

# **Model to Measure Customer Purchase Intention for Electronic Goods – Online and Offline Mode: A Comprehensive Analysis of Indian Retail Landscape**

**Mr. Jeevan M<sup>1</sup>, Mr. Vignesh M<sup>2</sup>, Ms. Shreya Sachindra Sirsikar<sup>3</sup>**

<sup>1,2,3</sup>Student

<sup>1,2,3</sup>Dayananda Sagar Business School

<sup>1</sup>jeevan@dsbs.edu.in, <sup>2</sup>vignesh@dsbs.edu.in

## **Abstract**

This research investigates the evolving landscape of electronic goods retail in India, examining the intricate factors influencing customer purchase intentions across both online and offline channels. Through a mixed-method approach incorporating extensive literature review and primary data collection from 300 respondents, this study identifies key variables including convenience, accessibility, brand trust, and product quality as critical determinants of consumer purchasing decisions. The concept of omnichannel shopping emerges as pivotal, emphasizing the necessity for seamless integration between digital and physical retail environments. Utilizing exploratory factor analysis through IBM SPSS, the research reveals that convenience, brand trust, and product quality significantly influence purchase intentions, with variance explained at 57.75%. The study highlights the COVID-19 pandemic's accelerating effect on digital transformation in retail, while acknowledging the enduring importance of physical stores for tactile product experiences. Key findings indicate that while online platforms offer convenience and accessibility, offline stores maintain relevance through interpersonal relationships and hands-on product evaluation. The research provides actionable insights for retailers to develop effective omnichannel strategies, enhance customer satisfaction, and navigate the competitive electronic goods market in India's rapidly evolving retail ecosystem.

**Keywords:** Omnichannel shopping, customer purchase intention, electronic goods retail, online-offline integration, consumer behavior

## **1. Introduction**

The retail landscape for electronic goods in India has undergone unprecedented transformation, particularly accelerated by the COVID-19 pandemic and rapid digitalization. Contemporary consumers demonstrate sophisticated purchasing behaviors, seamlessly transitioning between online and offline channels to fulfill their electronic goods requirements. This evolution necessitates a comprehensive understanding of the

multifaceted factors influencing customer purchase intentions across different retail modalities.

The significance of this research lies in addressing the critical gap between theoretical frameworks and practical applications in understanding consumer behavior in the electronic goods sector. As India's retail industry is projected to reach \$1.3 trillion by 2024, with electronic goods constituting a substantial segment, understanding customer purchase intentions becomes paramount for retailers seeking competitive advantage.

The emergence of omnichannel shopping experiences has fundamentally altered traditional retail paradigms. Consumers no longer view online and offline channels as separate entities but rather as complementary touchpoints in their purchasing journey. This behavioral shift demands retailers to reconsider their strategic approaches, moving beyond channel-specific strategies toward integrated customer experience management.

This study addresses three fundamental research questions: What factors significantly influence customer purchase intentions for electronic goods across online and offline channels? How do these factors interact to shape consumer decision-making processes? What implications do these findings have for retailers developing omnichannel strategies in the Indian market?

The research contributes to academic literature by providing empirical evidence of factor relationships in electronic goods purchasing, while offering practical insights for industry stakeholders navigating the evolving retail environment.

## **2. Literature Review**

### **2.1 Theoretical Framework**

The theoretical foundation of this research draws from the Theory of Planned Behavior (TPB) and Technology Acceptance Model (TAM), which provide comprehensive frameworks for understanding consumer intention formation. Previous research has established that customer purchase intention is influenced by a complex interplay of cognitive, emotional, and situational factors.

Kar, Mohanty, and Mohanty (2023) explored consumer buying behavior attitudes toward green products, establishing the importance of perceived value and customer attitude in purchase decisions. Their findings highlight the role of environmental consciousness in shaping modern consumer preferences, particularly relevant in the electronic goods sector where sustainability concerns are increasingly prominent.

Baratian, Safaei, and Goodarzian (2023) examined sustainability's effect on customer intention for online group-buying websites, revealing that website quality and customer satisfaction significantly influence repeat purchasing behavior. This research underscores the importance of digital platform optimization in maintaining customer engagement and loyalty.

## **2.2 Online vs. Offline Shopping Dynamics**

The dichotomy between online and offline shopping experiences has been extensively documented in retail literature. Nosi, Pucci, Melanthiou, and Zanni (2021) investigated the influence of online and offline brand trust on consumer buying intention, demonstrating that brand trust operates differently across channels. Their research indicates that while online trust relies heavily on digital reputation and reviews, offline trust is built through interpersonal interactions and physical product experiences.

Muchardie, Gunawan, and Pratama (2023) examined omnichannel shopping intention in Indonesian online-to-offline grocery retailers, revealing that perceived compatibility and risk perception significantly influence consumer adoption of integrated shopping experiences. Their findings suggest that successful omnichannel implementation requires careful consideration of cultural and technological factors.

## **2.3 Factors Influencing Purchase Intention**

Comprehensive analysis of literature reveals thirty distinct factors influencing customer purchase intention in electronic goods retail. These factors can be categorized into four primary dimensions: convenience and accessibility, trust and credibility, product-related factors, and technological considerations.

Vora, Saiyed, and Bhatt (2023) conducted an empirical investigation of antecedents for online buying intentions using Structural Equation Modeling, identifying perceived ease of use, trust, and purchase intention as interconnected constructs. Their research emphasizes the importance of user experience design in facilitating online purchasing decisions.

Venkatakrishnan, Alagiriswamy, and Parayitam (2023) explored the relationship between trust, online buying, and customer satisfaction through a three-way interaction model, revealing that credibility, trust, and price-discount offers significantly influence consumer behavior. Their findings highlight the complex interplay between rational and emotional factors in purchase decision-making.

## **2.4 Omnichannel Retail Evolution**

The concept of omnichannel retailing has evolved from a strategic option to a business imperative in contemporary retail. Roy and Datta (2022) examined determinants of consumer buying behavior toward online and offline shopping, identifying demographic variables, convenience, price, and technology as critical influences. Their research demonstrates that successful retailers must address diverse consumer needs across multiple touchpoints.

The COVID-19 pandemic has accelerated omnichannel adoption, with 44% of consumers planning to consolidate shopping trips and 36% limiting in-person shopping to exceptional experiences, according to EY Future Consumer Index data. This behavioral shift necessitates retailers to reimagine their customer engagement strategies.

### **3. Methods**

#### **3.1 Research Design**

This research employed a mixed-method approach, combining quantitative survey data with qualitative insights to develop a comprehensive understanding of customer purchase intention. The study utilized a cross-sectional design, collecting data from consumers across urban, semi-urban, and rural areas in India.

#### **3.2 Sampling Method**

A random sampling technique was employed to ensure representative data collection from the general population of electronic goods consumers. The sampling frame included individuals aged 16 and above who have purchased electronic goods within the past 12 months through either online or offline channels.

#### **3.3 Sample Size Determination**

Following established guidelines for factor analysis, a sample size of 300 respondents was selected. This sample size adheres to the rule of thumb requiring a minimum of 10 respondents per variable for factor analysis, ensuring adequate statistical power for the 30 variables identified in the study.

#### **3.4 Data Collection Instrument**

A structured questionnaire was developed based on extensive literature review and expert consultation. The instrument employed a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) to measure respondent attitudes toward identified factors. The questionnaire included:

- Demographic information (age, location, income)
- 30 items measuring factors influencing purchase intention
- Open-ended questions for qualitative insights
- Validation questions to ensure response authenticity

#### **3.5 Data Collection Process**

Data collection was conducted over a six-week period, utilizing both online and offline distribution methods to reach diverse consumer segments. Quality control measures included response validation, completeness checks, and consistency verification.

#### **3.6 Statistical Analysis**

Data analysis was performed using IBM SPSS Statistics software, employing the following techniques:

- Descriptive statistics for sample characterization
- Reliability analysis using Cronbach's alpha
- Exploratory Factor Analysis (EFA) to identify underlying constructs
- Correlation analysis to examine variable relationships
- Multiple regression analysis to test hypotheses

### 3.7 Validity and Reliability

The research instrument underwent rigorous validation processes:

**Content Validity:** Expert panel review ensured comprehensive coverage of relevant factors **Construct Validity:** Confirmed through factor analysis and convergent validity assessment **Reliability:** Cronbach's alpha coefficients exceeded 0.70 for all constructs **Sample Adequacy:** Kaiser-Meyer-Olkin (KMO) measure of 0.901 confirmed sampling adequacy

## 4. Results

### 4.1 Sample Characteristics

The final sample comprised 300 respondents with the following characteristics:

- Age distribution: 16-30 years (45%), 31-45 years (35%), 46-60 years (15%), >60 years (5%)
- Geographic distribution: Urban (60%), Semi-urban (25%), Rural (15%)
- Gender distribution: Male (55%), Female (45%)

### 4.2 Reliability Analysis

Cronbach's alpha values for all constructs exceeded the threshold of 0.70, indicating acceptable internal consistency:

- Convenience factors:  $\alpha = 0.82$  • Trust and credibility:  $\alpha = 0.87$
- Product-related factors:  $\alpha = 0.79$  • Technological factors:  $\alpha = 0.84$

### 4.3 Factor Analysis Results

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.901, indicating excellent suitability for factor analysis. Bartlett's Test of Sphericity was significant ( $\chi^2 = 2687.979$ ,  $df = 435$ ,  $p < 0.001$ ), confirming that correlations between variables were sufficiently large for factor analysis.

Exploratory Factor Analysis revealed seven underlying factors explaining 57.75% of the total variance:

#### **Factor 1: Convenience and Accessibility (18.2% variance)**

- Convenience impact on purchase decisions • Accessibility through multiple channels
- Product comparison capabilities
- Cross-channel shopping behaviors

**Factor 2: Trust and Credibility (12.8% variance)**

- Brand trust (online and offline) • Customer trust in sellers
- Credibility of product information • Previous experience influence

**Factor 3: Product Quality and Specifications (9.4% variance)**

- Product quality expectations
- Technical specifications adequacy • Reality check capabilities
- Touch and feel requirements

**Factor 4: Price and Value Perception (7.2% variance)**

- Price-discount-offers impact • Value for money perception
- Demographic influence on purchasing

**Factor 5: Technology and Innovation (4.8% variance)**

- Technological advancements importance • Website attributes quality
- Perceived compatibility

**Factor 6: Customer Service and Support (3.1% variance)**

- Seller-customer relationships • After-purchase accessibility
- Customer service quality

**Factor 7: Social Influence and Reviews (2.2% variance)**

- Customer reviews impact
- Product advertisements influence • Peer recommendations

**4.4 Hypothesis Testing Results**

**H1: Convenience and Purchase Intention** Multiple regression analysis revealed a significant positive relationship between perceived convenience and customer purchase intention ( $\beta = 0.347$ ,  $p < 0.001$ ). The convenience factor explained 12.1% of variance in purchase intention.

**H2: Brand Trust and Purchase Intention** Brand trust demonstrated a significant positive effect on purchase intention ( $\beta = 0.298$ ,  $p < 0.001$ ), explaining 8.9% of variance. This relationship was consistent across both online and offline channels.

**H3: Product Quality and Purchase Intention** Product quality perception significantly influenced purchase intention ( $\beta = 0.276$ ,  $p < 0.001$ ), accounting for 7.6% of variance. This factor showed stronger

influence in offline purchases.

**H4: Value for Money and Purchase Intention** Perceived value for money significantly affected purchase intention ( $\beta = 0.234$ ,  $p < 0.001$ ), explaining 5.5% of variance. This factor was more pronounced in online purchases.

**H5: Discounts and Promotions** Online discounts and promotions significantly influenced purchase intention compared to offline offers ( $\beta = 0.198$ ,  $p < 0.01$ ), explaining 3.9% of variance.

**H6: Customer Service Impact** Customer service quality significantly affected purchase intention ( $\beta = 0.187$ ,  $p < 0.05$ ), accounting for 3.5% of variance. This factor was more critical in offline purchases.

**H7: User-Friendliness** Platform user-friendliness significantly influenced purchase intention ( $\beta = 0.156$ ,  $p < 0.05$ ), explaining 2.4% of variance. This factor was more relevant for online purchases.

**H8: Social Influence** Peer recommendations and online reviews significantly influenced purchase intention ( $\beta = 0.143$ ,  $p < 0.05$ ), with stronger effects in online purchases.

#### **4.5 Comparative Analysis: Online vs. Offline Preferences**

Analysis revealed distinct preference patterns:

##### **Online Shopping Preferences:**

- Convenience (Mean = 4.32, SD = 0.68)
- Product comparison (Mean = 4.18, SD = 0.71) • Price competitiveness (Mean = 4.05, SD = 0.79) • Accessibility (Mean = 3.98, SD = 0.82)

##### **Offline Shopping Preferences:**

- Product experience (Mean = 4.41, SD = 0.64) • Trust and credibility (Mean = 4.27, SD = 0.73)
- Seller-customer relationships (Mean = 4.12, SD = 0.76) • Immediate availability (Mean = 3.96, SD = 0.84)

#### **4.6 Qualitative Insights**

Open-ended responses revealed additional insights:

##### **Channel Preferences:**

- 45% preferred online for research and comparison • 38% preferred offline for final purchase decisions
- 17% showed no clear preference, emphasizing product-specific choices

##### **Critical Factors (Ranked by Importance):**

1. Product quality and reliability

2. Price competitiveness
3. Brand trustworthiness
4. Convenience and accessibility
5. Customer service quality

**Review Influence:**

- 87% considered online reviews important
- 62% verified reviews through multiple sources
- 34% preferred reviews with detailed product experiences

**5. Discussion****5.1 Theoretical Implications**

The findings contribute significantly to understanding consumer behavior in omnichannel retail environments. The identification of seven distinct factors influencing purchase intention provides empirical support for multi-dimensional models of consumer decision-making. The research demonstrates that traditional single-channel theories inadequately explain contemporary consumer behavior, necessitating integrated theoretical frameworks.

The prominence of convenience as the primary factor aligns with contemporary consumer expectations for seamless experiences. However, the continued importance of trust and product quality factors suggests that fundamental consumer needs remain consistent across channels. This finding challenges purely technology-centric approaches to retail transformation.

**5.2 Practical Implications**

**For Retailers:** The research provides actionable insights for developing effective omnichannel strategies. Retailers should prioritize:

1. **Integrated Customer Experience Design:** Ensure consistency across all touchpoints while leveraging unique channel strengths
2. **Trust Building Initiatives:** Implement robust quality assurance and customer service programs
3. **Technology Investment:** Develop user-friendly platforms that facilitate product comparison and decision-making
4. **Staff Training:** Enhance customer service capabilities in physical stores to maintain competitive advantage

**For Marketing Professionals:** The findings suggest that marketing strategies should:

1. **Emphasize Value Proposition:** Clearly communicate convenience, quality, and value benefits
2. **Leverage Social Proof:** Implement comprehensive review systems and encourage customer testimonials
3. **Personalization:** Utilize customer data to provide tailored recommendations and experiences
4. **Cross-Channel Integration:** Develop campaigns that guide customers through integrated purchase journeys

### 5.3 Industry Implications

The research highlights critical challenges and opportunities in the Indian electronic goods retail sector:

#### Challenges:

- Demand fluctuations requiring agile inventory management
- Evolving customer expectations for seamless experiences
- Technology integration complexities
- Quality control across multiple channels

#### Opportunities:

- Omnichannel experience differentiation
- Data-driven personalization
- Enhanced customer relationship management
- Sustainable competitive advantage through integration

### 5.4 COVID-19 Impact Analysis

The pandemic has accelerated digital transformation while highlighting the continued relevance of physical stores. The research reveals that 44% of consumers plan to consolidate shopping trips, while 36% limit in-person shopping to exceptional experiences. This behavioral shift creates opportunities for retailers who can provide compelling offline experiences while maintaining robust online capabilities.

### 5.5 Future Retail Landscape

The findings suggest that the future of electronic goods retail lies in sophisticated omnichannel integration rather than channel dominance. Successful retailers will create seamless experiences that leverage the strengths of each channel while addressing inherent limitations. This requires significant investment in technology, staff training, and customer experience design.

### 5.6 Limitations and Future Research

#### Study Limitations:

- Geographic scope limited to Indian consumers

- Cross-sectional design prevents causal inference • Self-reported data subject to response bias
- External factors (economic conditions, seasonality) not controlled

**Future Research Directions:**

1. Longitudinal studies tracking consumer behavior evolution
2. Cross-cultural comparisons across different markets
3. Impact of emerging technologies (AR/VR, AI) on purchase intention
4. Sector-specific analysis for different electronic goods categories
5. Post-pandemic behavioral permanence assessment

**6. Conclusion**

This research provides comprehensive insights into customer purchase intention for electronic goods across online and offline channels in the Indian market. The identification of seven key factors— convenience and accessibility, trust and credibility, product quality and specifications, price and value perception, technology and innovation, customer service and support, and social influence—offers a robust framework for understanding contemporary consumer behavior.

The findings demonstrate that successful retailers must adopt sophisticated omnichannel strategies that integrate the strengths of both online and offline channels while addressing unique consumer needs. The continued importance of trust and product quality factors alongside convenience and accessibility suggests that fundamental consumer values remain consistent despite technological advancement.

The research confirms that the future of electronic goods retail lies not in channel dominance but in seamless integration that provides superior customer experiences. Retailers who can effectively combine the convenience and choice of online platforms with the trust and tactile experience of physical stores will achieve sustainable competitive advantage.

The COVID-19 pandemic has accelerated these trends, making omnichannel capability not just advantageous but essential for survival in the evolving retail landscape. As India's retail industry continues its trajectory toward \$1.3 trillion by 2024, understanding and responding to these consumer insights will be critical for success.

The study's practical implications extend beyond academic contribution, providing actionable insights for retailers, marketing professionals, and policymakers navigating the complex electronic goods retail environment. By focusing on customer-centric approaches that leverage technology while maintaining human connection, retailers can build lasting relationships and achieve sustainable growth in this dynamic market.

## Acknowledgments

The author acknowledges the guidance and support of Dr. B S Patil, Director, Dayananda Sagar Business School, throughout this research project. Gratitude is extended to all survey participants who provided valuable insights, and to the anonymous reviewers whose constructive feedback enhanced the quality of this work.

## Conflict of Interest Statement

The author declares no conflicts of interest in conducting this research or publishing these findings.

## Ethics Statement

This research was conducted in accordance with ethical guidelines for human subjects research. All participants provided informed consent, and data was collected and stored following privacy protection protocols. The study received approval from the institutional ethics committee.

## References

1. Awa, E. C.-X., Bashab, N. K., Ngc, S. I., & Hod, J. A. (2021). Searching online and buying offline: Understanding the role of channel-, consumer-, and product-related factors in determining web rooming intention. *Journal of Retailing and Consumer Services*, 58, 102328. <https://doi.org/10.1016/j.jretconser.2020.102328>
2. Baratian, S., Safaei, A. S., & Goodarzian, F. (2023). The effect of sustainability on customers' intention to buy from an online group-buying website. *International Journal of Industrial Engineering & Production Research*, 34(4), 1-15. <https://doi.org/10.22068/ijiepr.34.4.5>
3. Bulsara, H. K. P., & Vaghela, P. S. S. (2020). Online shopping intention for consumer electronics products: A literature review and conceptual model. *E-Commerce for Future & Trends*, 7(1), 26-35. <https://doi.org/10.37591/ecft.v7i1.2363>
4. Kar, P., Mohanty, S., & Mohanty, A. (2023). Consumers' buying behaviour attitudes and purchase intention towards green food products. *Smart Journal of Business Management Studies*, 19(2), 45-58.
5. Kumar, C. (2018). Study on e-commerce and its impact on markets & retailers: An overview. *International Journal of Research and Analytical Reviews*, 5(2), 112-115.
6. Muchardie, B. G., Gunawan, A., & Pratama, P. (2023). Omnichannel shopping intention in Indonesian online-to-offline grocery retailers. *E3S Web of Conferences*, 426, 02023. <https://doi.org/10.1051/e3sconf/202342602023>
7. Nosi, C., Pucci, T., Melanthiou, Y., & Zanni, L. (2021). The influence of online and offline brand trust on consumer buying intention. *EuroMed Journal of Business*, 16(3), 285-305. <https://doi.org/10.1108/EMJB-01-2021-0002>
8. Roy, P., & Datta, D. (2022). Determinants of consumer buying behavior towards online and offline shopping. *International Journal for Research in Engineering Application & Management*, 8(3), 174-180.



<https://doi.org/10.35291/2454-9150.2022.0328>

9. Schulze, J. (2020). Online and offline shopping: Decision making factors that influence consumer purchases. Research Gate, 1-15.
10. Venkatakrisnan, J., Alagiriswamy, R., & Parayitam, S. (2023). Disentangling the relationship between trust, online buying, and customer satisfaction: A three-way interaction model. Journal of Marketing Analytics, 11(2), 234-251. <https://doi.org/10.1057/s41270-023-00228-4>
11. Vora, H., Saiyed, M., & Bhatt, S. (2023). An empirical investigation of antecedents for online buying intentions – The SEM approach. Journal of Management & Entrepreneurship, 17(2), 78-95.
12. EY Future Consumer Index. (2022). Consumer behavior insights post-pandemic. Ernst & Young Global Limited.
13. Almast, A. (2022). Why hybrid retail formats are the future of retail in India. Times of India, Business Section.
14. Gibbons, S. (2023). Online-offline (O2O) could revolutionize e-commerce business. Forbes, Technology Section.
15. Indian Retail Industry Report. (2024). Market size, growth projections, and trends. Industry Research Publications.