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Determinants of Consumer Acceptance of Innovative Agri-Food Products: An Integrated Marketing and Behavioural Framework

Nugzar Todua, Tatia Bregvadze*

Faculty of Economics and Business, Ivane Javakhishvili Tbilisi State University, 2 University Street, Tbilisi 0186, Georgia

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ABSTRACT

Innovative agri-food products combine novel ingredients, production systems, processing technologies, packaging solutions, traceability tools, and sustainability-oriented attributes. Their technical novelty, however, does not automatically generate favourable attitudes or sustained market behaviour. This conceptual review develops a model that follows the complete consumer-response sequence specified for innovative agri-food products. A structured integrative review synthesised 36 academic sources from food marketing, consumer behaviour, innovation diffusion, technology acceptance, perceived quality, trust, risk, engagement, and post-purchase research. The model positions awareness, information, and perceived innovation attributes; perceived ease of use; perceived usefulness; trust; perceived risk; and perceived quality as antecedents of attitude. Attitude is treated as the central mediator and is linked sequentially to consumer engagement, purchase intention, purchase decision making, satisfaction, and recommendation or word of mouth. The model specifies a negative relationship for perceived risk and positive relationships for all other links in the sequence. Examples from hydroponic products, alternative proteins, upcycled foods, non-thermal processing, smart packaging, QR codes, and blockchain-supported traceability illustrate the meaning of each construct. The review contributes by integrating technology-related and food-specific evaluations, separating active engagement from purchase intention, distinguishing intention from the broader purchase-decision process, and extending the model beyond first purchase to satisfaction and advocacy. The proposed relationships are stated as eleven clearly numbered propositions. The article also clarifies the conceptual boundaries required for empirical testing and provides illustrative measurement guidance so that risk, quality, attitude, engagement, intention, decision making, satisfaction, and word of mouth remain empirically distinct. The model provides a direct theoretical foundation for factor analysis, regression, mediation analysis, and structural equation modelling in research on consumer responses to innovative agri-food products.

Keywords: innovative agri-food products, integrated marketing framework, consumer attitude, technology acceptance, purchase decision making

INTRODUCTION

Agri-food innovation increasingly extends beyond new recipes or incremental product reformulation. It includes hydroponic and vertical production, controlled-environment agriculture, alternative proteins, functional and upcycled products, non-thermal processing, smart packaging, digital traceability, and sustainability-oriented business models. These innovations may improve safety, quality, shelf life, transparency, convenience, resource efficiency, and environmental performance, but they also change what consumers must understand and evaluate (Castellini et al., 2025; Guiné et al., 2020). A product can appear familiar while being produced through an unfamiliar process, or it can communicate benefits that remain invisible even after consumption.

The central marketing difficulty is that technological novelty and consumer value are not equivalent. Consumers may appreciate the environmental purpose of an innovation yet reject its taste, price, packaging, preparation requirements, or technological image. They may also find it difficult to verify claims about origin, production standards, resource use, safety controls, or sustainability. The acceptance of novel food technologies is therefore

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influenced by perceived benefits, naturalness, trust, risk, familiarity, and cultural meaning rather than by objective technical performance alone (Román et al., 2017; Siegrist & Hartmann, 2020).

Research on these responses is substantial but fragmented. Technology-acceptance research emphasises usefulness and ease of use; innovation-diffusion research focuses on awareness, knowledge, relative advantage, and perceived innovation attributes; food-consumption research gives greater attention to naturalness, sensory expectations, perceived quality, and risk; marketing research examines attitude, engagement, intention, decision making, satisfaction, and word of mouth. Reviews of novel foods and emerging food technologies repeatedly show that these factors interact, but most studies examine only selected stages of the response process (Albertsen et al., 2020; Günden et al., 2024; Laureati et al., 2024; Mosikyan et al., 2024).

This article develops a model that matches a sequential consumer-response architecture. Awareness, information, and perceived innovation attributes (AWA), perceived ease of use (PEOU), perceived usefulness (PU), trust (TR), perceived risk (PR), and perceived quality (PQ) are treated as antecedent variables. Attitude (ATT) is positioned as the central mediating construct. The downstream outcomes follow one specified path: attitude influences consumer engagement (ENG), engagement influences purchase intention (PI), purchase intention influences purchase decision making (DM), decision making creates the experience evaluated through satisfaction (SAT), and satisfaction influences recommendation or word of mouth (WOM). No direct attitude-to-purchase-intention path is proposed because engagement is explicitly positioned as the behavioural bridge in this model.

A structured integrative literature review was selected because the proposed framework combines heterogeneous research streams that cannot be represented adequately by one theory, one product category, or one empirical design. The objective was conceptual integration and model development rather than statistical aggregation. The review therefore combined recent empirical and review studies with seminal theoretical sources needed to define the constructs and their proposed relationships.

REVIEW METHODOLOGY

Review design and purpose

A structured integrative literature review was selected because the proposed framework combines heterogeneous research streams that cannot be represented adequately by one theory, one product category, or one empirical design. The objective was conceptual integration and model development rather than statistical aggregation. The review therefore combined recent empirical and review studies with seminal theoretical sources needed to define the constructs and their proposed relationships.

Information sources and search strategy

The academic information sources searched included PubMed and PubMed Central, together with publisher platforms such as ScienceDirect, SpringerLink, Wiley Online Library, Emerald Insight, Frontiers, and MDPI. Backward and forward citation searching was also used to identify seminal and construct-specific publications. The principal search period was 2015 to July 2026; earlier sources were retained when they established a theory, construct definition, or foundational relationship that could not be replaced by a recent publication.

The core Boolean search logic was adapted to the syntax of each platform. A representative product-and-acceptance string was: ("agri-food innovation" OR "novel food*" OR "alternative protein*" OR hydroponic* OR "non-thermal processing" OR "smart packaging" OR "upcycled food*" OR blockchain OR traceability) AND (consumer* OR marketing OR acceptance OR attitude OR engagement OR "purchase intention" OR "decision making" OR satisfaction OR recommendation OR "word of mouth"). Construct-specific searches combined the same product terms with awareness, innovation attributes, perceived ease of use, perceived usefulness, trust, perceived risk, perceived quality, attitude, engagement, satisfaction, and word of mouth.

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Eligibility, screening, and coding

Sources were eligible when they (a) examined consumer or market responses to agri-food innovations or supplied a directly relevant theoretical construct; (b) were peer-reviewed journal articles or recognised seminal academic works; (c) provided conceptual definitions, empirical evidence, or review evidence relevant to at least one proposed relationship; and (d) were available in English. Purely technical engineering or production studies without a consumer or marketing component, studies focused exclusively on producer adoption, duplicate coverage with no additional conceptual value, and sources that did not inform any construct or path were excluded.

Screening proceeded in three stages. Titles and abstracts were first assessed for relevance to consumer acceptance and innovative agri-food contexts. Potentially relevant full texts were then assessed against the eligibility criteria. Finally, retained sources were coded by product context, theoretical perspective, method, constructs, proposed model path, and main contribution. Evidence was organised into three analytical blocks: the six antecedents of attitude; the attitude-engagement-intention-decision sequence; and the post-purchase satisfaction-word-of-mouth sequence.

Review corpus and transparency

The final analytical corpus comprised 36 academic sources listed in the references: 28 published from 2015 onward and eight earlier seminal works. The review was conducted iteratively across multiple academic information sources, publisher platforms, and citation chains. Platform-level counts of initial hits, duplicates, and records excluded at each stage were not retained during the original review and therefore cannot be reported retrospectively. Rather than estimating these figures after the fact, the manuscript states this limitation explicitly. Table 1 reports the complete review protocol, screening logic, eligibility criteria, and final corpus, while Appendix A provides a source-level literature matrix so that the retained evidence base and its role in the framework are transparent and auditable.

Table 1: Review protocol, screening logic, and final evidence base

Review element	Specification
Review type	Structured integrative literature review for conceptual integration and model development.
Primary objective	To integrate technology-acceptance, innovation-diffusion, food-choice, engagement, decision, satisfaction, and word-of-mouth research into one sequential framework.
Academic information sources	PubMed/PubMed Central; ScienceDirect, SpringerLink, Wiley Online Library, Emerald Insight, Frontiers, and MDPI; and backward/forward citation searching.
Time coverage	Primary period: 2015-July 2026; earlier seminal works retained for foundational theories and construct definitions.
Search logic	Product/technology terms combined with consumer acceptance and construct-specific terms; Boolean strings were adapted to each platform.
Inclusion criteria	Consumer/marketing relevance; innovative agri-food or directly relevant theory; peer-reviewed or seminal academic source; contribution to a construct or proposed relationship; English full text.

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Exclusion criteria	Purely technical studies; producer-only adoption studies; duplicate conceptual coverage without added value; no relevance to a construct/path; non-academic material.
Screening stages	Title/abstract relevance screening; full-text eligibility assessment; construct- and path-based coding.
Coding fields	Author/year, product context, theory, method, constructs, principal contribution, and role in the proposed model.
Final corpus	36 sources: 28 from 2015 onward and eight earlier seminal sources; all are documented in Appendix A.
Screening-count availability	Platform-level counts of initial hits, duplicates, and exclusions were not retained during the original integrative review and were not retrospectively estimated.
Review scope boundary	The review is not claimed as exhaustive systematic coverage; the complete final corpus and its analytical role are documented in Appendix A.

Source: Authors' review protocol and synthesis.

THEORETICAL FOUNDATIONS OF THE CONCEPTUAL MODEL

The proposed model is grounded in several complementary theoretical perspectives. Diffusion of Innovations explains how awareness, knowledge, and perceived innovation attributes shape consumers' initial interpretation of an innovation and reduce or increase uncertainty during the adoption process (Rogers, 2003). The Technology Acceptance Model provides the concepts of perceived usefulness and perceived ease of use, which are particularly relevant when innovative agri-food products require learning, interaction, unfamiliar preparation, or the use of digital information and packaging technologies (Davis, 1989).

The Theory of Planned Behavior provides the behavioural logic linking consumer evaluation with intention and subsequent choice, while also recognising that favourable intentions may not be translated into behaviour when contextual constraints are present (Ajzen, 1991). However, innovative agri-food products cannot be explained adequately through conventional technology-acceptance constructs alone. Consumers also evaluate sensory compatibility, naturalness, safety, product quality, source credibility, and claims that cannot be verified independently. Trust, perceived risk, and perceived quality are therefore included as conceptually distinct antecedents of attitude, reflecting the credence-intensive and experience-dependent nature of food choice (Siegrist & Hartmann, 2020; Schrobback et al., 2023; Wu et al., 2021; Zeithaml, 1988).

The downstream sequence is informed by consumer-engagement and post-purchase theories. Consumer engagement captures active information seeking, participation, experience sharing, and willingness to contribute to product development (Hollebeek et al., 2014; Mendini et al., 2024). Expectation-confirmation theory explains satisfaction as the consumer's comparison of expected and experienced product performance, while satisfaction provides the basis for recommendation and positive word of mouth (Anderson, 1998; Bhattacherjee, 2001; Oliver, 1980).

Recent reviews of novel foods and agricultural production technologies confirm that consumer acceptance is multidimensional and shaped by interacting cognitive, emotional, sensory, informational, social, and contextual factors (Castellini et al., 2025; Günden et al., 2024; Laureati et al., 2024; Mosikyan et al., 2024). Accordingly, the present model integrates these perspectives into a sequential framework extending from awareness and pre-

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purchase perceptions to attitude, engagement, purchase intention, decision making, satisfaction, and word of mouth.

Antecedents of Consumer Attitude

Awareness, information, and perceived innovation attributes

In this model, awareness is broader than simple recognition. It includes familiarity with the principal characteristics of innovative agri-food products, knowledge of where and how they can be purchased, exposure to relevant information and advertising, perceived accessibility of information, and the belief that digital technologies improve transparency. It also includes perceived innovation attributes, such as difference from traditional products, environmental friendliness, and perceived efficiency. This integrated definition is consistent with diffusion theory, where knowledge and perceived attributes help consumers interpret the relative advantage and compatibility of an innovation (Rogers, 2003).

Awareness is especially important when the innovation is embedded in an invisible process. Consumers may recognise a tomato but know little about hydroponic production, or they may see a QR code without understanding what has been verified. Upcycled foods create a related challenge because consumers must understand why a by-product can become a safe and valuable ingredient. Clear, accessible information can make perceived benefits more concrete, while unclear terminology can strengthen uncertainty or scepticism (Albertsen et al., 2020; Guiné et al., 2020; Lu et al., 2024).

The content and source of information also matter. QR-based information can improve attribute evaluation when the information is structured and relevant, but excessive detail can increase cognitive burden (Lin et al., 2021; Young et al., 2020). Research on green consumption likewise indicates that awareness contributes to the relationship between attitudes and purchase-related readiness (Shehawy & Khan, 2024). In the proposed model, better awareness, information access, and favourable perceptions of innovation attributes should therefore support a more positive overall attitude.

Proposition P1a. *Greater awareness, more accessible information, and more favourable perceptions of innovation attributes positively influence consumer attitude toward innovative agri-food products.*

Perceived ease of use

Perceived ease of use refers to the extent to which integrating, understanding, preparing, storing, transporting, and using an innovative agri-food product is expected to require little effort. The construct is adapted from the Technology Acceptance Model but is interpreted broadly for food consumption. It therefore includes not only interface simplicity but also clear instructions, convenient packaging, compatibility with everyday meals, accessible information, and practical fit with established shopping and storage routines (Davis, 1989).

The construct is highly visible in smart packaging and digital traceability. A freshness indicator can be technically sophisticated yet fail if consumers cannot interpret its meaning. A QR system can contain reliable data but create little value if scanning, navigation, or terminology is difficult. Empirical and review evidence shows that ease of use, familiarity, and information clarity influence the acceptance of blockchain traceability and smart packaging (Lin et al., 2021; Young et al., 2020).

Ease of use also applies to physical products. A novel food that requires special skills, unfamiliar preparation, difficult storage, or complicated transport may be evaluated less favourably even when its benefits are recognised. Conversely, products that fit ordinary consumption routines reduce behavioural effort and perceived complexity. The effect is expected to be stronger for interactive packaging, digital information, direct-to-consumer channels, and products with unfamiliar use requirements than for familiar-looking products requiring no behavioural change.

Proposition P1b. *Perceived ease of use positively influences consumer attitude toward innovative agri-food products.*

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Perceived usefulness

Perceived usefulness is the consumer's belief that the innovative product provides valuable outcomes. Within this model, usefulness includes functional, health, nutritional, economic, convenience, environmental, and social benefits. It captures whether the innovation improves everyday life or provides a meaningful advantage over traditional alternatives. The construct translates technical novelty into personally or socially relevant value (Davis, 1989).

Examples clarify this translation. High-pressure processing is useful when consumers connect it with safety, freshness, and quality preservation rather than with the technical process itself. Hydroponic production becomes valuable when it is associated with controlled quality, lower residues, resource efficiency, or stable availability. Blockchain traceability becomes useful when it provides credible origin, authenticity, or safety information. Alternative proteins are evaluated through their perceived health, environmental, convenience, and relative-advantage benefits (D'Amico et al., 2024; Lin et al., 2021; Wang et al., 2024).

The same innovation may have different usefulness for different consumers. Environmental benefits may be central for sustainability-oriented consumers, while time savings, packaging convenience, nutrition, or value for money may be more persuasive for others. Marketing therefore needs to identify the benefit that is both credible and relevant. When consumers perceive that an innovative agri-food product delivers concrete value, their overall evaluation should become more favourable.

Proposition P1c. *Perceived usefulness positively influences consumer attitude toward innovative agri-food products.*

Trust

Trust reflects confidence in the safety of the product and in the actors and information that support it. In the present model, trust may be directed toward the producer, the producer's reputation, certification systems, retailers, marketing messages, packaging information, regulators, and digital traceability providers. This multidimensional view is necessary because consumers rarely possess the expertise or information required to verify all claims independently (Schrobback et al., 2023; Wu et al., 2021).

Innovative products often rely on credence attributes. A consumer cannot easily confirm whether a product was produced with lower environmental impact, whether traceability data are complete, or whether a safety claim is supported by appropriate testing. Certification, reputable producers, transparent labels, and credible institutions can reduce this information asymmetry. Blockchain and QR systems may support trust, but the technology alone does not guarantee truthful data; credibility also depends on data entry, verification, governance, and institutional responsibility (Contini et al., 2023; Reitano et al., 2024).

Trust is particularly important when the product is unfamiliar or perceived as technologically distant from traditional food. Review evidence identifies trust in industry and institutions as a central determinant of acceptance of novel food technologies (Siegrist & Hartmann, 2020). Consistent performance and honest communication are therefore more important than vague reassurance. When consumers trust the product, producer, certification, and information sources, they should form a more favourable attitude.

Proposition P1d. *Trust positively influences consumer attitude toward innovative agri-food products.*

Perceived risk

Perceived risk is the consumer's subjective expectation of possible negative consequences. In this model, it is reflected in safety concerns, uncertainty about reliability, the perception that innovative products are riskier than traditional alternatives, unclear product information, and uncertainty about responsibility if negative consequences occur. These concerns can exist even when the product satisfies formal regulatory requirements because perceived risk is psychological rather than purely technical.

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Food innovation can activate several sources of uncertainty. Non-thermal processing may be viewed as unfamiliar or insufficiently understood; alternative proteins can trigger concerns about safety, naturalness, taste, or long-term effects; and upcycled products can create doubts about ingredient quality. Cross-cultural evidence shows that perceptions of risk vary by technology and national context, while systematic reviews identify risk, neophobia, disgust, and naturalness concerns as recurring barriers (Günden et al., 2024; Hüppe & Zander, 2021; Laureati et al., 2024; Silva et al., 2024).

Risk must remain conceptually distinct from trust and quality. Trust concerns willingness to rely on actors and procedures; quality concerns expected excellence; risk concerns the possibility and seriousness of loss. Information and certification may reduce risk, but excessive technical detail or unsupported claims can increase it. Because perceived risk introduces anxiety and uncertainty into the overall evaluation, it is expected to affect attitude negatively.

Proposition P1e. *Perceived risk negatively influences consumer attitude toward innovative agri-food products.*

Perceived quality

Perceived quality is the consumer's judgment of the product's expected excellence or superiority. It is not identical to objective laboratory quality and should not be measured through risk statements. In this model, perceived quality concerns expected safety, freshness, reliability, consistency, nutritional or sensory performance, ingredient integrity, and superiority relative to alternatives (Zeithaml, 1988). This distinction is essential for later factor and discriminant-validity analysis.

Quality judgments are formed from both intrinsic and extrinsic cues. Appearance, texture, ingredients, packaging, brand reputation, origin, certification, price, and production information may all contribute. Hydroponic products can signal controlled quality to some consumers but artificiality to others. Upcycled foods can communicate environmental value while generating uncertainty about freshness or safety. Smart packaging can strengthen quality judgments when freshness indicators are understandable and trusted (D'Amico et al., 2024; Lu et al., 2024; Young et al., 2020).

Direct experience can revise expected quality. Tasting has been shown to correct unfavourable visual judgments of suboptimal produce, demonstrating that consumers can update quality perceptions when sensory evidence becomes available (Elimelech et al., 2024). Before purchase, however, attitude is shaped by expected quality. Consumers who anticipate that the innovative product will be safe, fresh, reliable, consistent, and superior should evaluate it more positively.

Proposition P1f. *Perceived quality positively influences consumer attitude toward innovative agri-food products.*

Table 2: Construct definitions, illustrative applications, and roles in the model

Construct	Conceptual meaning	Illustrative agri-food application	Role in the model
AWA	Knowledge, information access, transparency, and perceived innovation attributes.	Information about hydroponic production, explanations of upcycled foods, and QR-enabled product transparency.	Positive antecedent of **ATT**.
PEOU	Perceived effort required to understand, integrate, prepare, store, transport, and use the product.	Smart freshness indicators, QR-code scanning, unfamiliar preparation methods, storage, and transportation requirements.	Positive antecedent of **ATT**.

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PU	Expected functional, health, nutritional, economic, convenience, environmental, and social benefits.	Quality preservation through high-pressure processing, hydroponic-production efficiency, and digitally traceable product origin.	Positive antecedent of **ATT**.
TR	Confidence in product safety, the producer, certification, reputation, and product information.	Independent certification, reputable producers, transparent labels, and verified traceability information.	Positive antecedent of **ATT**.
PR	Expected safety or performance loss, uncertainty, unclear information, comparative risk, and concerns about accountability.	Non-thermal processing technologies, alternative proteins, and products containing upcycled ingredients.	Negative antecedent of **ATT**.
PQ	Expected safety, freshness, reliability, consistency, sensory performance, and superiority.	Controlled hydroponic production, intelligent freshness indicators, and sensory confirmation through product trial.	Positive antecedent of **ATT**.
ATT	Overall favourable or unfavourable evaluation of innovative agri-food products.	General evaluation formed after considering expected benefits, required effort, trust, risk, and product quality.	Central mediator between the six antecedents and **ENG**.
ENG	Active information search, participation, experience sharing, and willingness to engage in co-creation.	Product tastings, QR-code interaction, participation in discussions, social-media activity, and consumer feedback.	Outcome of **ATT** and antecedent of **PI**.
PI	Conscious readiness and plan to purchase, including willingness to buy when the price is acceptable.	Planning to purchase within a defined period or under acceptable price conditions.	Antecedent of **DM**.
DM	Information search, evaluation of recommendations, product selection, and confirmation of the purchasing decision.	Checking suppliers and certification, considering other consumers' experiences, selecting the product, and confirming the appropriateness of the choice.	Creates the experience subsequently evaluated through **SAT**.
SAT	Post-purchase comparison of expectations with experienced taste, quality, convenience, safety, and value.	Evaluation of product performance after purchase and consumption.	Antecedent of **WOM**.

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WOM	Interpersonal and online recommendation, experience sharing, and advocacy.	Recommendations to friends and relatives, online reviews, and social-media posts.	Final outcome of the model.

Source: Author's synthesis based on Rogers (2003), Davis (1989), Ajzen (1991), Zeithaml (1988), Hollebeek et al. (2014), Siegrist and Hartmann (2020), Wu et al. (2021), Schrobback et al. (2023), Günden et al. (2024), Laureati et al. (2024), Mosikyan et al. (2024), Castellini et al. (2025), and the reviewed literature.

Attitude as the Central Mediator

Attitude represents the consumer's overall favourable or unfavourable evaluation of innovative agri-food products. It integrates cognitive beliefs about usefulness, ease of use, quality, and risk with affective reactions such as interest, anxiety, curiosity, or discomfort. Within the proposed model, attitude is not a broad container for every future behaviour. It should be measured as evaluation, while active information seeking belongs to engagement and planned purchasing belongs to purchase intention.

The position of attitude as the central mediator follows behavioural theory and food-innovation research. The six antecedents provide different evaluative inputs: awareness and information make the innovation interpretable; ease of use captures behavioural effort; usefulness captures expected benefit; trust captures reliance; risk captures possible loss; and quality captures expected excellence. Their combined influence produces a general evaluation that can activate subsequent behavioural involvement (Ajzen, 1991; Albertsen et al., 2020; Shehawy & Khan, 2024).

Why engagement precedes purchase intention

The model deliberately links attitude to engagement rather than directly to purchase intention. This choice is not intended to deny the conventional attitude-intention relationship in the Theory of Planned Behavior; rather, it specifies a context-sensitive mechanism for unfamiliar, information-intensive, and credence-based agri-food innovations. Before forming a concrete purchase plan, consumers may need to search for information, attend a tasting, inspect certification, scan a QR code, watch a production explanation, compare claims, or discuss the product with others. These activities transform a general favourable evaluation into product-specific knowledge and behavioural involvement (Hollebeek et al., 2014; Mendini et al., 2024; Risitano, 2017).

Engagement is therefore treated as the behavioural bridge that reduces uncertainty and makes attitude actionable. The restriction is expected to be most relevant for innovations that require learning or trial and may be weaker for familiar products that demand little additional involvement. The complete mediation implied by the proposed sequence should consequently be tested empirically against alternative partial-mediation models that include a direct attitude-to-purchase-intention path.

Proposition P2. *A more favourable consumer attitude positively influences consumer engagement with innovative agri-food products.*

Sequential Behavioural and Post-Purchase Outcomes

Consumer engagement

Consumer engagement refers to active cognitive and behavioural involvement with the product category or offering. In the present model, it is operationally reflected in searching for information, attending relevant events or discussions, sharing experience through social media, and expressing willingness to participate in product development. This definition avoids treating engagement as a purely emotional state and corresponds closely with observable activities in the innovation-learning process.

Engagement is especially relevant when products are unfamiliar or information intensive. A consumer may scan a traceability code, watch a production video, participate in tasting, compare certification claims, or provide co-

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creation feedback. Food Design Thinking emphasises that empathy, experimentation, and participation can improve product-market fit, while consumer-engagement research shows that active involvement can influence behavioural intentions (Hollebeek et al., 2014; Mendini et al., 2024; Risitano, 2017).

Engagement should remain distinct from word of mouth. Engagement includes information search and participation before purchase, although experience sharing may begin during the process. Word of mouth is positioned at the end of the model and reflects recommendation after satisfaction. When attitude is favourable, consumers are more likely to invest attention and effort, and that involvement should increase the likelihood of forming a specific purchase plan.

Proposition P3. *Greater consumer engagement positively influences purchase intention toward innovative agri-food products.*

Purchase intention

Purchase intention is the consumer's conscious readiness and plan to buy an innovative agri-food product. It is more specific than attitude and more outcome oriented than engagement. In this model, intention includes planning to purchase in the future, considering purchase within a defined period, and willingness to buy when the price is acceptable. Statements about general usefulness or the identity of being an innovative consumer should be separated from the purchase-intention construct during measurement validation.

Research on organic foods, alternative proteins, hydroponics, and surplus-food formats demonstrates that purchase intention depends on evaluations of benefit, trust, risk, price, and innovation characteristics (Shehawy & Khan, 2024; Sun et al., 2024; Wang et al., 2024). The present model proposes that engagement consolidates these evaluations. A consumer who actively searches, learns, participates, or tries the product is more likely to resolve uncertainty and form a concrete plan to purchase.

Intention nevertheless remains different from decision making. A consumer may plan to purchase but postpone or abandon the choice because of price, limited availability, retailer context, household preferences, or insufficient confidence. This distinction is important because consumer surveys commonly overestimate real market behaviour.

Proposition P4. *Stronger purchase intention positively influences purchase decision making for innovative agri-food products.*

Purchase decision making

Purchase decision making represents the process through which intention is converted into product choice and decision confirmation. It includes searching for detailed information about suppliers, certification, origin, and product attributes; considering the experience and recommendations of others; selecting the product; and evaluating whether the decision was appropriate. This definition is broader than a single act of payment and reflects the information-intensive nature of innovative food purchases.

The distinction between intention and decision making is supported by the intention-behaviour gap. Reviews of novel-food research note that many studies rely on stated willingness to try or buy, while fewer observe actual choice or post-choice evaluation (Castellini et al., 2025; Mosikyan et al., 2024). Research on organic-food adoption similarly shows that purchase intention can translate into actual acquisition but is affected by market and communication conditions (Kalam et al., 2025).

Decision making creates the experience on which satisfaction is based. A consumer cannot evaluate whether taste, packaging, safety, convenience, and value meet expectations without completing the purchase and using the product. Decision making is therefore positioned immediately before satisfaction in the model.

Proposition P5. *Purchase decision making and the resulting product experience positively influence consumer satisfaction.*

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Satisfaction

Satisfaction is the post-purchase evaluation produced by comparing expectations with experienced product performance. Consumers may expect an innovative product to be safe, convenient, sustainable, traceable, high in quality, pleasant in taste, or worth a premium price. Satisfaction increases when these expectations are confirmed or exceeded and decreases when the experience contradicts the promise (Bhattacherjee, 2001; Oliver, 1980).

The construct should be measured primarily through satisfaction and expectation-confirmation statements. Willingness to purchase again is a consequence of satisfaction rather than a pure satisfaction item, although it may be included in a broader loyalty or continuance construct. Evidence from innovative traditional foods shows that consumption satisfaction supports continued acceptance, and sensory research demonstrates that direct experience can revise earlier expectations (Abdullah et al., 2025; Elimelech et al., 2024).

Satisfaction is particularly important for innovative products because marketing communication often creates strong expectations. Sustainability or technology claims may generate trial, but they cannot compensate for poor taste, inconvenient use, unreliable packaging, or weak value for money. Consistent performance is therefore required before consumers become willing to recommend the product to others.

Proposition P6. *Higher satisfaction positively influences recommendation and word of mouth.*

Recommendation and word of mouth

Recommendation or word of mouth is the final outcome in the model. It includes recommending innovative agri-food products to friends and relatives, posting or sharing recommendations through social media, communicating personal experience, and advising others who are searching for information. This outcome is especially important for unfamiliar products because potential consumers frequently rely on interpersonal evidence when producer-controlled claims are difficult to verify.

Positive recommendation can reduce uncertainty and accelerate diffusion, while negative word of mouth can strengthen perceived risk. Satisfaction is a major antecedent because consumers are unlikely to advocate for a product when the experience fails to confirm quality, safety, convenience, or value. Classic research identifies a close relationship between satisfaction and word of mouth, while recent food studies connect satisfaction and purchase experience with continued acceptance and recommendation-related outcomes (Anderson, 1998; Abdullah et al., 2025; Sun et al., 2024).

Word of mouth must remain distinct from engagement in empirical measurement. Pre-purchase information search, event participation, and co-creation belong to engagement; post-purchase recommendation and advocacy belong to WOM. Social-media sharing items should be worded so that the timing and purpose of the behaviour are clear.

Integrated Conceptual Model

The proposed architecture contains six antecedent constructs, one central mediator, and five sequential outcomes. AWA, PEOU, PU, TR, and PQ are expected to influence attitude positively (P1a-P1d and P1f), whereas PR is expected to influence attitude negatively (P1e). Attitude then affects engagement (P2); engagement affects purchase intention (P3); purchase intention affects purchase decision making (P4); decision making and product experience affect satisfaction (P5); and satisfaction affects recommendation or word of mouth (P6). The model deliberately excludes a direct attitude-to-purchase-intention path so that engagement performs the theoretically specified bridging role. Future empirical work should compare this complete-mediation structure with theoretically plausible alternatives.

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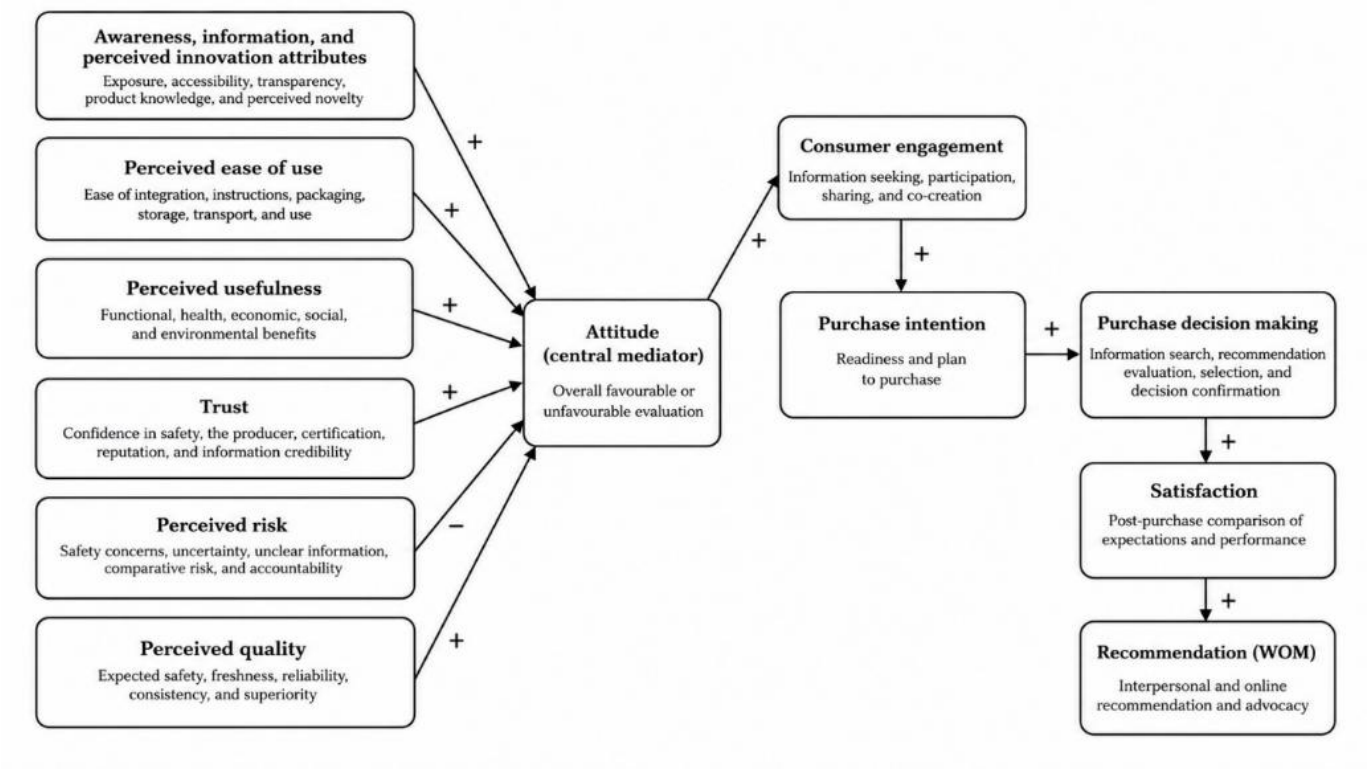
Figure 1: Proposed Integrated Consumer-Response Model for Innovative Agri-Food Products



Source: Author's conceptualisation based on Rogers (2003), Davis (1989), Ajzen (1991), Zeithaml (1988), Oliver (1980), Hollebeek et al. (2014), Albertsen et al. (2020), Wu et al. (2021), and the reviewed literature.

Measurement guidance for future empirical testing

The large number of constructs makes careful operationalisation essential. Future studies should begin with content validation and pilot testing, use multiple indicators for each construct, and assess the measurement model before estimating structural relationships. The decision to specify a construct reflectively or formatively should be based on theory, construct definition, and the assumed direction of causality between the construct and its indicators rather than applied uniformly across the model. Items should preserve the conceptual boundaries emphasised in Table 2: risk should capture uncertainty and possible loss rather than low quality; attitude should capture overall evaluation rather than intention; engagement should capture active pre-purchase involvement; and word of mouth should capture post-purchase recommendation. Table 3 provides illustrative measurement domains and items for adaptation, not a ready-made validated scale.

Table 3: Illustrative measurement guidance for future empirical validation

Construct	Recommended measurement domain	Illustrative future item	Principal source basis
AWA	Knowledge, information access, transparency, and perceived innovation attributes	I have sufficient and understandable information about innovative agri-food products.	Rogers (2003); Albertsen et al. (2020)
PEOU	Effort required to understand, prepare, store, transport, and use	Learning how to use or consume these products would be easy for me.	Davis (1989); Lin et al. (2021); Young et al. (2020)

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PU	Functional, health, economic, convenience, environmental, and social benefits	Using these products would provide meaningful benefits in my everyday life.	Davis (1989); D'Amico et al. (2024); Wang et al. (2024)
TR	Confidence in safety, producer, certification, reputation, and information	I trust the producers and information sources associated with these products.	Wu et al. (2021); Schrobback et al. (2023)
PR	Safety, performance, information, comparative, and accountability uncertainty	I am concerned about possible negative consequences of choosing these products.	Siegrist and Hartmann (2020); Silva et al. (2024)
PQ	Expected safety, freshness, reliability, consistency, sensory performance, and superiority	I expect these products to provide reliable and high-quality performance.	Zeithaml (1988); D'Amico et al. (2024)
ATT	Overall favourable or unfavourable evaluation	Overall, I have a favourable opinion of innovative agri-food products.	Ajzen (1991); Albertsen et al. (2020)
ENG	Active information search, participation, sharing, and co-creation	I actively seek information or opportunities to interact with these products.	Hollebeek et al. (2014); Mendini et al. (2024)
PI	Readiness, plan, time-bound intention, and price-conditional willingness to buy	I intend to purchase an innovative agri-food product in the foreseeable future.	Ajzen (1991); Sun et al. (2024); Wang et al. (2024)
DM	Supplier and certification search, comparison, selection, and decision confirmation	I compare available information before confirming my choice of an innovative agri-food product.	Mosikyan et al. (2024); Kalam et al. (2025)
SAT	Expectation confirmation for taste, quality, convenience, safety, and value	My experience with the product met or exceeded my expectations.	Oliver (1980); Bhattacherjee (2001)
WOM	Interpersonal and online recommendation, experience sharing, and advocacy	I would recommend a satisfactory innovative agri-food product to other people.	Anderson (1998); Sun et al. (2024)

Note: The statements are illustrative item formulations for future adaptation and validation. They are not presented as a newly validated scale.

DISCUSSION

The model contributes to the literature by integrating technology-related and food-specific evaluations without treating innovative food as merely another information technology. PEOU and PU explain effort and benefit, but food choice also depends on trust, risk, quality, sensory expectations, naturalness, and credence attributes. This combination reflects the finding that consumer responses to novel food technologies are influenced by both rational evaluations and food-specific heuristics or emotions (Monaco et al., 2024; Siegrist & Hartmann, 2020).

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A second contribution is the specified sequencing of the response process. The model does not stop at attitude or purchase intention. It distinguishes active engagement from intention, intention from purchase decision making, and decision making from satisfaction. This separation makes it possible to identify where favourable perceptions fail to become market behaviour. For example, a consumer may have a positive attitude but remain insufficiently engaged to form a purchase plan; another may intend to purchase but face price or access barriers; a third may purchase once but remain dissatisfied with taste or convenience.

The role of attitude is also clarified. Attitude is the central mediator of the six antecedent perceptions, but it is not defined through engagement or future-purchase items. This conceptual discipline is important for measurement validity. Similarly, risk must be measured through uncertainty and possible loss, while perceived quality must be measured through expected excellence, freshness, reliability, and superiority. Treating risk items as quality indicators would obscure the factor structure and weaken discriminant validity.

The model further makes engagement a required bridge between attitude and purchase intention. This choice differentiates the framework from conventional TPB applications that specify a direct attitude-intention path. It is particularly defensible in innovative agri-food markets, where consumers may need to search, learn, taste, scan, discuss, or participate before developing a concrete purchase plan. The path should nevertheless be tested empirically rather than assumed to apply equally across all innovations. Future empirical studies should therefore compare the proposed complete-mediation sequence with direct ATT-to-PI and partial-mediation alternatives.

Finally, the model extends acceptance to recommendation. Commercial success requires more than awareness or first purchase. Satisfaction confirms whether the product delivers the promised sensory, functional, economic, and environmental value. Recommendation then converts individual experience into social information that can support or hinder wider diffusion.

Managerial Implications

The model can be used diagnostically. Weak awareness requires accessible information, familiar comparisons, and clear explanation of innovation attributes. Low ease of use requires simpler instructions, packaging, storage, transport, or digital interfaces. Weak usefulness requires translating technology into direct benefits such as safety, nutrition, convenience, freshness, transparency, or resource efficiency.

Trust barriers require credible certification, producer reputation, transparent information, and consistency between marketing claims and organisational behaviour. Risk should be addressed through balanced evidence rather than absolute reassurance. Perceived quality requires sensory performance, reliable packaging, consistent supply, and clear quality cues. Trial can be especially valuable when expected taste or usability is uncertain.

Engagement strategies should encourage meaningful activity rather than passive exposure. Relevant methods include tasting events, QR content, product demonstrations, social-media discussion, feedback communities, and co-creation. These activities should resolve specific uncertainty and lead toward a clear purchase proposition. Engagement without product availability or price justification is unlikely to produce intention.

After purchase, firms should support preparation, use, feedback, and complaint resolution. Satisfaction is formed through the comparison of claims with experience, and recommendation depends on whether the product delivers the promised value. Post-purchase marketing is therefore part of innovation commercialisation rather than an optional final activity.

To link these implications directly to the proposed framework, Table 4 summarises the diagnostic problem, targeted managerial action, and illustrative monitoring indicator associated with each construct.

Table 4: Construct-specific managerial implications

Construct	Diagnostic problem	Targeted managerial action	Illustrative monitoring indicator

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AWA	Low awareness, unclear terminology, or weak information access	Use simple explanations, familiar comparisons, transparent labels, and relevant QR content	Awareness, comprehension, information-use rates
PEOU	Product, packaging, storage, preparation, or digital interaction appears difficult	Simplify instructions, interfaces, packaging, preparation, transport, and storage requirements	Task completion, reported effort, abandonment
PU	Technology is visible but consumer value is unclear	Translate features into credible health, convenience, economic, safety, or environmental benefits	Benefit recall, perceived usefulness, value perception
TR	Low confidence in producer, certification, claims, or traceability	Use credible certification, reputation signals, transparent evidence, and consistent organisational behaviour	Trust scores, claim credibility, repeat use
PR	Safety, reliability, information, or accountability concerns	Provide balanced risk information, verification, responsibility channels, and responsive complaint handling	Risk perceptions, concern themes, complaint resolution
PQ	Doubts about freshness, taste, reliability, consistency, or superiority	Provide trials, sensory evidence, quality cues, reliable packaging, and consistent supply	Trial conversion, quality ratings, product returns
ATT	Overall evaluation remains neutral or unfavourable	Integrate benefit, usability, trust, risk, and quality communication into one coherent value proposition	Attitude scores and evaluative sentiment
ENG	Passive awareness does not become active involvement	Use tasting, demonstrations, QR interaction, discussions, feedback communities, and co-creation	Search, event, scan, discussion, and feedback participation
PI	Interest does not become a concrete purchase plan	Clarify availability, acceptable price, timing, and the next purchase action	Stated intention, wish-list, pre-order, coupon use
DM	Intention is blocked during comparison or choice	Improve availability, supplier information, certification visibility, recommendations, and decision support	Conversion, cart completion, choice confidence
SAT	Experience fails to confirm expectations	Support preparation and use; ensure taste, convenience, quality, safety, and value match the promise	Satisfaction, expectation confirmation, complaints
WOM	Satisfied users do not advocate or dissatisfied users spread negative information	Invite reviews and referrals after satisfaction; respond quickly and transparently to negative experiences	Recommendation, referral, review valence and volume

Source: Authors' construct-level application of the proposed framework.

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Limitations and Future Research

The proposed framework is conceptual and has not yet been empirically tested. The relevance and strength of its relationships may vary across product categories. For example, perceived ease of use may be particularly important for smart packaging and traceability systems, whereas naturalness, sensory compatibility, and disgust may have greater influence on the acceptance of highly novel foods (Onwezen et al., 2021; Román et al., 2017).

Future studies should test the complete model using structural equation modelling, longitudinal designs, field experiments, and actual purchase data. Alternative paths should be introduced only when supported by theory and empirical evidence, since stated purchase intentions do not always translate into actual behaviour (Kalam et al., 2025; Mosikyan et al., 2024). Because the model contains twelve constructs, empirical validation will require adequate sample size, careful content validation, pilot testing, and assessment of construct overlap. A staged strategy may test the six antecedents of attitude, the ATT-ENG-PI sequence, and the DM-SAT-WOM sequence before estimating the complete model. Competing models should also examine a direct ATT-to-PI path and partial mediation through engagement.

The review also has a transparency limitation. It followed a structured integrative process rather than a preregistered systematic-review protocol, and platform-level counts of initial hits, duplicates, and records excluded at each stage were not retained. The protocol table and complete literature matrix make the final analytical corpus explicit; future reviews could extend the framework through a preregistered systematic search, a formal flow diagram, and study-quality assessment.

CONCLUSION

This conceptual review presents a proposed model of consumer response to innovative agri-food products. Awareness, information, and perceived innovation attributes; perceived ease of use; perceived usefulness; trust; perceived risk; and perceived quality shape attitude. Attitude activates consumer engagement, engagement produces purchase intention, intention develops into purchase decision making, decision making creates the experience evaluated through satisfaction, and satisfaction produces recommendation or word of mouth. The proposed relationships are stated as eleven clearly numbered propositions.

The model explains why technical innovation alone is insufficient. Consumers must understand the product, perceive meaningful benefits, find it manageable to use, trust the relevant actors and information, regard the risks as acceptable, and expect satisfactory quality. These evaluations must then be translated into active engagement and market behaviour, and the actual experience must confirm the marketing promise.

By aligning the theoretical logic, construct relationships, figure, and construct definitions, the article provides a coherent foundation for factor analysis, correlation, regression, mediation analysis, and SEM. It also offers a practical framework for firms seeking to move consumers from awareness to advocacy while maintaining conceptual clarity across every stage of the process. The review protocol, literature matrix, and illustrative measurement guidance further support transparent future empirical testing.

Ethical Approval

Not applicable. This conceptual literature review did not involve human participants or animals.

Conflict of Interest

The authors declare no conflict of interest.

Data Availability

No new datasets were generated or analysed. All evidence was drawn from the published sources cited in the manuscript.

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APPENDIX A: LITERATURE SYNTHESIS MATRIX

Table A1 documents the complete 36-source analytical corpus and shows how each source contributed to the proposed model. The theoretical or conceptual lens is reported explicitly when the source adopts one; where no single formal theory is stated, the matrix uses a cautious construct-based or review perspective

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rather than assigning an unsupported theory. The "main finding or contribution" column reports the element used in this review rather than attempting to reproduce every result of the original publication.

Table A1: Literature matrix by source, context, theoretical or conceptual lens, method, constructs, and contribution

Source	Product/context	Theoretical or conceptual lens	Study type or method	Principal constructs	Main finding or contribution used in this review
Abdullah et al. (2025)	Sustainable food innovation	Consumer innovativeness and uncertainty-avoidance perspective	Empirical consumer study	Innovativeness, uncertainty avoidance, acceptance, satisfaction	Supports the role of consumer innovativeness and uncertainty management in continued acceptance and post-consumption evaluation.
Ajzen (1991)	General consumer behaviour	Theory of Planned Behavior	Theory development	Attitude, intention, behaviour	Provides the behavioural logic linking evaluation to intention and subsequent action while recognising contextual constraints.
Albertsen et al. (2020)	Food innovation acceptance	Integrated consumer-acceptance framework	Integrated framework development	Innovation perceptions, attitude, acceptance	Shows that innovation-related perceptions operate together across stages of the consumer acceptance process.
Anderson (1998)	Services and customer response	Satisfaction-word-of-	Empirical relationship study	Satisfaction, word of mouth	Establishes satisfaction as a major antecedent of

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		mouth relationship			positive or negative word of mouth.
Bhattacherjee (2001)	Information-system continuance	Expectation-Confirmation Model	Model development and empirical validation	Expectation confirmation, satisfaction, continuance	Provides the expectation-confirmation logic used to position satisfaction after experience.
Castellini et al. (2025)	Agricultural production technologies	Multidimensional acceptance-determinants synthesis	Systematic review	Acceptance determinants, technology perceptions	Confirms that acceptance is multidimensional and varies across technologies and stakeholder contexts.
Contini et al. (2023)	Blockchain and food credence attributes	Credence attributes and information asymmetry	Empirical preference study	Credence attributes, traceability, trust	Shows how blockchain-supported information may strengthen preferences when credibility and verification are meaningful.
D'Amico et al. (2024)	Hydroponic tomatoes	Attribute-based quality and value perspective	Empirical perception and willingness-to-pay study	Sustainability, quality, usefulness, willingness to pay	Demonstrates that sustainability and quality attributes shape consumer evaluation and value perceptions.

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Davis (1989)	Information technology	Technology Acceptance Model	Scale development and empirical validation	Perceived usefulness, perceived ease of use, acceptance	Defines PU and PEOU and supplies the core technology-acceptance logic adapted in the framework.
Elimelech et al. (2024)	Suboptimal fresh produce	Sensory experience and evaluative updating	Visual and taste experiment	Perceived quality, experience, acceptance	Shows that direct sensory experience can revise initially unfavourable quality judgments.
Guiné et al. (2020)	Food product development	Consumer-oriented food-innovation perspective	Review	Consumer information, innovation, product development	Highlights the need to connect technological food innovation with consumer understanding and evaluation.
Günden et al. (2024)	Novel foods	Behavioural drivers-and-barriers synthesis	Review	Drivers, barriers, risk, neophobia, naturalness	Synthesises recurring cognitive, emotional, and contextual drivers and barriers to novel-food acceptance.
Hollebeek et al. (2014)	Brand engagement and social media	Consumer brand engagement theory	Conceptualisation and scale development	Cognitive, emotional, behavioural engagement	Defines active consumer engagement and supports its separation from attitude, intention, and WOM.

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Hüppe and Zander (2021)	Organic food processing technologies	Perceived risk and food-naturalness perspective	Empirical consumer study	Risk, naturalness, processing perceptions	Shows that unfamiliar processing technologies can activate risk and naturalness concerns.
Kalam et al. (2025)	Organic food purchase	Intention-behaviour gap and social-influence perspective	Empirical adoption study	Purchase intention, actual adoption, social influence	Supports the distinction between purchase intention and actual acquisition and shows that market communication conditions matter.
Laureati et al. (2024)	Novel foods and sustainable food systems	Multidimensional consumer acceptance and adoption	Systematic literature review	Acceptance and adoption determinants	Documents the broad set of sensory, psychological, informational, and contextual factors influencing adoption.
Lin et al. (2021)	Blockchain food traceability	Extended Technology Acceptance Model	Survey-based adoption model	PEOU, PU, trust, intention	Shows that usability, usefulness, and trust influence willingness to adopt digital food-traceability tools.
Lu et al. (2024)	Upcycled foods	Construct-based upcycled-food acceptance perspective	Scoping review	Awareness, information, quality, risk, acceptance	Identifies information clarity and perceptions of safety, quality, and value as

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					central to upcycled-food acceptance.
Mendini et al. (2024)	Food design thinking	Food Design Thinking	Interdisciplinary conceptual article	Engagement, empathy, participation, co-creation	Supports participatory and experiential approaches for converting consumer understanding into active involvement.
Monaco et al. (2024)	Novel foods	Heuristics-and-biases perspective	Systematic review	Heuristics, biases, emotion, perception	Shows that novel-food evaluations are influenced by heuristics and biases in addition to rational benefit assessments.
Mosikyan et al. (2024)	Novel foods and beverages	Consumer-acceptance process synthesis	Systematic literature review	Acceptance, intention, behaviour, research gaps	Highlights fragmented models, overreliance on stated intention, and the need for actual-behaviour and post-purchase research.
Oliver (1980)	Consumer satisfaction	Expectation-confirmation theory of satisfaction	Theoretical and empirical model	Expectations, confirmation, satisfaction	Provides the foundational model of satisfaction as a comparison between expectations and

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					experienced performance.
Onwezen et al. (2021)	Alternative proteins	Multidimensional food-acceptance perspective	Systematic review	Acceptance, neophobia, disgust, naturalness, benefits	Shows that acceptance drivers differ across pulses, algae, insects, plant-based, and cultured alternatives.
Reitano et al. (2024)	Blockchain-tracked food	Traceability, transparency, and trust perspective	Systematic literature review	Traceability, trust, transparency, perceptions	Synthesises the factors that influence consumer perceptions of food tracked with blockchain technology.
Risitano (2017)	Food-brand engagement	Consumer-brand engagement perspective	Empirical study	Engagement, brand experience, behavioural intention	Provides empirical support for the relationship between active engagement and subsequent behavioural intentions.
Rogers (2003)	Innovation diffusion	Diffusion of Innovations	Seminal theory	Awareness, knowledge, relative advantage, compatibility, complexity	Explains how knowledge and perceived innovation attributes shape uncertainty and adoption.
Román et al. (2017)	Food naturalness	Food-naturalness perspective	Systematic review	Naturalness, attitudes, acceptance	Establishes naturalness as an important evaluative criterion in food choice and

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					technology acceptance.
Schrobback et al. (2023)	Food credence attributes	Credence attributes and information asymmetry	Conceptual framework	Information asymmetry, certification, trust, stakeholder mechanisms	Explains why consumers depend on credible actors and verification mechanisms for claims they cannot assess directly.
Shehawy and Khan (2024)	Green consumption	Green awareness-attitude-intention framework	Empirical model	Awareness, attitude, purchase intention	Shows that awareness can strengthen the translation of favourable green attitudes into purchase readiness.
Siegrist and Hartmann (2020)	Novel food technologies	Trust, risk, familiarity, and naturalness perspective	Critical review	Trust, risk, familiarity, naturalness, acceptance	Identifies trust and risk perceptions as central determinants of acceptance across novel food technologies.
Silva et al. (2024)	Sustainable non-thermal processing	Cross-cultural perceived-risk perspective	Cross-cultural empirical study	Perceived risk, technology, national context	Shows that risk perceptions differ across technologies and countries, supporting context-sensitive testing.
Sun et al. (2024)	Surplus-food blind boxes	Value, uncertainty, and behavioural-	Exploratory empirical study	Purchase intention, value, uncertainty	Illustrates how value and uncertainty-related

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		intention perspective			evaluations influence intention toward an unfamiliar food format.
Wang et al. (2024)	Plant-based, cultured, and insect-based proteins	Diffusion-of-innovation attributes and trust	Comparative empirical study	Innovation attributes, trust, purchase intention	Shows that innovation-adoption characteristics influence trust and intention differently across alternative-protein categories.
Wu et al. (2021)	Food and food systems	Multidimensional consumer-trust framework	Critical review	Consumer trust, actors, institutions, information	Defines trust as multidimensional and dependent on producers, institutions, systems, and information credibility.
Young et al. (2020)	Smart food packaging	Usability and smart-packaging acceptance perspective	Systematic review	Usability, information clarity, perceived value, acceptance	Shows that understanding and ease of interaction are central to consumer acceptance of smart packaging.
Zeithaml (1988)	Consumer price, quality, and value	Means-end model of price, quality, and value	Conceptual synthesis	Perceived quality, value, intrinsic and extrinsic cues	Provides the foundation for distinguishing perceived quality from objective quality, risk, and price.

Source: Authors' synthesis of the references included in the manuscript.