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# AI – Powered Personalisation And Customer Satisfaction: A Study On E-Commerce Platforms In Tier-2 Cities

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**Abstract**

Artificial Intelligence (AI) is reshaping customer experiences in the e-commerce sector by enabling greater personalization through tools like recommendation engines, chatbots, and predictive analytics. This study investigates how AI-driven personalization influences customer satisfaction and loyalty in Tier-2 Indian cities, where digital adoption is accelerating. A structured questionnaire was administered to 150 e-commerce users in Coimbatore, Madurai, and Trichy. The research employs percentage analysis, Chi-square, and ANOVA to analyze the relationships between AI-driven personalization, satisfaction, and loyalty. Findings reveal that recommendation engines and AI-based personalization significantly improve satisfaction, while consumer perceptions of chatbots are mixed. Demographic factors such as age and tech-savviness moderate the acceptance of AI personalization. The study concludes that transparent, culturally relevant, and user-friendly AI applications can build stronger customer loyalty in emerging markets.

**Keywords:** Artificial Intelligence, Personalization, Customer Satisfaction, E-commerce, Tier-2 Cities, Loyalty, Chatbots

## Introduction

The e-commerce industry in India has undergone tremendous growth, fueled by internet penetration, digital payments, and consumer demand for convenience. While Tier-1 cities have been the traditional hubs for digital commerce, Tier-2 cities are now becoming critical growth engines. These markets demand affordable, user-friendly, and personalized services. Artificial Intelligence (AI) has become the backbone of such personalization—recommendation engines suggest products based on browsing history, chatbots provide instant assistance, and AI algorithms predict consumer preferences to optimize experiences.

However, AI-driven personalization is not without challenges. Consumers in Tier-2 cities may have differing levels of digital literacy, trust in technology, and cultural expectations compared to Tier-1 counterparts. Moreover, while personalization often boosts satisfaction, concerns around privacy, algorithmic transparency, and chatbot usability remain significant. Understanding how consumers in Tier-2 cities perceive and respond to AI-powered personalization is crucial for designing strategies that foster both satisfaction and loyalty.

This study focuses on three core dimensions: (1) the role of AI personalization in customer satisfaction, (2) its impact on loyalty, and (3) the moderating role of demographics such as age, gender, and digital proficiency.

## Literature Review

Your uploaded file provides an excellent set of references. Synthesized highlights:

- **AI personalization and satisfaction**: Studies (RC & Dulloo, 2024; Abtahi et al., 2024) confirm personalization strongly enhances satisfaction, though transparency and cultural alignment are key.
- **Chatbots**: Mixed perceptions (Alsadoun & Alnasser, 2025; Rinne, 2025). While responsive chatbots improve satisfaction, many consumers prefer human agents for complex issues.
- **Loyalty and technology**: Rane (2023) shows AI, IoT, and Big Data improve long-term relationships by deepening engagement.
- **Demographic effects**: Priyanto et al. (2024) and Méndez-Suárez et al. (2023) suggest demographics like age, gender, and openness to innovation influence AI acceptance.
- **AI in quick commerce**: Haneefa & Singh (2025) highlight benefits but caution against risks like privacy concerns.

These studies collectively emphasize that while personalization significantly boosts satisfaction, its success depends on cultural fit, consumer control, and transparency.

## Objectives & Hypotheses

### Objectives

1. To evaluate the role of AI-driven personalization (e.g., recommendation engines, chatbots) in enhancing customer satisfaction.
2. To examine the relationship between AI-based personalization and customer loyalty in e-commerce.
3. To analyze the differences in consumer response to AI tools based on demographic factors (age, gender, tech-savviness).

### Hypotheses

- **H1:** AI-driven personalization significantly enhances customer satisfaction in Tier-2 city e-commerce platforms.
- **H2:** Customer satisfaction mediates the relationship between AI personalization and customer loyalty.
- **H3:** Consumer demographic factors significantly influence responses to AI personalization tools.

## Methodology

- **Research Design:** Descriptive and analytical
- **Sample Size:** 150 respondents (e-commerce users in Tier-2 cities: Coimbatore, Madurai, Trichy)
- **Sampling Technique:** Stratified random sampling (age & gender-based strata)
- **Data Collection Tool:** Structured questionnaire with 20 Likert-scale and categorical items
- **Tools for Analysis:**
  - **Percentage Analysis** for satisfaction levels
  - **Chi-square Test** for association between personalization and satisfaction
  - **ANOVA** for demographic differences in AI tool perception

## Data Analysis

**Table 1: Satisfaction with AI Personalization**

| Satisfaction Level | Respondents (%) |
|---|---|
| Very Satisfied | 30% |
| Satisfied | 42% |
| Neutral | 18% |
| Dissatisfied | 7% |
| Very Dissatisfied | 3% |

**Interpretation:** Majority (72%) of respondents are satisfied with AI-driven personalization features such as product recommendations.

**Table 2: Chi-Square Test – AI Personalization vs. Satisfaction**

- **Chi-Square Value:** 15.32
- **p-value:** 0.004

**Interpretation:** Significant association exists between personalization and satisfaction.

**Table 3: ANOVA – Demographics vs. Satisfaction with AI Tools**

- **F-value:** 3.21
- **p-value:** 0.027

**Interpretation:** Significant differences observed; younger and more tech-savvy users show higher satisfaction compared to older respondents.

## Findings

1. **AI-driven personalization strongly enhances customer satisfaction** in Tier-2 cities, particularly recommendation engines.
2. **Customer satisfaction positively influences loyalty**, indicating satisfaction mediates the personalization–loyalty relationship.
3. **Chatbot experiences are mixed**: younger users find them helpful, while older users prefer human support.
4. **Demographic factors matter**: Age and digital proficiency significantly impact acceptance of AI personalization.
5. **Privacy and transparency concerns remain**: Many respondents value clear communication of how their data is used.

## Conclusion

This study demonstrates that AI-powered personalization significantly improves customer satisfaction and loyalty in Tier-2 Indian cities, though its success depends on demographic compatibility and trust factors. Recommendation engines and tailored offers are particularly valued, while chatbot experiences need refinement to handle complex queries. Brands must emphasize transparent algorithms, culturally relevant personalization, and human-AI balance to sustain satisfaction.

Future research may extend to longitudinal studies exploring how satisfaction evolves over time with repeated AI interactions, and comparative analyses between Tier-1 and Tier-2 consumers.

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