RESEARCH PAPER

Impact of Financial Literacy and Baby Food Safety Laws on Consumer Trust in Infant Nutrition Products: A Conceptual Framework and Research Agenda

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Abstract
The global infant formula and baby food market — valued at approximately USD 47.2 billion in 2024 and projected to reach USD 126.5 billion by 2034 — occupies a uniquely sensitive position in consumer markets, where purchase decisions carry direct implications for infant health and where parents, particularly those with limited financial and health literacy, may be vulnerable to misleading marketing claims and premium pricing. India's Infant Milk Substitutes, Feeding Bottles and Infant Food Act, 1992 (as amended) prohibits advertising and promotional inducements for infant milk substitutes, and the Food Safety and Standards Authority of India has since layered additional regulations governing composition, labelling, and permissible claims. Yet documented enforcement gaps — including formally recorded 2025 complaints against major manufacturers for alleged violations of the Act — suggest a persistent divergence between regulatory design and regulatory practice. Separately, an emerging body of research links financial literacy to household health-investment decisions and to consumer trust in complex or unfamiliar product categories, but this literature has not yet been applied to infant nutrition specifically, nor integrated with food-safety-law awareness as a joint determinant of consumer trust. This paper develops an integrated conceptual framework in which parental financial literacy and perceived baby-food-safety-law awareness jointly and independently shape consumer trust in infant nutrition products, mediated by perceived claim credibility and price-value perception. Drawing on human-capital theory, regulatory-signalling theory, and consumer-trust research, the paper synthesises current literature across these three previously separate streams and proposes seven testable hypotheses together with a PLS-SEM-based empirical design for future validation among Indian parents and caregivers.

Keywords: Financial literacy; baby food safety law; infant nutrition; consumer trust; Infant Milk Substitutes Act; FSSAI; regulatory compliance; consumer protection
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1. Introduction

Infant nutrition occupies a distinctive category within consumer markets: purchase decisions are high-stakes, emotionally charged, and made under conditions of genuine information asymmetry between manufacturers and caregivers. The global infant formula market was valued at approximately USD 47.2 billion in 2024 and is projected to reach USD 126.5 billion by 2034, driven by rising female workforce participation, urbanisation, and growing parental focus on product safety and premium nutrition (GM Insights, 2025). In India, this category is governed by a distinctive regulatory architecture: the Infant Milk Substitutes, Feeding Bottles and Infant Food (Regulation of Production, Supply and Distribution) Act, 1992, as amended in 2003 (the "IMS Act"), which under Sections 3 and 4 prohibits advertising, promotion, and incentivisation of infant milk substitutes, feeding bottles, and infant foods, alongside subsequent Food Safety and Standards Authority of India (FSSAI) regulations governing composition, contaminant limits, labelling, and permissible health claims (Food Safety Mantra, 2021; Online Legal India, 2025).

Despite this regulatory framework, enforcement gaps persist. Advocacy records from 2025 document formal complaints filed with India's Ministry of Women and Child Development, the National Commission for Protection of Child Rights, and FSSAI alleging IMS Act violations by major manufacturers — including allegations against Abbott Healthcare for sponsoring a dietitian forum and against a leading dairy cooperative for promotional practices around a liquid infant milk substitute (BPNI, 2025). Internationally, similar patterns recur: a 2022 WHO–UNICEF multi-country study found that marketing strategies — including health-benefit claims, price manipulation, and use of medical endorsement — significantly influence caregiver perceptions and infant-feeding decisions (cited in Froley et al., 2025), while a 2025 study of online marketing of commercial milk formula in the United States found continued violations of the International Code of Marketing of Breast-milk Substitutes despite decades-old regulatory commitments (Froley et al., 2025). The 2022 US infant formula shortage further exposed how supply disruptions and safety recalls can rapidly erode consumer trust and reshape feeding behaviour (Q Open/Oxford Academic, 2025).

A separate literature establishes that financial literacy shapes household decision-making in health and consumer-product domains beyond conventional investing: financial literacy has been shown to improve household health-investment decisions in China by expanding information sources, enriching health knowledge, and alleviating income constraints (NCBI/PMC, 2023), and to build consumer trust and confidence in complex or unfamiliar product and service categories more broadly (ScienceDirect, 2023). Yet this financial-literacy-and-trust literature has not been applied to infant nutrition products specifically, nor integrated with the food-safety-law-awareness dimension that is distinctively salient in this product category. This paper addresses that gap by developing an integrated conceptual framework in which parental financial literacy and perceived baby-food-safety-law awareness jointly shape consumer trust in infant nutrition products, with a proposed empirical design for the Indian context.

2. Theoretical Background

2.1 Financial Literacy and Health/Consumer-Product Decision-Making

Financial literacy is conventionally defined as an individual's ability to apply basic financial concepts — numeracy, inflation awareness, and risk diversification — to everyday decisions (Lusardi & Mitchell, 2014). Beyond investment behaviour, financial literacy has been shown to extend into health-related consumer decisions: a large-sample Chinese study found that financial literacy positively influences household health-investment decisions through three channels — expanding information sources, enriching health knowledge, and alleviating income constraints — with effects moderated by regional medical infrastructure and household heads' life experience (NCBI/PMC, 2023). Separately, financial literacy has been linked to consumer trust and confidence when evaluating complex or unfamiliar products: financially literate consumers demonstrate greater trust in, and higher adoption of, digital financial services, while financially illiterate consumers exhibit lower trust and confidence in navigating new or complex offerings (ScienceDirect, 2023). Infant nutrition products share key characteristics with these complex-product categories — technical composition claims, premium pricing tiers, and difficult-to-verify efficacy claims — suggesting financial literacy may play an analogous trust-building role, though this has not been directly tested.

2.2 Baby Food Safety Regulation as a Trust Signal

Regulatory-signalling theory suggests that consumer trust in a product category is shaped not only by direct experience but by perceived regulatory oversight — the belief that a credible authority is actively monitoring and enforcing safety and marketing standards. India's regulatory framework for infant nutrition is comparatively comprehensive: the IMS Act, 1992 (amended 2003) prohibits advertising and promotional inducements for infant milk substitutes and feeding bottles; the Food Safety and Standards (Food for Infant Nutrition) Regulations, 2020 set compositional and nutrient standards; the Food Safety and Standards (Advertising and Claims) Regulations, 2018 prohibit claims that a product is equivalent or superior to breast milk, or that it prevents allergies, boosts immunity, or enhances intelligence; and labelling regulations mandate warnings that the product is not the sole source of infant nourishment (Online Legal India, 2025; Lexplosion Solutions, 2025). However, the persistence of documented 2025 enforcement complaints against major manufacturers indicates a gap between regulatory design and regulatory practice (BPNI, 2025) — a gap that may itself shape consumer trust differently depending on whether caregivers are aware of it.

2.3 Consumer Trust in Infant Nutrition Products

Recent consumer-behaviour research frames infant-food purchase decisions explicitly around trust and value perception: a 2024 study examining parental decision-making in infant food selection found that value communication and trust formation are central, motivating mechanisms in caregiver purchasing behaviour (Mamniashvili, 2024). Trust in this category has proven fragile: the 2022 US infant formula shortage — triggered by a major safety recall — led parents to adopt coping strategies including increased breastfeeding and, per subsequent research, generated a "confusing marketplace" of product varieties and differing marketing claims that undermined confident decision-making (Q Open/Oxford Academic, 2025). Contaminant-testing research has further complicated consumer trust, with a widely reported 2025 Consumer Reports investigation finding measurable levels of lead and arsenic across a sample of baby formulas (The Bump, 2025). At the same time, industry analysis identifies brand trust and evidence-based nutrition claims as the primary basis of competition in the infant formula market, with suppliers offering stable, compliant, well-labelled products earning greater caregiver trust (Future Market Insights, 2026).

3. Literature Review and Research Gap

Three literatures inform this paper. The financial-literacy literature establishes that financial knowledge improves health-related household decision-making and builds trust in complex product categories, but has not been examined within infant nutrition specifically (NCBI/PMC, 2023;

ScienceDirect, 2023). The food-safety-law literature comprehensively documents India's regulatory architecture for infant nutrition products — the IMS Act, FSSAI compositional and labelling regulations, and advertising restrictions — but remains largely doctrinal, rarely tested against measured consumer trust outcomes, and increasingly documents enforcement gaps (Online Legal India, 2025; Lexplosion Solutions, 2025; BPNI, 2025). The consumer-trust literature examines value perception and buying behaviour in infant-food selection and documents trust erosion following supply crises, contamination findings, and Code-compliance violations, but does not incorporate caregiver financial literacy as an explanatory variable, despite the category's premium pricing and complex, difficult-to-verify claims (Mamniashvili, 2024; Q Open/Oxford Academic, 2025; Froley et al., 2025; The Bump, 2025).

No study identified in this review integrates financial literacy and perceived food-safety-law awareness as joint, interacting determinants of consumer trust in infant nutrition products — despite India presenting a particularly relevant setting, given its comparatively detailed regulatory framework, documented 2025 enforcement gaps, and a rapidly growing formula and baby-food market. This paper's conceptual model addresses that integrative gap.

Table 1: Summary of Key Literature

Source / Year	Focus / Context	Key Finding
Lusardi & Mitchell (2014)	Global; financial literacy theory	Financial literacy is a human-capital investment shaping complex consumer decisions
NCBI/PMC (2023)	Household health investment, China	Financial literacy improves health investment via information, knowledge, and income-constraint channels
ScienceDirect (2023)	Digital finance and trust, China	Financial literacy builds consumer trust and confidence in complex/unfamiliar products
BPNI (2025)	IMS Act enforcement complaints, India	Documented 2025 complaints allege continued advertising/promotion violations by major manufacturers
Mamniashvili (2024)	Parental decision-making, infant food	Trust and value perception are central mechanisms in infant-food purchasing behaviour
Froley et al. (2025, Wiley MCN)	Online infant formula marketing, US	Bestselling online formula marketing continues to violate the WHO Code with health claims
Q Open/Oxford Academic (2025)	2022 US formula shortage, qualitative	Safety recalls and shortages erode trust and generate confusing, claim-heavy marketplaces
The Bump/Consumer Reports (2025)	Contaminant testing, baby formula	Testing of 41 baby formulas found measurable lead and arsenic levels

4. Conceptual Framework and Proposed Hypotheses

Building on human-capital theory (Lusardi & Mitchell, 2014), regulatory-signalling perspectives on consumer trust, and health-decision research linking financial literacy to household outcomes (NCBI/PMC, 2023), this paper proposes a model in which two independent variables — Parental Financial Literacy and Perceived Baby-Food-Safety-Law Awareness — jointly and independently shape Consumer Trust in Infant Nutrition Products (the dependent construct, comprising perceived product safety, perceived claim honesty, purchase confidence, and brand loyalty), mediated by Perceived Claim Credibility and Price-Value Perception, and moderated by household income and education.

Table 2: Proposed Hypotheses

No.	Hypothesis Statement	Proposed Relationship
H1	Parental financial literacy positively influences consumer trust in infant nutrition products.	Direct, positive
H2	Perceived awareness of baby-food safety laws (IMS Act/FSSAI	Direct, positive

	regulations) positively influences consumer trust.	
H3	Financial literacy positively influences awareness of baby-food safety-law protections.	Direct, positive
H4	Perceived claim credibility mediates the relationship between financial literacy and consumer trust.	Mediation
H5	Price-value perception mediates the relationship between financial literacy and consumer trust.	Mediation
H6	Perceived regulatory enforcement effectiveness moderates the safety-law-awareness–trust relationship.	Moderation
H7	Household income and education moderate the overall financial-literacy–trust relationship.	Moderation

5. Proposed Research Methodology for Empirical Validation

This paper is conceptual at this stage; the following methodology is proposed to guide empirical validation once primary data collection is undertaken.

5.1 Population and Sample

The target population comprises parents and primary caregivers of infants (0–24 months) in India who have purchased infant formula, infant cereal, or other commercial infant nutrition products. A stratified sample of approximately 350–400 respondents is recommended, stratified by household income, education level, and product type used (formula vs. complementary foods), to enable robust testing of the mediation and moderation paths specified in Section 4.

5.2 Measurement Instrument

- Financial literacy: adapted Big Three/Five items (Lusardi & Mitchell, 2014).
- Baby-food safety-law awareness: new items testing recognition of IMS Act advertising prohibitions, FSSAI labelling requirements, and prohibited health claims (e.g., "equivalent to breast milk," "boosts immunity").
- Consumer trust (DV): items on perceived product safety, perceived claim honesty, purchase confidence, and brand loyalty, adapted from established consumer-trust scales and infant-food-specific research (Mamniashvili, 2024).
- Perceived claim credibility and price-value perception: mediator items assessing caregivers' ability to evaluate marketing claims and premium pricing critically.
- Perceived regulatory enforcement effectiveness: moderator items on caregiver confidence that safety laws are actively enforced.

5.3 Data Analysis

Partial Least Squares Structural Equation Modelling (PLS-SEM) is recommended, with reliability assessed via Cronbach's alpha and composite reliability, convergent validity via Average Variance Extracted (AVE), discriminant validity via the Heterotrait-Monotrait (HTMT) ratio, and mediation/moderation effects tested using bootstrapped confidence intervals (5,000 resamples).

5.4 Ethical Considerations

Given that this study involves parents/caregivers of infants and touches on infant health and feeding practices, the proposed study should secure informed consent, institutional ethics clearance, and take particular care not to imply any judgement of feeding choices (breastfeeding vs. formula feeding), framing all items neutrally around product trust and regulatory awareness rather than feeding-method appropriateness.

6. Discussion and Implications

For regulators (FSSAI, Ministry of Women and Child Development), the framework suggests that closing the documented gap between IMS Act provisions and enforcement (BPNI, 2025) may matter less for consumer trust than caregivers' actual awareness of that gap — implying that public-facing enforcement transparency, not only enforcement itself, may be a lever for rebuilding trust. For manufacturers, the framework reinforces that regulatory compliance functions as a credible trust signal only when caregivers can verify or recognise it — suggesting value in clearer, more prominent compliance labelling rather than compliance alone. For financial and consumer educators, the findings support integrating health/consumer-product literacy — including how to evaluate marketing claims and premium pricing in categories like infant nutrition — into broader financial-literacy curricula, extending beyond investment-focused content to the health-and-family-consumption decisions financial literacy has been shown to influence (NCBI/PMC, 2023).

7. Limitations and Scope for Future Research

- This paper is conceptual; the proposed model and hypotheses require empirical validation with primary data before firm conclusions can be drawn.

- The framework is developed with the Indian regulatory context (IMS Act, FSSAI) specifically in mind; cross-country replication would require adapting safety-law-awareness items to local regulatory frameworks.
- Future research could differentiate by product type (infant formula vs. complementary/weaning foods vs. feeding bottles), which may be governed by different provisions and command different trust dynamics.

8. Conclusion

Infant nutrition products occupy a uniquely high-stakes position in consumer markets, shaped simultaneously by a detailed regulatory framework, documented enforcement gaps, and caregivers' varying financial literacy. This paper has proposed an integrated conceptual framework linking parental financial literacy and perceived baby-food-safety-law awareness to consumer trust in infant nutrition products, mediated by claim credibility and price-value perception, together with seven testable hypotheses and a PLS-SEM-based empirical design. If validated, the framework would offer regulators, manufacturers, and financial/consumer educators an evidence-based basis for strengthening both regulatory transparency and caregiver literacy in a product category where the stakes of misplaced trust fall directly on infant health and wellbeing.

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