IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 9, May 2026
Impact Factor: 8.2

Impact of Artificial Intelligence on Consumer Decision Making in E-commerce: A Study among Gen-Z Shoppers

Yash
Department of Management Studies
Tecnia Institute of Advanced Studies, New Delhi
Affiliated with GGSIP University, New Delhi

Abstract: *The rapid integration of Artificial Intelligence (AI) within e-commerce environments has fundamentally disrupted conventional retail paradigms. Generation Z (Gen-Z) consumers, characterized as true digital natives born between 1997 and 2012, exhibit distinct psychographic and behavioral traits that set them apart from prior cohorts. This research examines the impact of AI-driven tools—specifically personalized product recommendations, conversational AI chatbots, visual search engines, and dynamic pricing models—on the consumer decision-making process of Gen-Z shoppers. Using a descriptive and analytical research design, a structured online questionnaire was administered to a sample of 210 Gen-Z e-commerce consumers. The empirical findings reveal that AI-driven personalization significantly reduces cognitive overload and accelerates the alternative evaluation stage, thereby expanding impulsive buying tendencies. However, deep-seated anxieties regarding data privacy and a strong demand for algorithmic transparency remain key inhibitors. This study serves as a critical asset for the 'Personality Skills Development' curriculum, highlighting the crucial alignment between corporate technological deployment and consumer psychology, tech-native adaptive skills, and ethical management frameworks.*

Keywords: Artificial Intelligence, E-commerce, Gen-Z Shoppers, Consumer Decision Making, Hyper-personalization, Algorithm Transparency, Buying Behavior

I. INTRODUCTION

The global retail sector is undergoing a massive paradigm shift fueled by continuous technological innovations. At the forefront of this evolution is Artificial Intelligence (AI), which has transformed e-commerce platforms from passive digital catalogs into dynamic, hyper-personalized, and interactive virtual marketplaces. E-commerce corporations leverage machine learning algorithms, deep learning neural networks, and natural language processing (NLP) to meticulously map consumer behavior, predict purchasing intent, and synthesize tailored shopping journeys in real-time.
Concurrently, a demographic shift is reshaping the market landscape. Generation Z (Gen-Z), the demographic cohort succeeding Millennials, has emerged as a highly influential consumer force. Raised in an era of ubiquitous smartphones, high-speed internet, and algorithmic social networks, Gen-Z shoppers possess an innate digital fluidity. They approach commercial environments with distinct psychological needs: they demand instant gratification, highly customized experiences, and social alignment, yet maintain a skeptical view toward corporate advertising and data collection protocols.

1.1 Rationale for Personality Skills Development

In the context of an MBA curriculum focused on Personality Skills Development, analyzing the intersection of AI and consumer behavior is invaluable. Leadership skills in the digital economy require cognitive flexibility, ethical

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 9, May 2026 Impact Factor: 8.2

awareness, and data literacy. Understanding the subconscious cognitive nudges exerted by AI algorithms equips future corporate leaders with the behavioral intelligence necessary to construct consumer-centric strategies while navigating the psychological and ethical dimensions of tech-driven human interaction.

1.2 Objectives of the Research

1. To evaluate the extent to which personalized AI recommendation systems influence the choice and product selection of Gen-Z shoppers.
2. To assess the effectiveness of conversational AI (chatbots and virtual assistants) in resolving post-purchase friction and building consumer trust.
3. To analyze the negative factors, specifically data privacy concerns and a perceived lack of algorithmic transparency, on Gen-Z's buying commitment.

II. LITERATURE REVIEW

The foundational framework for understanding consumer choice is rooted in Engel, Blackwell, and Miniard's Consumer Decision Model, which describes a linear path: Problem Recognition, Information Search, Alternative Evaluation, Purchase Decision, and Post-Purchase Behavior. Recent academic literature notes that AI collapses this classical linear model into an iterative, highly condensed feedback loop.

Personalized product recommendations have shifted consumer search from an active pull process to a passive push model. Predictive analytics process huge pools of unstructured data (such as browsing history, dwell time, and social media likes) to predict needs before the consumer explicitly acknowledges them. Studies show that Gen-Z shoppers respond positively to customized content curation but display immediate irritation when recommendations feel mismatched or intrusive.

Conversational AI chatbots represent another critical domain. While early rule-based systems caused customer friction, modern large language model (LLM) powered assistants provide context-aware, human-like responses. Despite these advancements, a gap exists in understanding how Gen-Z's specific personality traits—such as high visual literacy and short attention spans—affect their interaction with these non-human interfaces. This study addresses this gap by analyzing how tech-native psychographics interact with specific AI modules in Indian urban areas.

III. RESEARCH METHODOLOGY

This study adopts a quantitative, descriptive, and analytical research design to examine the relationship between AI attributes and consumer choices. Primary data was gathered through a structured electronic questionnaire containing 5-point Likert Scale items ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Target Population: Gen-Z individuals (aged 14 to 29 years in 2026) who actively engage in e-commerce shopping.

Sample Size & Technique: 210 completed and validated responses collected via non-probability convenience and snowball sampling across Delhi-NCR.

3.1 Conceptual Framework and Hypotheses

To quantify the behavioral impact, the following null and alternative research hypotheses were established for empirical validation:

> *Hypothesis 1 (H0): AI-personalized recommendation systems have no significant impact on the product evaluation and final selection process of Gen-Z shoppers.*
> *Hypothesis 1 (H1): AI-personalized recommendation systems significantly influence the product evaluation and selection choices of Gen-Z shoppers.*
> *Hypothesis 2 (H0): Consumer concerns regarding data privacy and algorithmic non-transparency do not significantly hinder e-commerce purchasing commitment.*
> *Hypothesis 2 (H1): Consumer concerns regarding data privacy and algorithmic non-transparency significantly reduce e-commerce purchasing commitment among Gen-Z.*

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 9, May 2026
Impact Factor: 8.2

IV. DATA ANALYSIS AND INTERPRETATION

The collected dataset underwent quantitative analysis using statistical tools. Cronbach's Alpha coefficient for the survey items was 0.84, confirming strong internal consistency and scale reliability. The demographic breakdown showed 54% female, 43% male, and 3% non-binary participants, with 72% falling into the 19–24 age bracket.

4.1 Impact of AI Features on Gen-Z Purchasing Stages

Table 1 outlines the mean scores and standard deviations for various items assessing how AI-driven interventions affect the core stages of the consumer decision journey.

AI Intervention Dimension	Mean Score (Out of 5)	Standard Deviation
AI Personalization reduces time spent searching for products	4.38	0.62
AI Chatbots provide reliable, prompt problem resolution	3.62	0.89
Visual Search options improve confidence in product fit	4.15	0.74
Algorithmic Dynamic Pricing creates a feeling of urgency	3.91	0.81
Data Privacy anxieties limit my interaction with AI tools	4.26	0.71

The empirical findings highlighted in Table 1 show that 'AI Personalization reducing search time' scored the highest mean ($M = 4.38$, $SD = 0.62$). This confirms that efficiency and cognitive load reduction are heavily valued by Gen-Z shoppers. Interestingly, data privacy anxiety emerged as a close second inhibitor ($M = 4.26$, $SD = 0.71$), highlighting a distinct psychological tension within the Gen-Z consumer archetype: they demand hyper-customization but are highly protective of their digital footprint.

4.2 Hypothesis Testing

Hypothesis testing was conducted using one-sample t-tests against a neutral hypothesized population mean of 3.0. For Hypothesis 1 (H1), the calculated t-value was 14.23 ($p < 0.001$), leading to the rejection of the null hypothesis. This establishes that AI-driven personalization significantly shapes product selection. For Hypothesis 2 (H1), the calculated t-value was 11.48 ($p < 0.001$), rejecting the null hypothesis and demonstrating that data privacy concerns significantly impact purchase commitment.

V. DISCUSSION & MANAGERIAL IMPLICATIONS

The results paint a clear picture of a highly discerning consumer base. Gen-Z utilizes AI systems as tools for efficiency rather than blindly following algorithmic paths. The high demand for visual search tools and immediate automated resolution indicates that their cognitive style values visual processing and quick solutions over textual depth.

For corporate leaders and e-commerce strategists, these insights suggest concrete strategic adjustments. Instead of deploying opaque data collection strategies, businesses should adopt transparent 'opt-in' data tracking models. This approach directly satisfies Gen-Z's demands for ethical corporate behavior. Additionally, the research demonstrates that conversational AI should focus on factual depth rather than superficial tone, as Gen-Z consumers quickly identify and disengage from unhelpful automation.

VI. CONCLUSION & FUTURE SCOPE

This research confirms that Artificial Intelligence has moved beyond a functional backend utility to become a central component shaping the psychology of Gen-Z consumers. While AI applications streamline the information search and alternative evaluation phases, their long-term effectiveness depends on addressing underlying data privacy concerns. From a Personality Skills Development perspective, this study shows that navigating the future digital marketplace requires a balanced blend of data fluency and acute ethical awareness.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 9, May 2026 Impact Factor: 8.2

Future research could expand this scope by conducting longitudinal studies tracking how Gen-Z's buying habits evolve as they gain more purchasing power. Cross-cultural comparative analyses between urban and rural demographics would also offer deeper insights into the digital divide and its effects on algorithmic trust.

REFERENCES

[1]. Belk, R. (2019). Ethical issues in the age of artificial intelligence and consumer tracking. Journal of Consumer Marketing, 36(6), 721-730.
[2]. Engel, J. F., Blackwell, R. D., & Miniard, P. W. (2001). Consumer Behavior (9th ed.). Harcourt College Publishers.
[3]. Grewal, D., Hulland, J., Kopalle, P. K., & Karahanna, E. (2020). The future of technology and marketing: A multidisciplinary perspective. Journal of the Academy of Marketing Science, 48(1), 1-8.
[4]. Kahneman, D. (2011). Thinking, Fast and Slow. Farrar, Straus and Giroux.
[5]. Kotler, P., & Keller, K. L. (2016). Marketing Management (15th ed.). Pearson Education.
[6]. Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. Journal of Marketing, 80(6), 69-96.
[7]. Priporas, C. V., Stylos, N., & Fotiadis, A. K. (2017). Generation Z consumers' expectations of interactions in smart retailing: A future agenda. Computers in Human Behavior, 77, 374-381