

# Adoption of Artificial Intelligence in Marketing Decision-Making: An Empirical Study of Consumer Perception in Indian Retail Sector

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## Abstract

Artificial Intelligence (AI) has become a transformative force in marketing, reshaping how organizations interact with consumers. This study investigates consumer perceptions towards AI-driven marketing decision-making in the Indian retail sector. Using a structured survey of 120 consumers from urban and semi-urban regions of Nagpur and Bhandara, data were analyzed using descriptive statistics, cross-tabulation, and regression analysis. Findings reveal that AI-driven personalization positively influences consumer purchase decisions, with trust acting as a significant mediating factor. While consumers appreciate personalization and efficiency, privacy concerns remain a barrier. The study provides managerial implications for Indian retailers integrating AI in marketing and contributes to the limited empirical research on AI adoption in emerging markets.

**Keywords:** *Artificial Intelligence, Marketing, Consumer Perception, Retail Sector, India, Digital Transformation*

## 1. Introduction

Artificial Intelligence (AI) is rapidly transforming marketing decision-making by enabling personalized, data-driven consumer engagement. Retailers globally use AI-powered recommendation engines, chatbots, and predictive analytics to enhance customer experience and operational efficiency (Huang & Rust, 2021; Shankar, 2021). India's digital economy, with increasing smartphone penetration and e-commerce growth, provides a unique context for AI adoption.

Despite AI's potential, Indian consumers' perceptions and trust in AI-driven marketing remain under-researched. Most studies focus on developed economies, where digital literacy and AI exposure are higher (Bauer et al., 2023; Davenport et al., 2020). In India, limited consumer

awareness, privacy concerns, and cultural factors may influence AI adoption differently.

**Research Gap:** While global literature highlights AI's marketing potential, there is a lack of empirical evidence on consumer trust and purchase decision-making influenced by AI in the Indian retail sector. This study addresses this gap and explores how awareness and trust shape adoption outcomes.

## 2. Literature Review:

AI adoption in marketing is associated with personalized recommendations, efficient service delivery, and enhanced customer engagement (Huang & Rust, 2018; Davenport et al., 2020). Research in developed countries suggests that AI-driven personalization increases purchase intention, but algorithm aversion and trust issues can impede adoption (Logg et al., 2019; Castelo et al., 2019).

In India, empirical research is limited. Recent studies indicate that privacy concerns and lack of transparency reduce consumer trust in AI systems (Yrjölä et al., 2024; Park et al., 2024). According to Chen et al. (2022), consumer engagement and loyalty are significantly influenced by trust in AI recommendations.

**Linking Literature to Research Gap:** While Huang & Rust (2021) highlight strategic AI frameworks, few studies empirically examine consumer trust as a mediator in the Indian retail context. This study bridges this gap by investigating awareness, trust, and purchase decisions.

### Conceptual Framework:

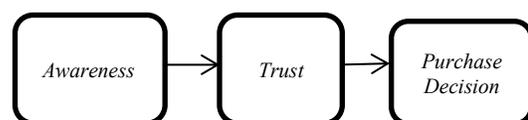


Figure 1: Conceptual Framework

### 3. Research Objectives and Hypotheses:

#### 3.1 Objectives:

1. To study consumer awareness of AI-driven marketing tools.
2. To examine consumer trust in AI-enabled retail decisions.
3. To analyze the impact of AI on purchase decision-making in Indian retail.

#### 3.2 Hypotheses:

- H1: AI-driven personalization positively influences consumer purchase decisions.
- H2: Consumer trust positively mediates the adoption of AI in retail

### 4. Research Methodology:

This study employs a descriptive and empirical design. Data were collected using a structured questionnaire based on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

- Sample: 120 retail consumers from Nagpur (urban) and Bhandara (semi-urban).
- Sampling technique: Convenience and stratified sampling.
- Data collection period: March–April 2025, using online and offline methods.
- Data analysis: Descriptive statistics, cross-tabulation, and regression analysis using SPSS 26.
- Ethical considerations: Informed consent obtained; participant anonymity maintained; responses confidential.
- Sample Justification: While small, the sample represents a cross-section of urban and semi-urban consumers, providing initial empirical insights into AI adoption trends.

### 5. Data Analysis and Findings:

#### ➤ Awareness of AI-driven Marketing Tools

Awareness Level	Frequency	Percentage
High Awareness	40	33.3%
Moderate Awareness	50	41.7%
Low Awareness	30	25.0%

**Table 1:** Awareness of AI-driven marketing tools among respondents.

**Interpretation:** Majority (41.7%) have moderate awareness, suggesting partial exposure to AI in retail. High awareness (33.3%) indicates well-informed consumers. Low awareness (25%) reflects information gaps, emphasizing the need for education and awareness campaigns.

#### ➤ Trust in AI-enabled Retail Decisions

Trust Level	Frequency	Percentage
High Trust	35	29.2%
Moderate Trust	50	41.7%
Low Trust	35	29.2%

**Interpretation:** Moderate trust dominates (41.7%), showing consumer caution in AI decisions. Privacy concerns and lack of explain ability influence trust levels (Leichtmann et al., 2023; Shin, 2021).

#### ➤ Purchase Decision Influence-

Regression analysis examined AI-driven personalization as predictor of purchase decision, with trust as a mediator.

#### Results:

- AI-driven personalization → Purchase Decision:  $\beta = 0.52, p < 0.01$
- AI-driven personalization → Trust:  $\beta = 0.61, p < 0.01$
- Trust → Purchase Decision:  $\beta = 0.45, p < 0.01$

**Interpretation:** H1 is supported; AI personalization positively influences purchase decisions. H2 is partially supported; trust significantly mediates the relationship. Cross-tab analysis shows higher awareness correlates with higher trust ( $\chi^2 = 8.45, p < 0.05$ ). Consumers with high trust show significantly higher purchase intention.

### 6. Discussion:

Findings align with prior studies in developed markets (Huang & Rust, 2021; Davenport et al., 2020), showing enthusiasm for AI personalization. Compared to developed markets, Indian consumers show greater privacy concerns and cautious trust, highlighting the importance of transparency.

#### Managerial Implications:

- Retailers should invest in explainable AI systems to build consumer trust.
- Awareness campaigns and tutorials can bridge knowledge gaps.
- AI-driven personalization can enhance sales if trust barriers are addressed.

## 7. Conclusion:

AI adoption in Indian retail marketing is promising, with personalization and efficiency as major benefits. Privacy concerns and trust remain barriers.

### Limitations:

- Small sample size (n=120) limits generalizability.
- Limited to two regions; rural areas not represented.
- Self-reported survey data may include response biases.

### Future Research Directions:

- Larger sample across multiple Indian states.
- Longitudinal studies to track AI adoption over time.
- Examination of rural consumer behavior and AI literacy programs.

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