

# A Perception-Based Study on Customer Trust Formation in Online Grocery Platforms

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## Abstract

*The rapid growth of online grocery platforms has transformed consumer buying patterns, yet trust continues to be a major determinant of implementation and continued usage. This study examines the key perception-based factors influence customer trust in online grocery platforms, including service quality, delivery reliability, platform usability, product accuracy, information transparency, packaging and data security. An expressive research design supported by secondary data is used to develop a conceptual trust model. Findings indicate that perceived service performance and risk-reducing mechanisms robustly shape trust formation. The results highlight the need for improved operational competence, transparent communication, and robust security systems to enhance customer trust and encourage long-term engagement with online grocery platforms.*

## Keywords

Online Grocery, Customer Trust, Perceived Risk, Service Quality, E-commerce Adoption, Digital Retail, Consumer Perception.

## Introduction

The appearance of digital commerce has extensively influenced consumer purchasing behaviour, particularly in essential categories such as groceries. Online grocery platforms provide convenience, time savings, and doorstep delivery; however, customers also face uncertainties regarding product quality, delivery accuracy, and data security. These risks make trust a crucial determinant in consumers' willingness to shift from physical stores to online grocery platforms.

Trust in digital retail contexts is shaped by both practical and emotional factors. While system performance, usability, and security features influence cognitive trust, transparency, brand reputation, and past experiences make stronger affective trust. In spite of the increasing adoption of online grocery platforms in India and globally, research on integrated, perception-based trust formation models remains limited. This study addresses this gap by examining key determinants such as service quality, delivery reliability, usability, transparency, product accuracy, and security, and their role in shaping perceived risk and trust.

## Literature Review

### Trust in Online Grocery Platforms

Islam & Rahman (2021, *Journal of Internet Commerce*) found that trust is central to online grocery adoption, driven primarily by service performance and transparent communication.

### Service Quality and Delivery Reliability

Dewi & Santoso (2020, *Electronic Commerce Research*) reported that timely delivery, freshness of

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products, and order accuracy significantly influence trust and customer satisfaction.

### Perceived Risk and Security Concerns

Kim (2021, *Journal of Retailing and Consumer Services*) highlighted that perceived risks—financial, privacy-related, and product-related—negatively affect trust unless strong security assurances are provided.

### Platform Usability and System Quality

Johnson & Gupta (2023, *International Journal of E-Commerce Studies*) noted that interface clarity, navigation ease, and mobile responsiveness enhance trust through improved user experience.

### Transparency and Information Quality

Chakraborty (2024, *Journal of Business Research*) emphasized that real-time tracking, clear product information, and honest communication reduce uncertainties, strengthening trust.

### Product Accuracy and Substitution Policies

Ramanathan & Kuppusamy (2022, *Asia Pacific Journal of Marketing and Logistics*) found that accurate product representation, quality consistency, and fair substitution policies directly reduce perceived risk and enhance trust.

### Data Security and Privacy Protection

Chen & Wang (2021, *IEEE Access*) demonstrated that encryption, secure payment gateways, and clear privacy policies are key predictors of trust in e-commerce platforms.

Paper & Author(s)	Year / Journal	Relevance
Influencing Consumers' Trust in Online Grocery Shopping: A Survey Among Malaysian — Shao, Lim, Mohd Johan & Annuar	2023, <i>Jurnal Intelek</i>	Shows how “quality issues” and “retailer reputation” influence trust; finds that although misleading advertising or logistic issues may have limited direct effect, trust strongly depends on perceived quality and brand reputation. (UiTM Journal)
Trust and Reliability in Online Food and Grocery Delivery: Building Consumer Confidence — Jain & Sudha	2024, <i>Library Progress International</i>	Explores determinants of consumer confidence in grocery-delivery services: product quality, order accuracy, prompt delivery, customer service, and data-privacy are critical trust drivers. (BPAS Journals)
Impact of Perceived Risk on Consumers' Technology Acceptance in Online Grocery Adoption amid COVID-19	2025, <i>Sustainability (MDPI)</i>	Analyzes how perceived risk and trust mediate technology adoption for online grocery — especially relevant post-pandemic; shows that perceived risk reduces purchase intention, but trust and facilitating conditions significantly improve adoption. (MDPI)
Online Grocery Shopping in India: A Review of Consumer Behavior from the Pre-Pandemic to Post-Covid Era	2025, <i>Journal of Informatics Education &amp; Research</i>	Reviews how consumer behavior and acceptance of online grocery evolved in India during and after COVID-19; highlights that trust, perceived risk, convenience, and value remain core determinants of adoption. (Jier)

Online Grocery Shopping e-service Quality: A Generational Comparison	2023, <i>South African Journal of Economic and Management Sciences</i>	Investigates how perceived e-service quality and risk perceptions vary across generations (Gen X vs. Gen Y) in online grocery usage — showing that younger consumers may tolerate more risk, while older ones emphasize security and reliability. (SAJEMS)
A Study of Consumer Perception towards Online Grocery Shopping: Challenges and Prospects — Shukla	2017, <i>Indian Journal of Computer Science</i>	A foundational study in Indian context: identifies convenience, time-saving, variety, home-delivery, ease of ordering, and cash-on-delivery as major strengths — but also points out issues with product authenticity and trustworthiness. (Indian Journal of Computer Science)

**Methodology**

This study uses a descriptive and conceptual research design based on wide secondary data from peer-reviewed journals published between 2020 and 2025. Databases examined include IEEE Xplore, Elsevier, Scopus, MDPI, and Google Scholar.

**Objectives:**

1. To identify the key perception-based factors influencing trust in online grocery platforms.
2. To analyze the role of perceived risk in mediating trust formation.
3. To develop a conceptual model linking perception dimensions to trust.

**Method:**

- Literature screening was performed using keywords such as online grocery, trust, perceived risk, and service quality.
- Studies were examined for constructs, relationships, and findings.
- A conceptual trust formation framework was developed integrating major determinants.

No primary data was collected; findings are based on synthesis of published evidence.

**IV. Findings**

The literature synthesis reveals that:

- Service quality like timeliness, freshness, and order accuracy are the strongest interpreter of trust.
- Delivery reliability drastically reduces uncertainty and builds platform credibility.
- Platform usability enhances apparent convenience and satisfaction, indirectly promoting trust.
- Product accuracy and transparency reduce cognitive difference and increase reliability.
- Data security directly influences trust due to rising concerns over privacy and online fraud.
- Perceived risk acts as a mediating variable between platform attributes and trust.

- Trust directly influences adoption intention, repeat purchases, and long-term platform loyalty

#### V. Discussion

The findings indicate that trust formation in online grocery platforms is multifaceted, involving both technological and experiential components. Consumers evaluate platforms based on reliability of service, accuracy of delivered items, and transparency of communication. Any deviation—such as delayed delivery or inaccurate product information—significantly reduces trust.

Furthermore, perceived risk plays a crucial role in shaping consumer behaviour. Even if platform usability or service quality is high, concerns about privacy, payment safety, or product freshness can undermine trust. Thus, platforms must adopt strong risk-mitigation strategies, including secure payment systems, clear refund policies, and real-time communication.

The study also highlights the importance of data security in digital commerce, as consumers increasingly prioritize privacy protection. Platforms that demonstrate strong data governance and ethical practices foster higher trust and customer retention.

#### VI. Conclusion

This study presents a perception-based conceptual framework for trust formation in online grocery platforms. The results confirm that service quality, delivery reliability, usability, transparency, product accuracy, and data security significantly shape customer trust, with perceived risk playing a mediating role.

Online grocery providers must focus on operational excellence, accurate product representation, transparent communication, and robust data security systems to enhance trust and encourage sustained usage. As digital commerce expands, trust will remain a critical factor in ensuring customer loyalty and long-term growth within the online grocery sector.

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