

Consumer Behavior, Marketing, and Supply Chains of Fermented Foods and Health Supplements in Southeast Asia and India

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Abstract

Fermented foods and health supplements are deeply embedded in the dietary traditions of Southeast Asia and India and are increasingly positioned within expanding functional food and preventive health markets. This narrative review aimed to synthesize evidence on four interrelated domains: consumer behavior, marketing dynamics, supply-chain systems, and regulatory and certification issues associated with fermented foods and health supplements in these regions. Peer-reviewed literature was searched primarily through Scopus and Web of Science, with supplementary searches in ScienceDirect, SpringerLink, Emerald Insight, and Taylor & Francis Online, with no year restriction. Studies were screened for relevance to fermented foods and/or health supplements in Southeast Asia and India and were synthesized using thematic and interpretative analysis. The review found that health consciousness, perceived efficacy and safety, cultural familiarity, affordability, physician recommendations, and product credibility are major determinants of consumer acceptance and purchase intention. Digital marketing, e-commerce, social media engagement, influencer communication, and branding increasingly shape market access and consumer trust, particularly among younger and urban populations. Supply-chain development is constrained by limited cold-chain infrastructure, inconsistent standardization, dispersed sourcing, and variable quality control, whereas transparency, traceability, digital logistics, and omnichannel coordination can enhance efficiency and market responsiveness. Regulatory inconsistencies and differences in certification and labeling requirements remain important barriers to consumer confidence and cross-border market expansion. Conceptually, the review proposes a reciprocal ecosystem model in which consumer trust functions as a cross-cutting mechanism linking perceived health value, marketing credibility, certification, product quality, and supply-chain transparency, while regulatory, cultural, and technological factors condition these relationships. Greater regulatory harmonization, scientific validation of health claims, improved supply-chain

infrastructure, and comparative cross-country research are recommended to support sustainable market growth and strengthen benefits for consumers, local producers, and communities.

Keywords: Fermented foods, Health supplements, Marketing dynamics, Consumer perception, Supply chain, Southeast Asia, India

Introduction

Fermentation is an ancient method that helps improve the shelf life and nutritional value of ingredients (Sivamaruthi et al., 2024). Analysis shows that fermented foods made from cereals, vegetables, and fruits in Southeast Asia have higher microbial diversity and nutritional value than non-fermented foods (Surya, 2024). Asian foods are also rich in bioactive compounds that help prevent disease. Probiotics present in these foods significantly contribute to daily nutrition requirements (Doo et al, 2024). The microorganisms in fermented foods were shaped by regional geography, practices, and traditional fermentation knowledge (Tamang et al., 2016; Sivamaruthi et al., 2018a). Cultural identity in local diets is reflected in Nepal's fermented foods, which are processed with rich microbial ecosystems shaped by geography and tradition (Gautam et al., 2025). Most people in Southeast Asian countries have fermented foods in their diet. People of countries like Vietnam have fermented fish products as a primary ingredient of their daily diet. These products reflect their cultural heritage and the unique fermentation techniques of the region (Surya, 2024). Fermented fish products are high in micronutrients and protein, and attention to their safety is needed (Atun et al., 2024). Fermented foods of Asia offer numerous health benefits. The scientific documentation of the fermentation process and technological innovation will enable the products to reach and be accepted globally. Parallel to fermented foods, the health supplements sector has expanded rapidly, supported by growing preventive health awareness (Sivamaruthi et al., 2018a; Chaiyasut et al., 2018).

Combining traditional knowledge with modern food science improves the nutritional benefits of fermented foods and enhances their adaptability (Anal et al, 2019). The fermentation process enhances nutrition and increases the therapeutic value of foods, which positions fermented foods as an important component of preventive nutrition (Farnworth, 2008). Peptides derived from fermented foods have been shown to reduce hypertension, while the antioxidant properties of these foods have immunomodulatory potential. This suggests that fermented foods are a natural therapeutic source (Kleekayai et al., 2015). Regular consumption of fermented foods reduces inflammation, lowers risk factors for metabolic disorders, and aids in managing lifestyle-related diseases (Paul et al., 2023). Clinical trials have provided strong evidence for the role of fermented foods in managing gastrointestinal disorders (Mukherjee et al., 2025). Fermented foods influence host physiology through microbial activity and extend their impact beyond gut health to disease prevention (Sivamaruthi et al., 2018b; Sivamaruthi, 2018; Chaiyasut et al., 2021). The global fermented foods market is anticipated to increase from USD 259.27 billion in 2025 to USD 398.78 billion by 2034, with a compound annual growth rate (CAGR) of 4.9% during the forecast period from 2025 to 2034 (Coherent Market Insights, 2026). This expansion is driven by the escalating consumer inclination towards gut health and probiotic-enriched diets, which has heightened demand for natural and functional foods, and by the growing integration of fermented goods into beverages, dairy, bakery, and plant-based alternatives (Borah et al., 2025).

Southeast Asia is a culturally rich and commercially vibrant region for fermented foods, with traditional items such as tempeh, fish sauce, and fermented rice products constituting a substantial portion of daily diets. The Asia-Pacific region accounts for approximately 40% of the worldwide fermented food market. The region is undergoing heightened urbanization and dietary shifts, rising middle-class incomes and health consciousness, and a proliferation of

functional and plant-based fermented foods. The anticipated increase is bolstered by conventional consumer trends and contemporary retail developments, positioning Southeast Asia as a pivotal centre for innovation and commercialization (Surya, 2024). India is among the rapidly expanding markets for fermented foods, owing to its robust traditional food culture, which encompasses items such as idli, dosa, yoghurt, and pickles. The Indian market size is expected to expand from USD 22.8 billion in 2024 to USD 41.9 billion by 2033, reflecting a compound annual growth rate (CAGR) of about 7%. The probiotic foods market, valued at USD 5.1 billion in 2025, is projected to attain USD 19.8 billion by 2034, with a CAGR of approximately 15.8%. Probiotic beverages and nutritional supplements are experiencing rapid expansion, with double-digit growth rates. The primary factors contributing to this increase are heightened health awareness and understanding of immunity, the proliferation of urban shopping and e-commerce, and the growing desire for functional, clean-label food products. The fermented food sector significantly impacts both macroeconomic and microeconomic systems. The sector encompasses extensive international production of dairy products, beverages, and supplements, as well as high-value exports including yoghurt and kombucha. Fermented foods bolster small-scale and cottage businesses at regional and local levels, improve rural lives and indigenous food systems, and create employment throughout value chains (Rawat et al., 2018; Sathe and Mandal, 2016). In India and Southeast Asia, fermented foods connect traditional knowledge systems with contemporary market economies, generating prospects for value enhancement and commercialization.

The supply chain of fermented foods encompasses both formal and informal industries. Key phases include raw material procurement, conventional or industrial fermentation, processing and packaging, and distribution through local markets, supermarkets, and digital platforms. The sector encounters obstacles, including restricted shelf life, absence of standardization in conventional products, cold-chain constraints, and regulatory and quality assurance complications. Technological innovations and industrial progress are progressively enhancing supply chain efficiency (Niyigaba et al., 2025). Consumer perceptions are swiftly transforming due to shifting lifestyles and heightened health consciousness. Significant trends encompass an intensified emphasis on gut health and microbiome consciousness, a desire for natural, minimally processed, clean-label meals, a rising demand for plant-based fermented goods, and a revitalized interest in classic cuisine rebranded for contemporary appeal. Urban consumers, especially millennials and Generation Z, are driving demand for fermented foods worldwide, including kombucha and kefir, demonstrating a willingness to pay premium prices for functional health benefits (Hossain et al., 2025). Marketing analysis is essential for fermented foods because of market fragmentation between traditional producers and industrial manufacturers, varied regional preferences, and supply chain inefficiencies. It assists in identifying target consumer segments, optimizing product positioning, formulating pricing strategies, enhancing branding, and supporting policy and export promotion efforts, so strengthening global competitiveness (Zhao et al., 2025). Digital transformation is essential for the growth of the fermented food business. Digital marketing enhances consumer awareness of the benefits of probiotics and strengthens brand identity. E-commerce platforms broaden market access, facilitate direct-to-consumer methods, and promote niche and artisanal products. Social media influencers advocate for fermented foods within healthy lifestyles, enhance consumer trust via reviews and demonstrations, and popularize traditional meals among younger demographics. These channels are crucial for startups and small-scale producers, facilitating the scaling of indigenous products and enhancing awareness of obscure fermented foods.

Fermented foods are gaining momentum as global consumers shift toward functional health products. People are becoming aware of gut health, the importance of probiotics and preventive healthcare, which has contributed to steady market growth. The market for

fermented foods has expanded significantly due to rising demand for natural, minimally processed foods with clean labels (Grand View Research, 2026; Market Research Future, 2026). The sector is characterized by a mix of small-scale traditional production and big industrial operations. Urbanization and rising income have resulted in the growth of functional food and supplement sectors (Indian Brand Equity Foundation, 2026). Marketing analysis of them is needed since they contribute significantly to rural and indigenous livelihoods through value chains (FAO, 2018). A clear market analysis provides recommendations to address the challenges the market faces in reaching global markets. Digital platforms, including e-commerce and social media, play an important role in expanding the market by enhancing consumer awareness (Deloitte Insights, 2026).

Previous reviews have substantially advanced knowledge of the nutritional properties, microbial diversity, health effects, traditional processing, and safety of fermented foods, while other studies have examined consumer attitudes, functional food acceptance, digital marketing, or supply chain issues in more specific contexts. However, these strands of evidence remain largely fragmented. In particular, limited research has examined how consumer perceptions and trust are simultaneously shaped by marketing practices, product availability, supply chain transparency, certification, regulatory assurance, and cultural familiarity. Similarly, the relationships between commercialization strategies and operational constraints, such as standardization, cold-chain infrastructure, traceability, and cross-border regulatory differences, remain insufficiently integrated in the existing literature. This fragmentation limits understanding of how market growth actually occurs across the full fermented food and health supplement ecosystem.

An integrated review is therefore needed because consumer behavior, marketing, supply chains, and regulation are mutually dependent rather than isolated domains. Consumer demand influences product positioning and distribution strategies, while marketing communication shapes awareness, perceived value, and trust. At the same time, supply-chain performance determines product availability, consistency, safety, and traceability, whereas regulatory frameworks and certifications influence both market access and consumer confidence. These interactions are particularly important in Southeast Asia and India, where traditional food cultures coexist with rapidly expanding functional food, supplement, e-commerce, and modern retail markets. The present review addresses this gap by synthesizing these interconnected dimensions within a unified conceptual framework.

The overall objective of this review was to synthesize existing evidence on the consumer interface, marketing dynamics, supply-chain systems, and regulatory environment of fermented foods and health supplements in Southeast Asia and India. Specifically, the review aimed to: 1) identify the major factors influencing consumer perceptions, trust, and purchase decisions; 2) examine the roles of digital marketing, e-commerce, social media, branding, and cultural positioning in market development; 3) evaluate key supply-chain characteristics and challenges, including production, logistics, cold-chain management, distribution, transparency, and traceability; and 4) assess how regulatory frameworks, certifications, labeling, quality assurance, and scientific validation influence consumer confidence and market expansion.

The proposed framework conceptualizes the fermented foods and health supplements market as an interconnected ecosystem in which consumer interface, marketing dynamics, and supply chain systems operate through reciprocal rather than linear relationships. Consumer factors, including health awareness, cultural familiarity, perceived value, and product positioning, shape product demand and responses to marketing activities. In turn, digital marketing, e-commerce, social media engagement, branding, and trust influence consumer awareness, perceived value, and purchase intention. These market–consumer interactions generate requirements for production capacity, logistics, cold-chain management, retail

distribution, transparency, and traceability, while supply chain performance affects product availability, quality, safety, and ultimately consumer trust. The entire ecosystem is further conditioned by external drivers, particularly regulatory requirements, certifications, cultural context, and technological enablement, which influence the strength and direction of relationships among consumers, marketing activities, and supply chain operations. Thus, Figure 1 represents a dynamic feedback system in which changes in one component can influence and be influenced by the other components.

Methodology

This study was conducted as a narrative review with a structured literature-search approach, rather than as a formal systematic review or meta-analysis. Peer-reviewed literature was searched primarily in Scopus and Web of Science, with supplementary searches conducted through ScienceDirect, SpringerLink, Emerald Insight, and Taylor & Francis Online. No restriction was imposed on the year of publication; therefore, publications available from database inception up to the final search date were eligible for consideration. Searches were restricted to English-language publications. The search strategy combined terms relating to the two principal product categories and the major domains of interest, including “fermented food,” “fermented product*,” “health supplement*,” “dietary supplement*,” “consumer behavior,” “consumer perception,” “purchase intention,” “marketing,” “digital marketing,” “e-commerce,” “supply chain,” “logistics,” “traceability,” “regulation,” “certification,” “Southeast Asia,”* and “India.” Boolean operators (AND/OR) were adapted according to the search functions of each database.

Studies were considered eligible when they: 1) addressed fermented foods and/or health or dietary supplements; 2) examined at least one relevant dimension of consumer behavior, consumer perception, marketing, commercialization, supply-chain management, logistics, regulation, certification, labeling, quality assurance, or related market factors; 3) contained evidence relevant to Southeast Asia and/or India; 4) were published in English; and 5) provided sufficient information to contribute to the thematic synthesis. Publications were excluded when they were unrelated to the geographical scope or review domains; focused exclusively on laboratory, microbiological, clinical, or technological characteristics without relevance to consumer, market, supply-chain, or regulatory aspects; were duplicates; or did not provide sufficient information for thematic interpretation.

Studies were included when they met the following criteria:

- Peer-reviewed journal articles.
- Articles published in English.
- Studies focused on Southeast Asia and/or India.
- Studies related to fermented foods and/or health supplements.
- Studies addressing at least one of the principal review domains, including marketing, consumer behavior, supply-chain systems, or regulatory issues.
- Empirical studies or high-quality conceptual studies that provided sufficient information relevant to the objectives of the review.

Studies were excluded when they met one or more of the following criteria:

- Non-peer-reviewed materials such as blogs, news articles, and magazine articles.
- Conference abstracts for which a full paper was unavailable.
- Studies outside the selected geographical scope of Southeast Asia and India.
- Studies focusing exclusively on biomedical, microbiological, biochemical, clinical, or therapeutic aspects of fermented foods or health supplements without relevance to marketing, consumer behavior, supply-chain systems, or regulatory issues.
- Duplicate publications.

Industry and market reports identified during supplementary searching were used primarily to provide contextual information concerning market development, commercialization, and industry trends and to facilitate reference tracing. They were not treated as equivalent to peer-reviewed studies in the methodological quality appraisal or primary thematic evidence synthesis.

The database searches identified 132 records, and an additional 27 were found through industry reports and reference searches, yielding 159 records in total. After removal of 31 duplicate records, 128 records remained for title and abstract screening. Of these, 44 records were excluded because they did not meet the predefined scope and eligibility criteria. Consequently, 84 full-text publications were assessed for eligibility; all met the criteria and were included in the final thematic analysis.

Because this work was designed as a narrative and interpretative review rather than a systematic review of intervention effectiveness, a formal risk-of-bias or quantitative quality-scoring instrument was not applied. Instead, priority was given to peer-reviewed scholarly literature indexed in established academic databases, and studies were evaluated for relevance to the research objectives, methodological clarity, contextual relevance, and usefulness for thematic synthesis. This limitation and the narrative nature of the evidence appraisal have now been explicitly acknowledged in the revised manuscript.

The synthesized themes were interpreted across evidence originating from Southeast Asia and India to identify recurrent patterns and context-specific observations. The review was not designed as a formal comparative analysis between the two regions because of heterogeneity in study populations, product categories, study designs, and country-level market and regulatory environments.

Results

1. Consumer Perception of Fermented Foods and Health Supplements

Across the reviewed studies, three recurring groups of determinants emerged as central to consumer acceptance and purchase of fermented foods and health supplements: 1) health-related motivations and perceived efficacy, 2) cultural and social familiarity, and 3) perceived value, credibility, and trust. Health consciousness, preventive-health orientation, perceived effectiveness, and physician recommendations consistently encouraged product adoption, whereas unfamiliarity, sensory concerns, unclear labeling, and perceived risk acted as barriers. Cultural familiarity with traditional fermented foods and herbal products further facilitated acceptance, while affordability, credible brands, scientific validation, and transparent product information strengthened perceived value and purchase confidence (Sulaiman et al., 2025; Huang et al., 2020; Soon et al., 2024; Shrestha et al., 2021; Jadhav et al., 2023; Yeo et al., 2023; Ang et al., 2023; Kim et al., 2021; Ariffin et al., 2021).

Health awareness positively increases acceptance of functional foods, and there is a need for consumer-targeted communication. Unfamiliarity and sensory concerns of the products act as barriers (Sulaiman et al., 2025). The combination of cultural heritage and scientific proof supporting the health benefits of traditional fermented foods improves consumer engagement and market expansion (Lee et al., 2024). The perception of health benefits and flavour may influence purchase intention, and there is a need for balanced product design (Huang et al., 2020).

Consumers usually associate fermented foods with digestion and immunity benefits. Poor and unclear labels, as well as misinformation, affect consumer decision-making (Soon et al., 2024). The consumption of traditional fermented foods has declined with urban lifestyles, but it is now being revived by growing health awareness and modern retail formats (Surya, 2024). Fermented foods like yoghurt are widely accepted due to cultural familiarity

(Tharmabalan et al., 2025). There has been an increase in the consumption of fermented foods among young customers due to social awareness and Wellness initiatives (Waché et al., 2018).

A positive attitude towards fermented foods, strong social influence and religious compliance are important in halal health supplement marketing (Idaman et al., 2024). Even though the use of health supplements is increasing, it remains moderate among consumers. Consumers use these health supplements due to health concerns and physician recommendations. Hence, there is a need for consumer education on the supplements (Shrestha et al., 2021). Due to the increase in health issues caused by different lifestyles, there is a strong drive towards supplement adoption. Credible brands and physician recommendations shape purchasing decisions for health supplements in the Indian market (Jadhav et al., 2023). Repeated purchase of nutritional health supplements is primarily influenced by affordability, while preventive health knowledge and perceived efficacy are potential drivers (Yeo et al., 2023). Beyond demographic factors, health motivation predicts supplement use, highlighting the role of individual health beliefs in consumer decision-making (Ang et al., 2023).

The perceived value of the supplements mediates the relationship between product attributes and purchase intention (Phan & Le, 2023). Among university students, health consciousness and academic stress contribute to the usage of the supplements. This highlights young adults as a growing target market (Yap et al., 2014). Health supplements are perceived as Lifestyle any blood rather than medical products, which denotes the habitual behavior of consumption (Chan et al., 2024). The perceived effectiveness of supplements is an important determinant of loyalty, underscoring the importance of evidence-based claims about the product (Kim et al., 2021). Herbal supplements benefit from cultural familiarity, but they require scientific validation to increase consumer trust (Ariffin et al., 2021).

2. Marketing of Fermented Foods and Health Supplements

Across the marketing literature, three interrelated mechanisms consistently emerged: digital accessibility, trust-building communication, and culturally relevant product positioning. E-commerce and social media expand market reach and facilitate engagement, particularly among younger consumers, whereas platform authenticity, credible branding, transparent influencer communication, and evidence-based health claims determine whether such exposure translates into consumer trust and purchase intention. At the same time, culturally congruent positioning enables traditional fermented foods and health supplements to retain their cultural identity while adapting to modern functional-food markets (Falahat et al., 2019; Ong et al., 2023; Wan Mohd Khair, 2023; Chuah et al., 2023; Hussin et al., 2024; Desembrianita et al., 2024; Dharma et al., 2024; Rodzi & Lee, 2021; Sudaryanto et al., 2021). In detail, supplements have expanded through e-commerce among young consumers, and authenticity and regulation support this (Seow et al., 2026). The purchase intention of Malaysian consumers is strongly influenced by perceived product authenticity on online platforms, underscoring the importance of secure digital commerce (Falahat et al., 2019). Active digital engagement strengthens the brand-consumer relationship and positively influences consumers' purchase intention in competitive online markets (Ong et al., 2023). Even though regulations and quality assurance remain important for consumer trust and market expansion, commerce accelerates market expansion better in Asia (Choi & Mai, 2018). The rise of health awareness and cultural revival is supporting the expansion of the market for fermented foods in East and Southeast Asia (Marco et al., 2017). Social media influencers enhance consumer engagement through brand recall, but transparency is necessary to maintain trust in the health products (Wan Mohd Khair, 2023).

Interactive and informative social media content significantly increases brand awareness and influences purchase intention among health-conscious consumers (Chuah et al., 2023). The higher the engagement level in dietary supplement e-commerce, the higher the

purchase frequency. This indicates the significance of user-centred digital platforms (Hussin et al., 2024). Strong digital branding enhances consumer trust and purchase intention, particularly among digitally active customers (Desembrianita et al., 2024). Endorsement of an authentic influencer for supplement consumption significantly shapes Gen-Z purchase intentions (Dharma et al., 2024). To reach the global market, Asia needs to close the commercialization gap, even though it leads in innovation in traditional fermented foods (Waché et al., 2018). To enhance the global competitiveness of fermented foods, Asia should modernization and undergo scientific validation (Rodzi & Lee, 2021). The market for functional fermented beverages is rapidly expanding, even though scientific substantiation of health claims remains important (Cong et al, 2020). Culturally congruent marketing messages significantly improve consumer response and brand acceptance (Sudaryanto et al., 2021). Sustained growth in health supplements in Southeast Asia is driven by rising disposable incomes, preventive health awareness and digital retailing (Euromonitor International, 2022). Preventive health products like vitamins, protein supplements and herbal products dominate the market, with consumer priorities shifting toward immunity and Wellness (Statista, 2025).

3. Supply chain of Fermented foods and Health supplements in Southeast Asia and India

Localized supply chains for fermented foods improve sustainability. Scalability and standardization challenges should be addressed to support wider distribution of the products (Yee et al, 2025). Supply chain systems for fermentation improve value addition and resilience. They also support rural livelihoods and sustainable food production (Wache et al., 2018). The optimization of e-commerce logistic strategies improves customer satisfaction and increases the competitive advantage of products online (Kawa & Zdrenka, 2023). High supply chain integration improves efficiency and product quality in nutraceutical product markets (Datta et al., 2023). Digital transport tools improve transparency and efficiency. It also supports supply chain resilience (KPMG, 2023). Offline and online channel integration strategies increase consumer reach, and channel coordination improves consistency in brand and customer experience (Luin & Bahri, 2025). Supply chain resilience depends on effective risk management that integrates technology, reflecting the need for adaptive logistics techniques in distribution (Annamala et al., 2025). A transparent supply chain enhances consumer trust and reduces safety challenges (Nguyen & Nguyen, 2025). Supply chain management using big data analytics improves efficiency and market responsiveness (Virgineta et al, 2025). Complex product categories need strong coordination and trust between the retailers and suppliers.

4. Regulations and Certifications

There is a need to balance efficiency with preservation of fermented foods, even though industrialization improves safety (Anal et al, 2020). Though scientific validation and standardization are needed to increase the global market, Southeast Asian fermented foods are culturally accepted (Chaiyasut et al., 2018). Fermented meat products provide numerous bioactive compounds, but they require strict quality control to mitigate safety risks and balance health benefits. Fragmented regulations and multiple intermediaries increase operational complexity. There is a need for integrated governance and policy alignment (Kassahun et al., 2023). Even if regulatory inconsistencies create compliance challenges for companies, robust regulation improves consumer protection and market credibility (Waché et al., 2018). Among Muslim consumers, halal certification increased purchasing intention. This indicates the product's positioning through religious compliance (Wiyono et al., 2022). There is a need for transparent labelling and regulatory assurance since perceived risk negatively affects consumer purchase intention (Grunert et al., 2011). Recognized certifications increase the confidence of purchase in a consumer and positively influence purchase decisions (Ashari, 2025). Consumer adoption of health-related Technology platforms, as explained by the Unified Theory of

Acceptance and Use of Technology framework, explains the use of trustworthy digital health platform ecosystems (Wei et al., 2025).

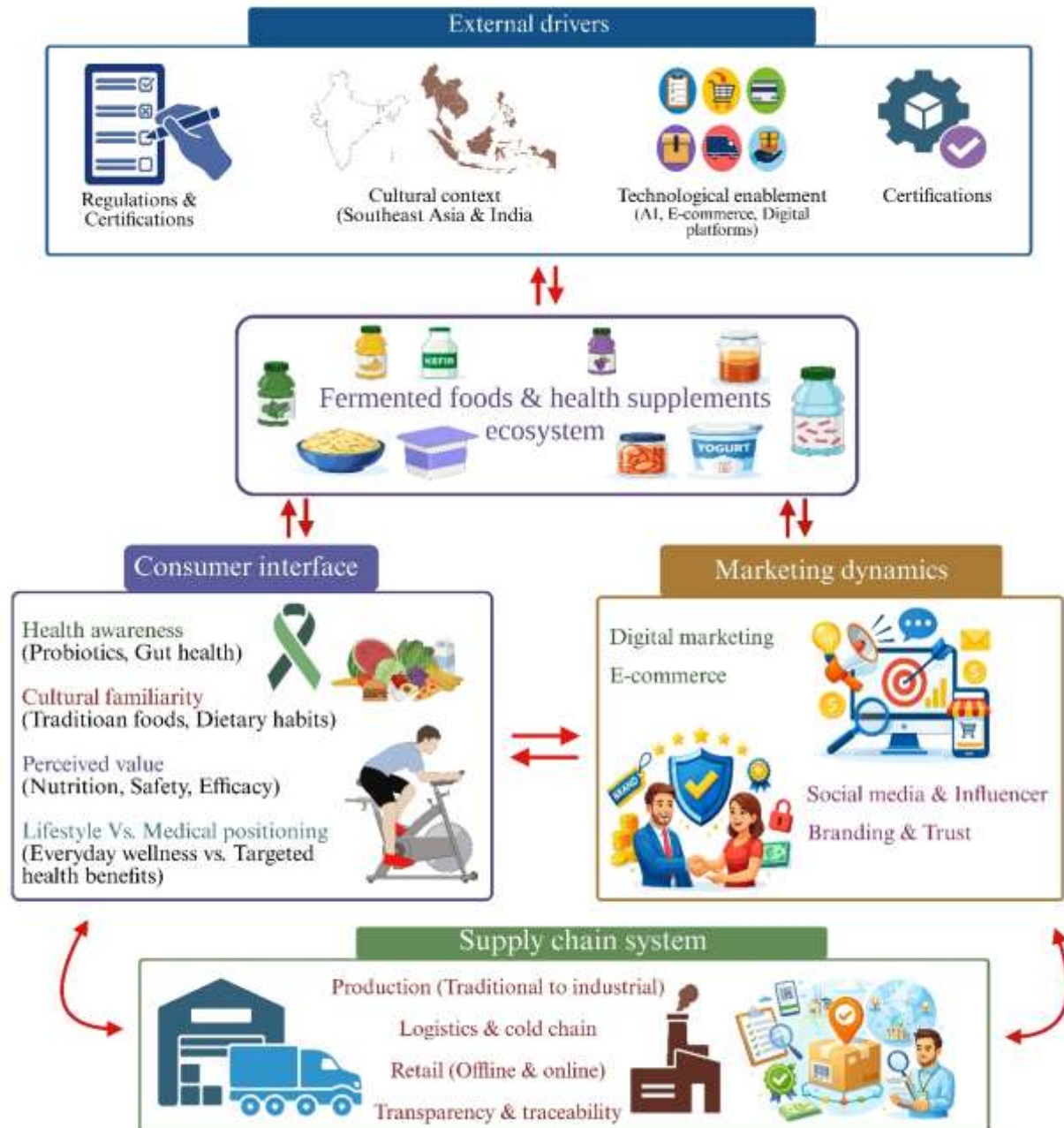


Figure 1 Integrated framework of fermented foods and health supplements ecosystem. The figure presents the dynamic interactions among consumer behavior, marketing strategies, and supply chain systems, moderated by regulatory, cultural, and technological factors in Southeast Asia and India.

Discussions

The review reveals that there are only a few longitudinal studies which analyze the consumer behavior towards fermented foods and health supplements, and there is a lack of interdisciplinary frameworks. The impact of regulations is under-researched, and there is insufficient empirical data regarding it. Quantitative modelling of supply chain efficiency remains limited, and cross-country comparative studies within Southeast Asia remain unexplored.

The reviewed evidence indicates that health consciousness, perceived efficacy, cultural familiarity, and consumer trust are the most consistently supported primary determinants of consumer acceptance. Affordability, physician recommendation, branding, certification, digital engagement, and product accessibility appear to function more as secondary or moderating influences. Evidence regarding health motivation and trust was relatively consistent across contexts, whereas findings on influencer marketing, certification effects, and regulatory influences were more context-dependent and less uniformly supported. These distinctions suggest that market development is driven primarily by perceived health value and trust, while marketing, certification, and supply-chain conditions determine whether these motivations translate into actual purchase and repeated use.

The findings of this literature review denote that traditional foods are deeply rooted in the regional diets of Southeast Asia, and consumption remains strong. Indian consumers exhibit increasing interest in preventive nutrition. Health motivation is the major determinant of consumer behavior. Consumers prefer gut health, comfortable digestion, improved metabolism, and immunity. Health supplements are largely adopted for disease prevention rather than for treatment. In alignment with the consumer value theory, the analyzed literature indicates that physician recommendation, awareness towards preventive health and product efficacy influence the purchase intention of the consumer. Digital platforms enable market expansion and improved product accessibility. Young and urban consumers are influenced by digital and influencer marketing. E-commerce has improved the market level in both regions of the study. The authenticity of digital platforms, social media influencers, and interactive content increases consumer engagement. Supply chain faces challenges in scaling the fermented food market. Even though local production improves rural livelihoods, scalability is hindered by limited cold-chain infrastructure, dispersed sourcing, diverse regulations, and inconsistent product quality control.

In contrast, health supplements exhibit strong vertical integration and a transparent supply chain. A transparent supply chain improves consumer trust, and the review highlights the importance of digital logistics management and omnichannel coordination. Regulatory frameworks are inconsistent across Southeast Asia and India. Robust regulations will enhance consumer protection and market credibility. Halal certifications and recognized quality standards increase consumer confidence towards the purchase. Diverse regulations limit regional harmonization and primarily affect the cross-border expansion of the market. There is a need for standard labeling systems and scientific validation of health claims. Proper cross-country coordination of regulations and enforcement of strict digital marketing guidelines will increase consumer trust in the products.

Conclusion and suggestions

After examining the marketing dynamics, consumer interface, and supply chain of fermented foods and health supplements in Southeast Asia and India, this review highlights increasing health consciousness, the cultural significance of fermented foods, and digital marketing as key drivers of market growth. Consumer trust is strongly influenced by perceived health benefits, product safety, regulatory measures, and credible certification, while supply chains continue to face persistent challenges, particularly limited cold-chain infrastructure, inconsistent quality control, and regulatory differences across countries. By synthesizing evidence from diverse studies, this review provides a holistic understanding of the sector and demonstrates the interconnected roles of consumers, marketing, supply chains, and regulatory systems. Nevertheless, the review is limited by its inclusion of only English-language publications, which may have excluded relevant regional-language studies, and by differences in regulatory and market environments across Southeast Asian countries, which also constrained direct cross-country comparisons.

To address these challenges, governments, industry stakeholders, and community producers should collaborate to strengthen product standardization, transparent labeling, scientific validation of health claims, certification systems, and regulatory harmonization across countries. Greater investment in cold-chain infrastructure, digital logistics, traceability systems, and omnichannel distribution is also recommended to improve supply chain efficiency, market competitiveness, and consumer confidence. Future research should emphasize longitudinal and comparative cross-country studies within Southeast Asia and between Southeast Asia and India, together with empirical assessments of regulations, certifications, consumer trust, and quantitative supply chain performance. Such evidence would improve the generalizability of the findings and support the development of more effective policies and market strategies to promote the sustainable growth of fermented foods and health supplements.

New knowledge and the effects on society and communities

The new knowledge generated by this review is the integrated understanding that consumer behavior, marketing dynamics, supply chain systems, regulation, culture, and technology should not be viewed separately but as interconnected components of a single fermented food and health supplement ecosystem. The framework presented in the study shows that consumer trust acts as an important link among perceived health benefits, product quality, credible marketing, certification, and supply chain transparency. It also highlights how traditional fermented foods can be transformed from locally consumed cultural products into higher-value functional foods when traditional knowledge is combined with scientific evidence, modern processing, branding, and digital commercialization.

For society and communities, these findings may contribute to greater consumer awareness, safer product choices, stronger preventive health practices and more responsible communication of health benefits. At the community level, improved market access and value chain development can support farmers, traditional producers, small enterprises, and rural communities by creating income, employment, and value-added opportunities while helping to preserve indigenous food knowledge and cultural identity. Digital platforms and e-commerce may further enable community-based producers to reach wider markets, provided that they receive adequate support in quality assurance, certification, logistics, and regulatory compliance.

The principal conceptual contribution of this review is the identification of consumer trust as a cross-cutting mechanism linking health-value perceptions with marketing credibility, certification, product quality, and supply-chain transparency.

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