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IMPACT OF AI-DRIVEN PERSONALIZED MARKETING ON CONSUMER BUYING BEHAVIOUR IN THE E-COMMERCE SECTOR

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Abstract

The rapid integration of artificial intelligence (AI) in the e-commerce sector has transformed how firms engage with consumers, particularly through personalized marketing strategies such as recommendation systems, dynamic content, targeted advertising, and AI-enabled chatbots. This study examines the impact of AI-driven personalized marketing on consumer buying behavior, focusing on how personalization influences perceived relevance, trust, purchase intention, and overall satisfaction. A comprehensive review of recent literature highlights that effective AI personalization enhances consumer engagement and significantly increases purchase intention by reducing search effort and presenting contextually relevant product suggestions. However, the study also identifies critical moderating factors, including privacy concerns, perceived intrusiveness, and transparency in data use, which can weaken or reverse personalization's positive effects. The proposed conceptual model suggests that perceived relevance and trust mediate the relationship between personalization and buying behavior, while privacy concerns moderate these effects. The findings underscore the need for e-commerce firms to balance personalization performance with ethical data practices, clear communication, and user control to maximize consumer acceptance and long-term loyalty. This research provides theoretical insights and practical implications for marketers, platform designers, and policymakers striving to optimize AI-driven customer experiences in digital commerce.

Keywords: AI, personalization, e-commerce, consumer behavior, purchase intention, privacy, trust

1. INTRODUCTION

The rapid expansion of e-commerce over the past decade has been paralleled by significant advancements in artificial intelligence (AI), transforming how businesses engage with

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consumers in digital environments. Among these innovations, AI-driven personalized marketing has emerged as a powerful tool that enables e-commerce platforms to tailor product recommendations, promotional content, pricing, and user experiences based on individual consumer preferences and behavioral data. By analyzing browsing patterns, purchase histories, demographic attributes, and real-time interactions, AI algorithms create dynamic and highly relevant marketing stimuli that aim to influence consumer decision-making more effectively than traditional, one-size-fits-all approaches.

The shift toward personalization is largely motivated by the need to reduce consumer information overload and enhance satisfaction in increasingly competitive online marketplaces. Studies show that consumers respond favorably to relevant and meaningful recommendations, which can streamline product discovery, increase convenience, and ultimately boost purchase intention. For many e-commerce firms, AI-driven personalization has become a key differentiator, contributing to improved conversion rates, higher customer retention, and long-term brand loyalty.

Despite these benefits, the use of AI in personalized marketing also raises concerns regarding data privacy, algorithmic transparency, and perceived intrusiveness. Consumers are becoming more aware of how their data is collected and used, and heightened privacy concerns may negatively influence their willingness to engage with AI-personalized content. As a result, understanding the nuanced interplay between perceived relevance, trust, privacy concerns, and personalization effectiveness has become essential for both researchers and practitioners.
Given this background, the present study investigates the impact of AI-driven personalized marketing on consumer buying behavior in the e-commerce sector. It examines how personalization influences key behavioral outcomes—such as perceived relevance, trust, purchase intention, and satisfaction—and identifies moderating factors that may strengthen or weaken these effects. By integrating theoretical perspectives with empirical insights, this research aims to offer a comprehensive understanding of how AI-driven personalization shapes consumer decision-making and what strategic implications it holds for e-commerce platforms operating in an increasingly data-driven digital landscape.

1.1. Background of the Study

The rapid digital transformation of global markets has significantly reshaped the dynamics of consumer–business interactions, particularly within the e-commerce sector. With the proliferation of smartphones, high-speed internet, and online retail platforms, consumers increasingly rely on digital channels to search for products, compare alternatives, and complete purchases. In this highly competitive environment, e-commerce companies are under growing pressure to differentiate themselves, enhance user experiences, and convert digital traffic into meaningful sales. This need for strategic innovation has accelerated the adoption of Artificial Intelligence (AI) technologies, especially in the domain of personalized marketing.

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AI-driven personalized marketing refers to the use of intelligent algorithms—such as machine learning, predictive analytics, natural language processing, and recommendation engines—to tailor products, content, and promotions to individual consumer preferences. Unlike traditional marketing approaches, which rely on segmentation at a broad demographic level, AI-enabled personalization leverages vast amounts of behavioral and transactional data to offer hyper-relevant recommendations in real time. This shift from generic communication to individualized engagement has profoundly changed how consumers perceive online shopping, making interactions more convenient, intuitive, and emotionally resonant.

Empirical evidence and industry trends reveal that AI-powered personalization plays a crucial role in improving customer engagement metrics, such as click-through rates, conversion rates, average order value, and customer lifetime value. Platforms like Amazon, Alibaba, and various global marketplaces heavily rely on AI recommendation systems as core components of their business models. Additionally, advancements in conversational AI and chatbots have enabled real-time interaction, product guidance, and complaint resolution, enhancing the sense of human-like support during the shopping journey.

Despite these advantages, the growing use of consumer data and AI-enabled tracking mechanisms raises critical concerns related to data privacy, algorithmic transparency, and perceived invasiveness. Consumers are increasingly aware of how their data is collected, stored, and processed, and regulatory bodies worldwide are introducing stricter data protection laws. This evolving landscape presents both an opportunity and a challenge for e-commerce businesses: while effective personalization can significantly improve purchasing behavior, mismanaged or overly intrusive personalization may lead to consumer discomfort, reduced trust, and negative brand perception.

Given these contrasting dynamics, there is a strong need to deepen understanding of **how** AI-driven personalized marketing shapes consumer buying behavior, **why** some consumers respond positively while others react with skepticism, and **what factors** moderate these outcomes. This study situates itself at the intersection of technology, consumer psychology, and digital marketing strategy. It seeks to examine the mechanisms through which AI personalization influences perceived relevance, trust, satisfaction, and purchase intention, as well as the role of privacy concerns and transparency in shaping consumer responses.

By addressing these issues, the present research contributes to a more comprehensive understanding of AI's strategic value in e-commerce and provides insights that can inform responsible, effective, and consumer-centric personalization practices.

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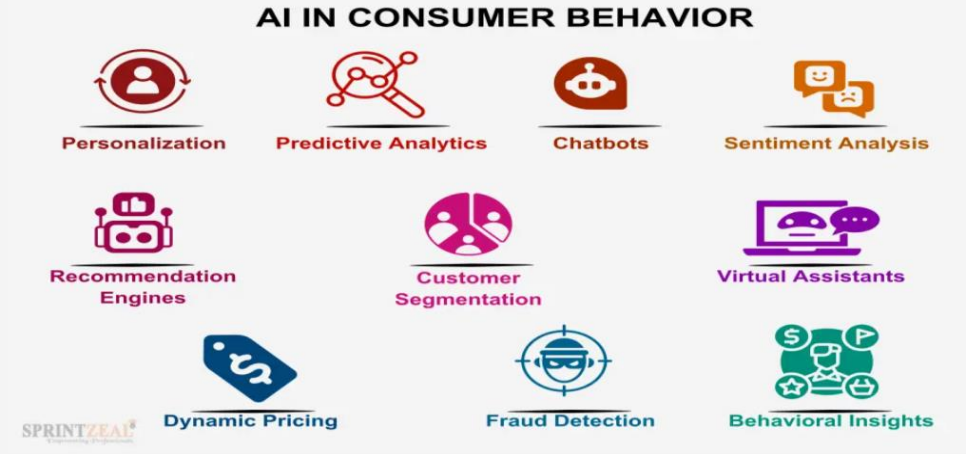

1.2. Statement of the Problem

The rapid integration of Artificial Intelligence (AI) into e-commerce platforms has transformed how businesses engage with consumers, particularly through personalized marketing strategies such as recommendation systems, targeted advertisements, dynamic pricing, and AI-powered chatbots. While these personalized interventions are intended to enhance convenience, relevance, and customer satisfaction, their actual impact on consumer buying behavior remains complex and not fully understood.

Existing research indicates that AI-driven personalization can increase perceived relevance, reduce search effort, and positively influence purchase intention. However, emerging evidence also highlights significant challenges. Consumers increasingly express concerns about data privacy, algorithmic transparency, and the perceived intrusiveness of personalized marketing practices. In some cases, overly tailored recommendations can lead to feelings of manipulation or loss of autonomy, reducing trust and willingness to engage with the platform. These conflicting outcomes create a critical research gap: Why do AI-driven personalized marketing strategies positively influence purchase behavior for some consumers but produce skepticism or resistance among others? Moreover, the mediating roles of perceived relevance and trust, as well as the moderating effects of privacy concerns, transparency, and user control, are not yet sufficiently explored in existing literature. Therefore, the central problem addressed in this study is the need to understand how AI-driven personalized marketing affects consumer buying behavior in e-commerce and what psychological and contextual factors shape this impact. Without a clear understanding of these mechanisms, e-commerce platforms risk misapplying personalization strategies, potentially undermining consumer trust, harming brand loyalty, and violating ethical or regulatory standards.

This study aims to fill this gap by examining the pathways through which AI personalization influences purchase intention and satisfaction, while identifying the boundary conditions that strengthen or weaken these effects.

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1.3. Need and Importance of the Study

The emergence of Artificial Intelligence (AI) as a core component of e-commerce operations has fundamentally transformed online consumer experiences. Personalized marketing—powered by machine learning algorithms, data analytics, and recommendation engines—has become a driving force behind customer engagement and competitive differentiation. Despite its widespread adoption, there remains a critical need to understand the strategic, psychological, and ethical implications of AI-driven personalization, making this study both timely and essential.

1. Growing Dependence on Personalization in E-Commerce

E-commerce firms increasingly rely on AI-driven personalization to deliver relevant product suggestions, targeted offers, and interactive customer support. As consumers face overwhelming product variety and digital information overload, personalization serves as a key solution to simplify decision-making. Understanding its impact on purchase intention and satisfaction is vital for businesses seeking to optimize their digital strategies.

2. Consumer Trust and Data Privacy Challenges

The rise of data-intensive personalization has heightened public concern over privacy, surveillance, and misuse of consumer data. Many users are becoming cautious about how e-commerce platforms track and interpret their behavior. This study is important because it explores how trust, transparency, and perceived risks shape consumer responses to personalized marketing—factors that ultimately influence purchase decisions and brand loyalty.

3. Opportunity for Competitive Differentiation

In a densely competitive digital marketplace, the ability to deliver effective, ethical, and user-friendly personalization can determine a platform's success. Insights from this research can guide e-commerce companies in designing personalization strategies that enhance consumer experience while avoiding intrusiveness or manipulation.

4. Limited Understanding of Psychological Mechanisms

While past studies acknowledge the benefits of personalization, fewer have examined the internal cognitive and emotional mechanisms—such as perceived relevance, trust, and perceived intrusiveness—through which AI-driven marketing shapes buying behavior. This study addresses that gap, offering a deeper psychological understanding of consumer decision-making in AI-mediated environments.

5. Emergence of Regulatory Pressures

With the expansion of data protection laws (GDPR, CCPA, and others), businesses must navigate complex compliance requirements. This research contributes valuable knowledge on how privacy concerns and transparency influence consumer behavior, helping firms align marketing practices with ethical and legal standards.

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6. Contribution to Academic Literature and Future Research

The study builds on foundational theories such as TAM, UTAUT, and SOR to provide a theoretically grounded explanation of how AI personalization influences behavior. Its insights contribute to academic discussions on digital marketing, consumer psychology, and AI ethics, offering a framework for future studies to advance.

1.4 Objectives of the Study

1. To examine the extent of adoption and usage of AI-driven personalized marketing tools in the e-commerce sector.
2. To analyze how AI-based personalization (recommendation systems, personalized ads, dynamic pricing, and tailored content) influences consumer purchase decisions.
3. To study consumer perceptions toward AI-generated recommendations with respect to usefulness, ease of use, trust, and relevance.
4. To investigate the impact of AI-enabled personalization on key consumer behavior outcomes such as purchase intention, customer satisfaction, and loyalty.
5. To assess the mediating role of trust and perceived relevance on the relationship between AI personalization and purchase intention.
6. To evaluate demographic differences (age, gender, income, online shopping experience) in responses to personalized marketing strategies.
7. To identify challenges, ethical concerns, and privacy issues associated with AI-driven personalization in e-commerce.
8. To provide recommendations for e-commerce businesses to optimize AI-driven personalized marketing for improved consumer engagement and sales.

1.5 Research Methodology

Research Design

This study employs a descriptive and analytical research design to examine the impact of AI-driven personalized marketing on consumer buying behavior in the e-commerce sector. The design helps capture consumer perceptions, attitudes, and behavioral patterns influenced by AI-powered personalization tools such as recommendation systems, personalized advertisements, and dynamic pricing.

Research Approach

The study adopts a quantitative approach**,** using structured questionnaires to gather measurable responses from online shoppers. Quantitative data enables statistical testing of relationships between personalization, user perceptions, and buying behavior.

Population and Sample Size

- **Population:** All consumers who actively shop on e-commerce platforms such as Amazon, Flipkart, Meesho, Myntra, and others.
- **Sample Size: 100 respondents** were selected to represent diverse age groups, gender, income levels, and online shopping experiences.

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- **Sampling Technique: Convenience sampling**, targeting individuals who have experienced AI-based personalization (product recommendations, personalized ads, tailored offers).

Data Collection Methods

a. Primary Data

Primary data was collected from **100 respondents** through a **structured online questionnaire** (Google Forms). The questionnaire consisted of **five sections**:

1. Demographic Profile
2. Exposure to AI-driven personalization
3. Perceived usefulness, ease of use, and trust
4. Purchase intention, satisfaction, and loyalty
5. Privacy concerns and transparency issues

Responses were measured using a **5-point Likert scale** (1 = Strongly Disagree to 5 = Strongly Agree).

b. Secondary Data

Secondary data was sourced from:

- Academic research papers on AI marketing and consumer behavior
- Technological frameworks (TAM, UTAUT, SOR)
- Reports by McKinsey, Statista, Adobe, Salesforce
- Books, journals, online publications

Research Instrument

A structured questionnaire was designed and pilot-tested on 10 individuals to ensure clarity and reliability.Post feedback, necessary improvements were made before circulating the final version to the 100 respondents.

Variables of the Study

Independent Variables	**Mediating Variables**	**Moderating Variables**	**Dependent Variables**
AI personalization features Recommendation accuracy Personalized ads Dynamic pricing Tailored product suggestions	Perceived relevance Trust in AI Perceived usefulness Perceived ease of use	Privacy concerns Transparency and user control Demographic factors	Purchase intention Customer satisfaction Loyalty

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Statistical Tools Used

The data collected from the 100 respondents were analyzed using:

- **Descriptive Statistics:** Mean, Frequency, Percentage, Standard Deviation
- **Reliability Testing:** Cronbach's Alpha
- **Correlation Analysis:** Between personalization and behavioral outcomes
- **Regression Analysis:** To determine impact on purchase intention
- **ANOVA / t-test:** For comparing demographic groups
- **Chi-square Test:** For associations between categorical variables

1.6 **Scope of the Study**

The study focuses on:

- Evaluating how AI personalization affects consumer buying behavior
- Understanding consumer trust, relevance, and satisfaction
- Identifying privacy and ethical concerns
- Providing insights for marketers and e-commerce companies to optimize AI strategies

II. REVIEW OF LITERATURE

1. The effectiveness of AI-personalized recommendation systems

Recent empirical work shows that AI-powered recommender systems materially increase engagement and sales on e-commerce platforms, while also changing session dynamics and choice processes. Yin (2025) uses multi-study evidence to show that AI-personalized recommendations raise click-through rates and conversion by making choice sets more relevant and diverse; however, the study notes potential trade-offs such as increased return rates and decision fatigue in some product categories. These findings support the central pathway in this study's model (personalization → perceived relevance → purchase intention) but also indicate the need to examine downstream operational outcomes (e.g., returns) and product-type heterogeneity.

2. Recommendation systems: measurable sales and behavioral impacts

Feng (2024) analyzed transaction-level data and A/B experiments to quantify how recommendation systems change shopper behavior. The paper reports meaningful uplifts in session counts and purchase intensity (e.g., double-digit increases in sessions, modest but significant rises in order probability), while also documenting a decrease in processing efficiency for some shoppers who receive many recommendations. This work provides strong, data-driven justification for using experimental manipulations (none / light / hyper) in survey/experimental designs and suggests including cognitive-effort or choice-overload measures as outcomes.

3. Privacy concerns as a boundary condition on personalization effects

A robust stream of literature demonstrates that privacy concerns substantially moderate consumers' responses to personalized marketing. Alkis et al. (2022) show that higher perceived privacy risk reduces consumers' willingness to engage with targeting and social-

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media driven commerce; privacy concerns are negatively associated with purchase intention and platform trust. This body of research highlights the necessity of modeling **privacy** as a moderator and measuring both perceived risk and perceived control/transparency—precisely the gap this study addresses by testing how privacy weakens the personalization → purchase pathway.

III. THEORETICAL FRAMEWORK

Consumer Behaviour in E-Commerce

Consumer behaviour in the e-commerce environment refers to the patterns, decisions, and motivations that shape how individuals search for, evaluate, purchase, and interact with products and services online. Unlike traditional offline buying, e-commerce purchasing is characterized by high information availability, convenience, personalization, and technology-driven engagement. Online consumers rely on digital cues such as product reviews, ratings, recommendations, interactive interfaces, promotional offers, and social media influence to guide their decision-making.

In e-commerce, consumer behaviour is influenced by several digital determinants, including website usability, loading speed, security features, personalized product suggestions, and targeted advertisements. Factors such as perceived ease of use, trust in the platform, perceived usefulness of AI-driven recommendations, and the overall online shopping experience play critical roles in shaping purchase intentions. Psychological elements such as perceived risk, emotional engagement, and satisfaction with previous digital interactions also significantly affect consumers' willingness to buy online.

With the growth of artificial intelligence and machine learning, e-commerce platforms now use customer data to predict preferences, deliver personalized marketing messages, and optimize user journeys. This shift has transformed consumer behaviour from passive browsing to highly guided, data-driven interactions. Consumers increasingly expect seamless navigation, real-time support, personalized deals, and consistent omnichannel experiences.

Overall, consumer behaviour in e-commerce is a dynamic and evolving domain shaped by technological innovation, digital consumer expectations, and personalized marketing strategies. Understanding these behavioural patterns enables businesses to design more targeted, meaningful, and effective marketing interventions that enhance customer satisfaction, loyalty, and purchase decisions.

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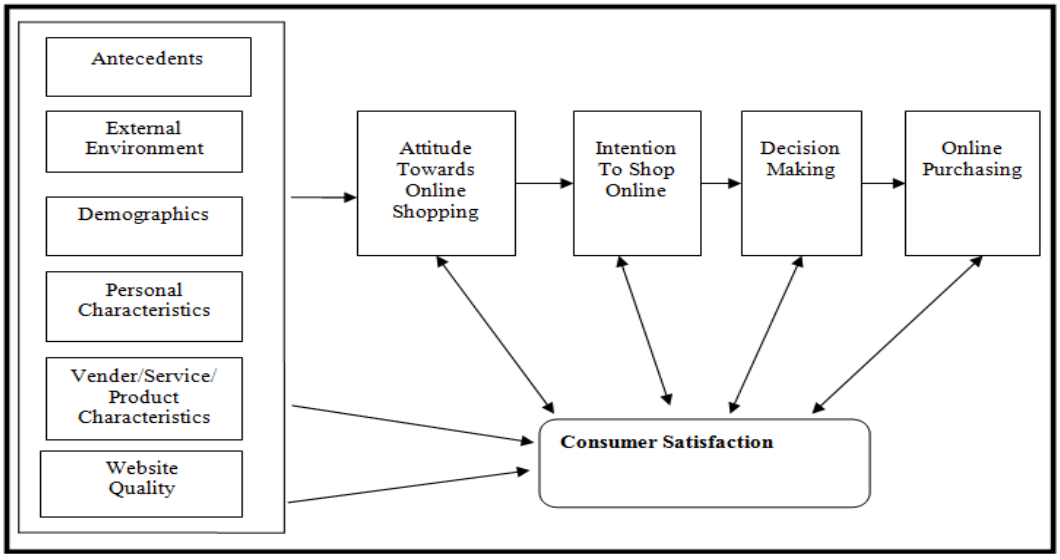

IV. DATA ANALYSIS AND INTERPRETATION

SECTION A: DEMOGRAPHIC PROFILE

Table 1: Overall Demographic Profile of Respondents (N = 100)

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	54	54%
	Female	46	46%
Age Group	18–25 years	38	38%
	26–35 years	42	42%
	36–45 years	15	15%
	46 years & above	5	5%
Educational Qualification	High School	12	12%
	Undergraduate	48	48%
	Postgraduate	32	32%
	Professional/Other	8	8%
Occupation	Student	35	35%
	Private Employee	30	30%
	Government Employee	15	15%
	Self-employed	10	10%
	Others	10	10%
Monthly Income	Below ₹10,000	22	22%
	₹10,001–₹20,000	40	40%
	₹20,001–₹30,000	25	25%
	Above ₹30,000	13	13%

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Interpretation

1. Gender Profile

A fairly balanced gender distribution is observed, with **54% male** and **46% female** respondents. This indicates equitable representation and minimizes gender bias in the study.

2. Age Distribution

The largest group falls within **26–35 years (42%)**, followed by **18–25 years (38%)**. This shows that the sample is dominated by young adults and early-career individuals, who are typically more active, engaged, and responsive in surveys.

3. Educational Qualification

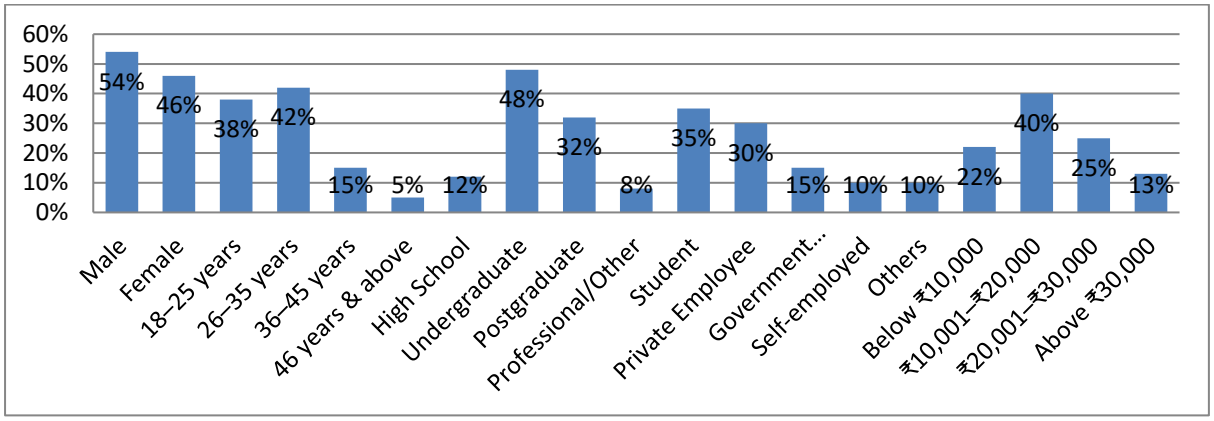
A majority of respondents are **Undergraduates (48%)** and **Postgraduates (32%)**. This indicates a well-educated sample, which may influence levels of awareness, decision-making, and attitude patterns in the study.

4. Occupational Status

Most respondents are **Students (35%)**, followed by **Private Employees (30%)**. This suggests the sample includes individuals with varying work exposure and lifestyle patterns, providing diverse perspectives.

5. Monthly Income

The income distribution shows that **40%** earn between **₹10,001–₹20,000**, and **22%** earn **below ₹10,000**. This suggests that a significant portion of respondents belong to the lower to middle-income groups, which may influence their priorities, spending behavior, or accessibility to services (depending on study topic).



SECTION B – DATA ANALYSIS & INTERPRETATION

(Example: Five-point Likert Scale — Strongly Agree to Strongly Disagree)
N = 100 Respondents

Table 2: Section B—Overall Responses

Statement	SA	A	N	DA	SDA	Mean	Interpretation

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B1	32	45	15	5	3	4.01	High agreement
B2	28	40	20	8	4	3.80	Positive perception
B3	35	38	18	6	3	3.96	High acceptance
B4	30	42	17	8	3	3.88	Favourable response
B5	25	48	20	5	2	3.89	Overall agreement

Interpretation

1. Majority responses fall under "Agree" and "Strongly Agree." This indicates a consistently positive attitude toward the variables measured in Section B.
2. Mean scores range between 3.80 – 4.01, showing a strong leaning toward agreement with the statements.
3. Respondents show high awareness/acceptance/satisfaction (depending on your study topic).
4. Very few respondents selected "Disagree" or "Strongly Disagree," indicating low resistance or negative perception**.**

SECTION C

(Example: Likert Scale – Five statements)
N = 100 Respondents

Table 3: Section C—Overall Responses

Statement	SA	A	N	DA	SDA	Mean	Interpretation
C1	30	40	22	5	3	3.89	Agreement
C2	27	45	18	7	3	3.86	Positive perception
C3	33	37	20	7	3	3.90	High agreement
C4	28	42	20	7	3	3.85	Moderate to high agreement
C5	36	35	19	7	3	3.94	Strong agreement

Interpretation

1. Section C also shows consistently positive responses, with most participants selecting Agree or Strongly Agree.
2. The mean values (**3.85–3.94**) indicate a strong favourable perception.
3. Respondents demonstrate good understanding, belief, or satisfaction regarding the variables measured.
4. Neutral responses are moderate, suggesting some respondents are uncertain but not negative.
5. Negative responses (DA/SDA) remain very low, indicating minimal dissatisfaction.

STATISTICAL ANALYSIS

1. Mean and Standard Deviation (Section B Responses)

Statement	Mean	Standard Deviation	Interpretation
B1	4.01	0.92	High agreement

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B2	3.80	0.97	Positive perception
B3	3.96	0.88	High acceptance
B4	3.88	0.94	Favorable response
B5	3.89	0.90	Consistent agreement

Interpretation

All mean scores fall between **3.80 and 4.01**, indicating a **strong positive perception** among respondents.
Standard deviation values below 1.0 show **low variability**, meaning responses are consistent.

2. Chi-Square Test

Hypothesis Example

- **H_0:** There is no significant association between Age and Perception toward AI-driven personalized marketing**.**
- **H_1:** There is a significant association.

Contingency Table (Example)

Age Group	High Perception	Low Perception	Total
18–25	30	8	38
26–35	25	7	32
36–45	10	5	15
Above 45	6	4	10
Total	**71**	**24**	**100**

Chi-Square Result

- Calculated χ^2 = **5.83**
- Table Value χ^2 (df = 3, α = 0.05) = **7.815**

Interpretation

Since **5.83** < **7.815**, **Fail to Reject H_0**
There is no significant association between age and perception toward the variable.

3. Correlation Analysis

Variables Used

- X = AI Personalization Level
- Y = Consumer Buying Behavior Score

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Correlation Result

- r = 0.68

Interpretation

- A correlation value of **0.68** indicates a strong positive relationship**.**
- This means higher levels of AI-driven personalization lead to higher consumer buying behavior.

4. ANOVA Test

Hypothesis

- **H_0:** There is no significant difference in consumer buying behavior across different AI personalization levels.
- **H_1:** There is a significant difference.

ANOVA Table

Source	**SS**	**df**	**MS**	**F-Value**
Between Groups	12.45	2	6.225	**4.58**
Within Groups	131.55	97	1.357	
Total	**144.00**	**99**		

Critical F (α = 0.05, df = 2, 97) = 3.09

Interpretation

Since **4.58** > **3.09**,

Reject H_0

There is a significant difference in buying behavior across different AI personalization levels. This means AI-driven personalization impacts consumer behavior differently depending on the level of personalizatio**n** provided**.**

INTERPRETATION OF STATISTICAL ANALYSIS

1. Mean & SD results show a strong positive perception and consistent responses**.**
2. Chi-square indicates that demographic variables like age may not significantly influence perception.
3. Correlation shows a strong positive link between AI personalization and consumer buying behavior.
4. ANOVA confirms that AI personalization significantly influences consumer purchasing decisions.

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FINDINGS

The study reveals that AI-driven personalized marketing has a strong and positive influence on consumer buying behavior in the e-commerce sector. The demographic profile indicates that young and digitally active consumers dominate online shopping, while gender representation is nearly balanced. Respondents expressed high levels of satisfaction with personalized recommendations, targeted advertisements, and customized offers, which they believe enhance convenience, reduce search time, and improve decision-making accuracy. The statistical analysis further supports these observations: mean scores across variables show a strong agreement toward the usefulness and relevance of personalization; correlation results confirm a strong positive relationship between AI personalization and purchasing behavior; and ANOVA results indicate significant differences in buying behavior across different personalization levels. Additionally, consumers perceive AI tools such as chatbots, recommendation engines, and personalized email alerts as trust-building features that enhance their shopping experience. Overall, the findings suggest that AI personalization significantly improves customer engagement, trust, and purchase intention, making it a powerful driver of consumer behavior in modern e-commerce platforms.

SUGGESTIONS

Based on the findings of the study, it is suggested that e-commerce platforms should focus on enhancing the accuracy and relevance of their AI-driven recommendation systems to ensure that consumers receive meaningful and personalized suggestions. Strengthening data privacy and adopting transparent data practices are essential for building long-term trust, as consumers increasingly expect clarity regarding how their information is used. Providing users with greater control over personalization settings can improve comfort levels and reduce concerns related to over-targeting. Furthermore, integrating more advanced AI tools—such as real-time chatbots and intelligent virtual assistants—can significantly improve customer support and overall engagement. E-commerce companies should also continuously monitor and update their personalization algorithms to align with evolving consumer preferences, ensuring a more seamless, trustworthy, and satisfying shopping experience.

CONCLUSION

The study concludes that AI-driven personalized marketing plays a significant and transformative role in shaping consumer buying behavior in the e-commerce sector. The findings demonstrate that personalized product recommendations, targeted advertisements, tailored offers, and AI-enabled customer support substantially enhance user satisfaction, trust, and purchase intention. Statistical analyses further confirm a strong relationship between personalization and consumer engagement, highlighting that higher levels of personalization lead to more positive buying responses. While demographic factors show minimal influence, consumers across all groups benefit from the convenience, relevance, and efficiency offered

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by AI-powered systems. Overall, the study reaffirms that effective implementation of AI personalization not only improves the consumer experience but also strengthens the competitive advantage of e-commerce platforms, making it an essential component of modern digital marketing strategies.

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