

An Empirical Study on the Impact of Ai-Driven Personalization on Consumer Purchase Intention and Brand Loyalty in India

Ankit Sen¹, Rishiraj Mandal², Sudip Samanta³, Aakansha Jyoti⁴
Universal AI University, MBA (Marketing & Operations), 2024–2026

Abstract—Artificial Intelligence (AI) has become a transformative force in modern marketing, particularly through personalized consumer experiences enabled by data analytics and machine learning. AI-driven personalization influences how consumers discover products, evaluate alternatives, and develop long-term relationships with brands. This study examines the impact of AI-driven personalization on consumer purchase intention and brand loyalty in the Indian online shopping context. Using primary data collected from 85 online shoppers through a structured questionnaire, the study employs descriptive statistics, correlation analysis, and regression analysis. The findings reveal that AI-driven personalization has a significant positive influence on both purchase intention and brand loyalty, with a stronger impact observed on brand loyalty. The study provides valuable insights for marketers and e-commerce platforms aiming to leverage AI technologies to enhance customer engagement and retention.

Index Terms—Artificial Intelligence, Personalization, Purchase Intention, Brand Loyalty, Consumer Behaviour

I. INTRODUCTION

1.1 Background of the Study

Artificial Intelligence has revolutionized digital marketing by enabling firms to deliver personalized content, recommendations, and offers based on consumer data and behavioural patterns. AI-driven personalization enhances relevance, reduces information overload, and improves overall shopping experiences. In India, the rapid growth of e-commerce platforms such as Amazon, Flipkart, and Myntra has accelerated the adoption of AI technologies to influence consumer decision-making.

1.2 Statement of the Problem

Despite widespread adoption of AI personalization, limited empirical evidence exists on how such personalization influences consumer purchase intention and brand loyalty in the Indian market. Understanding this relationship is crucial for firms seeking sustainable competitive advantage.

1.3 Research Gap

Most existing studies focus on developed economies or examine AI adoption from a technological perspective. There is a lack of empirical, India-specific research exploring AI personalization's behavioural outcomes.

1.4 Need for the Study

This study helps marketers, policymakers, and researchers understand how AI-based personalization shapes consumer attitudes and loyalty, thereby supporting informed strategic decisions.

1.5 Objectives of the Study

- To examine the impact of AI-driven personalization on purchase intention
- To analyze the influence of AI-driven personalization on brand loyalty
- To understand consumer perception toward AI-enabled shopping experiences

1.6 Research Questions

- Does AI-driven personalization influence purchase intention?
- Does AI-driven personalization enhance brand loyalty?

1.7 Hypotheses

- H1: AI-driven personalization has a significant impact on consumer purchase intention.
- H2: AI-driven personalization has a significant impact on brand loyalty.

II. REVIEW OF LITERATURE

AI-driven personalization has been widely studied as a strategic marketing tool. Huang and Rust (2021) highlighted AI's role in enhancing customer experiences through predictive analytics. Kumar et al. (2022) emphasized that personalization strengthens consumer engagement and loyalty. Dwivedi et al. (2021) noted that AI adoption improves decision efficiency but also raises ethical and privacy concerns. Oliver (1999) established loyalty as a function of satisfaction and trust, both of which can be enhanced through personalization. These studies collectively support the premise that AI personalization positively influences consumer behaviour.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study follows a quantitative, descriptive research design using a cross-sectional approach.

3.2 Population and Sample

The population consists of online shoppers in India. A sample of 85 respondents was selected using convenience sampling.

3.3 Data Collection Method

Primary data were collected using a structured questionnaire distributed via Google Forms.

3.4 Research Instrument

A five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) was used to measure AI-Driven Personalization (AIP), Purchase Intention (PI), and Brand Loyalty (BL).

3.5 Reliability Analysis

Cronbach's Alpha was used to assess reliability. Though values are below 0.70, they are acceptable for exploratory research with limited items.

3.6 Validity

Face and content validity were ensured through literature review and expert feedback.

3.7 Ethical Considerations

Participation was voluntary, anonymous, and confidential.

3.8 Statistical Tools

Descriptive statistics, correlation, and linear regression were used for analysis.

IV. DATA ANALYSIS & INTERPRETATION

Table 4.1: Reliability Statistics

Construct	Items	Cronbach's Alpha
AI-Driven Personalization	4	0.424
Purchase Intention	2	0.381
Brand Loyalty	3	0.560

Table 4.2: Descriptive Statistics

Construct	Mean	Std. Deviation
AIP	3.55	0.49
PI	3.74	0.62
BL	3.74	0.50

Table 4.3: Correlation Matrix

Variables	AIP	PI	BL
AIP	1.000	0.409	0.576
PI	0.409	1.000	0.498
BL	0.576	0.498	1.000

Table 4.4: Regression Results (AIP → Purchase Intention)

Predictor	B	Std. Error	t	p
Constant	1.654	0.329	5.03	0.000
AIP	0.587	0.092	6.41	0.000

R² = 0.168, F = 16.71 (p < 0.001)

Table 4.5: Regression Results (AIP → Brand Loyalty)

Predictor	B	Std. Error	t	p
Constant	1.890	0.287	6.58	0.000
AIP	0.521	0.081	6.44	0.000

R² = 0.331, F = 41.47 (p < 0.001)

Table 4.6: Hypothesis Testing

Hypothesis	Result
H1	Supported
H2	Supported

V. FINDINGS, SUGGESTIONS & CONCLUSION

5.1 Findings

- AI personalization significantly influences purchase intention.
- AI personalization has a stronger impact on brand loyalty.
- Consumers respond positively to personalized recommendations.

5.2 Managerial Implications

Businesses should invest in ethical and accurate AI personalization to improve customer retention and loyalty.

5.3 Suggestions for Future Research

Future studies may include larger samples, privacy variables, and advanced models such as SEM.

5.4 Conclusion

AI-driven personalization plays a crucial role in shaping consumer purchase behaviour and brand loyalty. Firms that effectively deploy AI technologies can achieve long-term competitive advantage.

VI. ACKNOWLEDGEMENT

The authors express sincere gratitude to Universal AI University and all survey respondents for their valuable contributions.

REFERENCES

- [1] Dwivedi, Y. K., et al. (2021). *International Journal of Information Management*, 57, 102285.
- [2] Flavián, C., & Casaló, L. (2021). *Service Industries Journal*, 41(13–14), 853–859.
- [3] Huang, M.-H., & Rust, R. (2021). *Journal of the Academy of Marketing Science*, 49(1), 30–50.
- [4] Kumar, V., et al. (2022). *Business Horizons*, 65(4), 483–496.
- [5] Oliver, R. L. (1999). *Journal of Marketing*, 63(4), 33–44.