 What do Spanish consumers expect regarding taste, texture, and mouthfeel?

C.4 To what extent do they expect plant-based products to replicate meat?

C.5 What sensory aspects generate the most criticism?

Naturalness & Processing

C.6 How do you manage tensions between perceived naturalness and industrial scalability?

C.7 How do you address concerns about “ultra-processed” products?

C.8 Can consumer resistance be fully resolved through product innovation?

Cultural Fit

C.9 How do Spanish culinary traditions influence product design?

C.10 How important is compatibility with traditional dishes?

D Operations / Supply Chain Professional

Focus: Sustainability, sourcing, and structural constraints Sustainability & Sourcing

D.1 How do sourcing decisions influence sustainability credibility?

D.2 What criteria are used to evaluate suppliers?

Structural Constraints

D.3 How do cost efficiency and sustainability interact in the supply chain?

D.4 How does dependence on specific ingredients shape strategic decisions?

D.5 What transparency challenges are most difficult to communicate?

Consumer Concerns

D.6 To what extent do consumers care about origin and traceability?

D.7 Do sustainability expectations differ from other food categories?

E Vegan Influencer

Focus: Communication, stigma, and identity

Cultural Resistance

E.1 Why do conventional consumers resist plant-based food?

E.2 Does the word “vegan” generate rejection?

Normalisation Strategies

E.3 What communication strategies reduce resistance?

E.4 Do restaurants help normalise plant-based food more than supermarkets?

Social Dynamics

E.5 Do sustainability or animal welfare messages create engagement or distance?

E.6 How has the vegan scene evolved in Spain?

F Vegan Chef / Festival Founder

Focus: Gastronomy and experiential exposure Sensory Barriers

F.1 What sensory barriers do non-vegan consumers encounter?

F.2 Are expectations primarily texture-based?

Culinary Technique

F.3 Is acceptance more a product issue or a cooking issue?

F.4 How important is chef expertise?

Events & Normalisation

F.5 Do festivals and gastronomic spaces accelerate acceptance?

F.6 Is plant-based cuisine still perceived as activist or alternative?

G Restaurant Owner Focus: Real dining behaviour Customer Profile

G.1 Who visits your restaurant?

G.2 What percentage are omnivores?

Acceptance & Resistance

G.3 Which dishes work best with omnivorous customers?

G.4 Which generate hesitation?

Cultural & Social Factors

G.5 What fears or myths do consumers express?

G.6 What still holds consumers back in Spain?

H Anti-Plant-Based Consumer Focus: Identity-based resistance Food Identity

H.1 How would you describe your relationship with food?

H.2 What do plant-based alternatives represent to you?

Cultural & Generational Perception

H.3 How do these products relate to tradition?

H.4 What concerns do you associate with them?

Conditions for Change

H.5 Is there anything that could increase your openness?

H.6 What role does price play?

I Flexitarian Consumer Focus: Situational adoption Usage Patterns

I.1 In which contexts do you choose plant-based options?

I.2 When do you revert to meat?

Purchase Drivers

I.3 What motivates you to try plant-based products?

I.4 What discourages repeat purchase?

Trust & Naturalness

I.5 What does “natural” mean to you?

I.6 How confident are you in sustainability claims?

J Skeptical Former Consumer

Focus: Disengagement after experimentation Initial Adoption

J.1 What initially motivated you to try plant-based products?

Reasons for Reduction

J.2 Why did you reduce or stop purchasing?

J.3 How did price, taste, or ingredients influence this decision?

Re-engagement Conditions

J.4 What would need to change for you to resume consumption?

J.5 Do you perceive plant-based eating as a luxury?