

IMPACT OF GENERATIVE AI ON CONSUMER BUYING BEHAVIOUR

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Abstract

Generative Artificial Intelligence (GenAI) is increasingly influencing the way consumers search for information, compare alternatives, evaluate products and make purchasing decisions. This study examines the influence of Generative AI on consumer buying behaviour, with particular attention to awareness and usage, perceived usefulness, personalisation, information quality and trust, and purchase intention. A descriptive and analytical research design was adopted. Primary data were collected through a structured questionnaire using a five-point Likert scale from 75 respondents. Convenience sampling was used. The data were analysed using frequency and percentage analysis, mean and standard deviation, Cronbach's alpha, Pearson correlation and linear/multiple regression.

Keywords: Generative Artificial Intelligence, Consumer Buying Behaviour, E-Commerce, Personalisation, Consumer Trust, Purchase Intention, AI Recommendations.

1. Introduction

Artificial Intelligence has become an important component of modern commerce. Businesses increasingly use AI to understand consumer preferences, personalise marketing communication, automate customer service and support decision-making. The emergence of Generative AI has expanded these applications by enabling conversational responses, explanations, product comparisons and recommendations.

2. Statement of the Problem

Traditional consumer buying behaviour is influenced by advertisements, customer reviews, recommendations, salespersons and search engines. Generative AI introduces an interactive decision-support mechanism through which consumers can directly ask questions, compare alternatives and obtain personalised recommendations. Although this may reduce search effort and improve convenience, consumers may differ in their trust, perceived usefulness and willingness to follow AI recommendations. Therefore, an empirical assessment of how GenAI usage and personalisation relate to purchase intention and buying decisions is relevant.

3. Objectives of the Study

- ✓ To assess consumers' awareness and usage of Generative AI in online shopping.
- ✓ To examine the perceived usefulness of Generative AI in product search and purchase decisions.
- ✓ To analyse the influence of AI personalisation on consumer purchase intention.

- ✓ To examine the relationship between information quality, trust and consumer responses to AI recommendations.
- ✓ To assess the influence of Generative AI on consumers' final purchasing decisions.

4. Research Hypotheses

H₀1: There is no significant relationship between the use of Generative AI and consumer buying behaviour.

H₀2: There is no significant relationship between AI personalisation and consumer purchase intention.

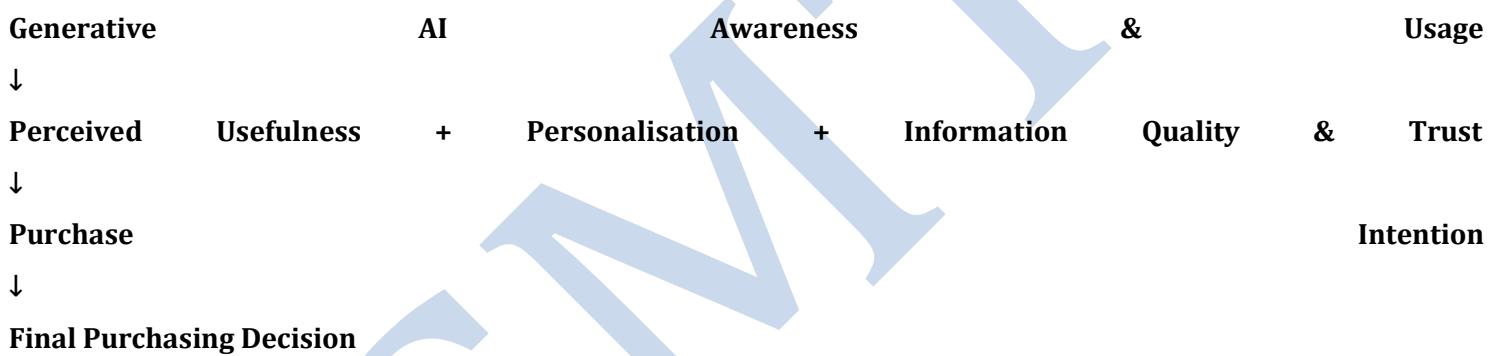
5. Review of Literature

Sasikala, Shobhana and Kamaladevi (2026) examined AI-driven personalised product recommendation systems among 160 Indian online shoppers, focusing on perceived relevance, trust and online purchase intention. Their study provides direct Indian evidence that is relevant to the present investigation.

Hassan, Abdelraouf and El-Shihy (2025) investigated trust, satisfaction and loyalty in AI-driven e-commerce and reported that personalised recommendations strengthen the relationships among these constructs. Their findings highlight the importance of transparency and personalised AI features in building consumer confidence.

6. Conceptual Framework

The study adopts the following conceptual relationship:



7. Research Methodology

Research Design: The study adopted a descriptive and analytical research design.

Source of Data: Primary data were collected through a structured online questionnaire. The questionnaire consisted of demographic questions and 15 research statements measured on a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Sample Size: The final dataset contains 75 complete responses.

Sampling Method: Convenience sampling was used.

Study Period: The available response timestamps indicate that the survey responses were collected during 18–20 August 2026.

Variables: GenAI Awareness & Usage (Q6–Q8), Perceived Usefulness (Q9–Q11), Personalisation (Q12–Q14), Information Quality & Trust (Q15–Q17), Purchase Intention (Q18–Q19), and Final Purchasing Decision (Q20).

Data Analysis: Frequency and percentage analysis, mean, standard deviation, Cronbach's alpha, Pearson correlation and regression analysis were applied. Likert responses were coded from 1 to 5.

8. Demographic Profile of Respondents

Gender

Category	Frequency	Percentage
Female	46	61.3
Male	29	38.7

Age

Category	Frequency	Percentage
21-30 years	28	37.3
Below 20 years	28	37.3
31-40 years	13	17.3
41-50 years	4	5.3
Above 50 years	2	2.7

Educational Qualification

Category	Frequency	Percentage
Postgraduate	25	33.3
Undergraduate	25	33.3
M.Phil./Ph.D.	15	20.0
Higher Secondary	7	9.3
Other	3	4.0

Occupation

Category	Frequency	Percentage
Student	49	65.3
Professional	12	16.0
Private Employee	9	12.0
Government Employee	3	4.0
Business/Self-employed	1	1.3
Other	1	1.3

How frequently do you shop online?

Category	Frequency	Percentage
Rarely	21	28.0
Occasionally	20	26.7
Very Rarely	14	18.7
Frequently	11	14.7
Very Frequently	7	9.3
Other	2	2.7

9. Descriptive Analysis of Research Statements

Q	Statement	Mean	SD	Agree/Strongly Agree (%)
6	I am aware of Generative AI tools such as ChatGPT and Gemini.	3.93	0.84	76.0
7	I use Generative AI to obtain product information and recommendations.	3.45	1.08	58.7
8	I use Generative AI to compare different products before purchasing.	3.48	1.00	58.7
9	Generative AI helps me find relevant products quickly.	3.52	1.08	61.3
10	Generative AI reduces the time required to search for product information.	3.79	1.02	74.7
11	Generative AI helps me make better purchasing decisions.	3.51	1.06	57.3
12	Generative AI provides product recommendations according to my needs.	3.51	1.06	61.3
13	AI-generated recommendations are relevant to my preferences.	3.51	1.07	58.7

14	Personalised AI recommendations increase my interest in a product.	3.33	1.17	52.0
15	Generative AI provides clear and useful information about products.	3.63	1.05	68.0
16	I consider AI-generated product information to be reliable.	3.28	1.11	53.3
17	I trust Generative AI to provide useful product recommendations.	3.48	1.02	53.3
18	Generative AI recommendations increase my intention to purchase a product.	3.27	1.09	50.7
19	I am more likely to consider a product recommended by Generative AI.	3.31	1.09	48.0
20	Generative AI influences my final purchasing decision.	3.28	1.11	53.3

The highest mean response was observed for awareness of Generative AI tools ($M = 3.99$), followed by the statement that Generative AI reduces the time required to search for product information ($M = 3.92$). The lowest mean was observed for the statement that respondents were more likely to consider a product recommended by Generative AI ($M = 3.13$). Overall, the results indicate a generally favourable but not uniformly strong response toward GenAI-assisted shopping.

10. Reliability Analysis

Construct	Items	Cronbach's Alpha
GenAI Awareness & Usage	Q6–Q8	0.541

Perceived Usefulness	Q9–Q11	0.803
Personalisation	Q12–Q14	0.722
Information Quality & Trust	Q15–Q17	0.822
Purchase Intention	Q18–Q19	0.847
Overall Purchase Intention & Buying Behaviour	Q18–Q20	0.878

The reliability coefficients show good internal consistency for perceived usefulness ($\alpha = 0.803$), personalisation ($\alpha = 0.722$), information quality and trust ($\alpha = 0.822$), purchase intention ($\alpha = 0.847$), and the combined purchase-intention/buying-behaviour outcome ($\alpha = 0.878$). The three-item awareness and usage construct has comparatively lower internal consistency ($\alpha = 0.541$), which should be acknowledged as a limitation rather than concealed.

11. Correlation Analysis

Variables	r	p-value	Interpretation
GenAI Awareness & Usage vs. Final Purchasing Decision	0.577	5.923e-08	Significant positive relationship
AI Personalisation vs. Purchase Intention	0.759	2.985e-15	Significant positive relationship
GenAI Awareness & Usage vs. Overall Outcome	0.679	2.162e-11	Significant positive relationship
Perceived Usefulness vs. Overall Outcome	0.695	4.831e-12	Significant positive relationship
AI Personalisation vs. Overall Outcome	0.758	3.47e-15	Significant positive relationship
Information Quality & Trust vs. Overall Outcome	0.726	1.706e-13	Significant positive relationship

The correlation analysis shows a significant positive relationship between GenAI usage and the final purchasing decision ($r = 0.577$, $p < 0.001$). AI personalisation has a strong positive relationship with purchase intention ($r = 0.759$, $p < 0.001$). The other constructs also show significant positive relationships with the combined outcome, indicating that usefulness, personalisation, and information quality/trust are relevant to consumer responses to GenAI.

12. Suggestions

E-commerce businesses should use transparent and explainable AI recommendations so that consumers understand why a product is suggested.

AI recommendations should be personalised according to consumer needs, preferences and budgets without creating excessive dependence.

Businesses should verify AI-generated product information and provide links to reliable product specifications and

customer reviews.

Consumer data used for personalisation should be collected and processed responsibly, with clear privacy controls.

AI-generated recommendations should be clearly distinguished from paid or sponsored recommendations.

Businesses should provide access to human assistance for complex or high-value purchasing decisions.

Consumers should be encouraged to cross-check important AI-generated information before making purchase decisions.

13. Limitations of the Study

The study is based on 75 respondents and therefore the findings should not be generalised to all consumers.

Convenience sampling may limit the representativeness of the sample.

The sample contains a relatively high proportion of students (65.3%), which may influence the overall pattern of responses.

The study uses self-reported perceptions collected through an online questionnaire.

The GenAI awareness and usage construct showed lower internal consistency ($\alpha = 0.541$) than the other constructs and should be interpreted cautiously.

14. Scope for Future Research

Future studies may use larger probability-based samples across different cities, age groups and occupational categories. Researchers may also examine privacy concerns, perceived risk, satisfaction, loyalty, AI literacy and actual purchase behaviour. Structural equation modelling could be used with a larger sample to test mediation and moderation effects involving trust and personalisation.

15. Conclusion

Generative AI is becoming a relevant component of the modern consumer decision-making process. The present study of 75 respondents shows favourable perceptions of GenAI in product search, information retrieval and personalised recommendations. GenAI usage is significantly related to the final purchasing decision, while personalisation shows a strong positive relationship with purchase intention. The regression results further identify personalisation as an important predictor of the combined purchase-intention/buying-behaviour outcome. At the same time, the moderate level of agreement on purchase-related statements suggests that consumers do not rely exclusively on AI. Therefore, the effective use of Generative AI in e-commerce depends on relevant personalisation, reliable information, transparency and responsible handling of consumer data.

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