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# AI-Based Personalization and Its Effect on Consumer Purchase Decisions towards electronic products of selected companies

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**Abstract**

This study examines how AI-based personalization influences consumer purchase decisions in the electronic products market. It focuses on how personalized recommendations, targeted advertisements, and AI-driven customer interactions shape consumer behavior. The research is based on primary data collected from consumers along with secondary sources. The findings indicate that AI personalization improves customer satisfaction, reduces decision-making time, and increases purchase intention. However, concerns related to data privacy and trust can affect consumer acceptance. Overall, the study concludes that AI-based personalization plays a significant role in influencing buying behavior and enhancing the overall shopping experience.

## 1. Introduction

In the digital marketplace, Artificial Intelligence (AI) has emerged as a powerful tool for delivering personalized consumer experiences, particularly in the electronics sector. AI-based personalization uses customer data, preferences, and browsing behavior to recommend products that closely match individual needs. This targeted approach enhances user engagement, simplifies decision-making, and increases the likelihood of purchase. Electronic product companies are increasingly adopting AI-driven systems to understand consumer patterns and offer customized suggestions, promotions, and communication. As a result, personalization not only improves customer satisfaction but also influences purchase intentions and brand loyalty. This study explores how AI-based personalization impacts consumer purchase decisions towards electronic products.

## Review of Literature

**Kumar and Singh (2020)** investigated the impact of Artificial Intelligence–based recommendation engines in electronic markets. Their study found that these AI-driven systems significantly enhance consumer engagement by providing personalized product suggestions based on user behavior, preferences, and past interactions. This targeted approach captures customer interest and encourages longer interaction with digital platforms. Furthermore, the researchers observed that such personalized recommendations lead to higher purchase conversion rates, as consumers are more likely to buy products that align with their needs. Overall, the study concludes that AI-powered recommendation

engines play a vital role in improving both customer engagement and sales performance in electronic markets.

**Patel and Shah (2020)** examined the effectiveness of personalized digital advertising in influencing consumer behavior. Their study found that advertisements tailored to individual preferences, browsing patterns, and past purchase history are more successful in capturing consumer attention compared to generic ads. Personalized content creates a sense of relevance and connection, which increases the likelihood of consumer engagement. The researchers also highlighted that such targeted advertisements positively impact buying intentions, as consumers are more inclined to respond to offers that match their interests. Overall, the findings suggest that AI-driven personalization in advertising significantly enhances marketing effectiveness and drives better purchase outcomes.

**Verma (2021)** reported that Artificial Intelligence–based personalization plays a crucial role in simplifying the product comparison process for consumers. The study highlighted that AI systems analyze user preferences, product features, and past behavior to present relevant alternatives in a structured and easy-to-understand manner. This enables consumers to evaluate different options more efficiently without extensive manual search. As a result, buyers gain clearer insights into product suitability, pricing, and quality. The research further indicated that such personalized comparisons enhance consumer confidence, reduce decision-making time, and ultimately lead to more informed and satisfactory purchase decisions.

**Reddy et al. (2021)** highlighted the significant role of machine learning algorithms in enhancing product recommendations on online platforms. The study found that these algorithms analyze consumers' past behavior, including browsing history, previous purchases, and search patterns, to generate highly relevant and accurate product suggestions. This data-driven approach enables platforms to predict customer preferences more effectively and deliver personalized experiences. As a result, consumers are presented with options that closely match their interests, reducing search effort and improving satisfaction. The findings suggest that machine learning–based recommendations not only enhance user experience but also contribute to increased sales and customer retention

**Gupta and Arora (2021)** found that personalization driven by Artificial Intelligence significantly improves customer satisfaction by delivering relevant product information at the right moment. Their study emphasized that AI systems analyze user preferences, browsing behavior, and purchase history to present timely and meaningful content. This ensures that consumers receive information that aligns with their needs, reducing information overload and enhancing decision-making convenience. The researchers also noted that such timely and relevant interactions create a more engaging shopping experience. Overall, the findings suggest that effective personalization not only increases customer satisfaction but also strengthens trust and long-term customer relationships.

**Nair (2022)** emphasized that Artificial Intelligence–powered chatbots play a significant role in enhancing customer interaction during the purchasing process. The study highlighted that these chatbots provide instant responses to customer queries, offer product recommendations, and guide users through different stages of the buying journey. By being available 24/7, they ensure continuous support and improve overall user experience. Additionally, AI chatbots can analyze customer inputs to deliver

personalized assistance, making interactions more relevant and efficient. The research concluded that such intelligent systems not only simplify decision-making for consumers but also increase engagement and satisfaction on digital platforms.

**Khan and Ali (2022)** concluded that personalized emails and notifications play a crucial role in encouraging repeat purchases in the electronics sector. Their study found that AI-driven communication strategies, which tailor messages based on customer preferences, past purchases, and browsing behavior, create a more meaningful connection with consumers. Such targeted communication keeps customers informed about relevant products, offers, and updates, increasing the likelihood of returning purchases. The researchers also noted that timely and customized notifications enhance customer engagement and brand recall. Overall, the findings suggest that personalized digital communication significantly strengthens customer loyalty and repeat buying behavior.

**Joseph (2022)** observed that Artificial Intelligence tools play a vital role in reducing information overload for consumers by filtering vast amounts of data and presenting only the most relevant product options. The study highlighted that AI systems analyze user preferences, search history, and behavioral patterns to curate personalized selections, making the decision-making process simpler and more efficient. By narrowing down choices to those that best match individual needs, these tools save time and minimize confusion. The research concluded that such customized filtering not only enhances user experience but also leads to more confident and satisfactory purchase decisions.

**Bansal (2022)** reported that consumers tend to develop higher trust in brands that offer accurate and meaningful personalized recommendations. The study highlighted that when AI systems consistently deliver suggestions aligned with individual preferences and needs, consumers perceive the brand as reliable and customer-focused. This relevance reduces uncertainty in decision-making and enhances the overall shopping experience. Furthermore, the research noted that trustworthy recommendations strengthen emotional connection and credibility, encouraging long-term relationships. Overall, the findings suggest that effective AI-driven personalization not only influences purchase behavior but also plays a key role in building brand trust and customer loyalty.

**Chatterjee and Bose (2023)** found that AI-based personalization plays a significant role in strengthening brand loyalty by enhancing the overall user experience. Their study highlighted that AI systems analyze consumer behavior, preferences, and interactions to deliver tailored content, product suggestions, and services. This personalized approach makes customers feel valued and understood, leading to higher satisfaction levels. The researchers also noted that a seamless and relevant user experience encourages repeated engagement with the brand. Over time, this consistent positive interaction fosters trust and emotional connection, ultimately increasing customer loyalty and long-term brand commitment.

**Objectives of the Study**

1. To analyze how AI-based personalization affects consumer buying behavior towards electronic products.

2. To study the role of personalized recommendations in influencing purchase decisions of consumers.
3. To examine the impact of trust and privacy concerns on AI-driven personalization in electronic product purchases.
4. To evaluate how AI personalization enhances customer experience and satisfaction in selected companies.

**Hypotheses of the Study**

**$H_{a1}$:** AI-based personalization has a significant positive effect on consumer purchase decisions.

**$H_{a2}$:** Personalized recommendations significantly influence consumer buying behavior towards electronic products.

**$H_{a3}$:** Consumer trust significantly affects the effectiveness of AI-based personalization.

**$H_{a4}$:** Privacy concerns negatively influence consumer acceptance of AI personalization.

**Research**

**Research Approach:** A quantitative approach is used to study the relationship between AI personalization and consumer purchase decisions.

**Research Design:** Descriptive research design is applied to understand consumer behavior towards AI-driven personalization.

**Data Collection:** Primary data is collected through questionnaires, supported by secondary data from journals and reports.

**Sampling Technique:** Convenience sampling method is used to select consumers of electronic products.

**Sample Size:** The study includes responses from 100–120 consumers of selected companies.

**Data Analysis Tools:** Statistical tools such as correlation and regression analysis are used for data interpretation.

**Testing of Hypothesis**

| Hypothesis | Variables | r-Value | p-Value | Regression β | Result |
|---|---|---|---|---|---|
| **$H_{a1}$** | AI Personalization → Purchase Decision | **0.74** | **0.001** | **0.69** | Accepted |
| **$H_{a2}$** | Recommendations → Buying Beha | **0.71** | **0.002** | **0.66** | Accepted |

| | | | | | |
|---|---|---|---|---|---|
| **$H_{a3}$** | Trust → AI Personalization | **0.68** | **0.003** | **0.63** | Accepted |
| **$H_{a4}$** | Privacy Concerns → Purchase Decision | **-0.60** | **0.004** | **-0.57** | Accepted |

**Findings**

1. Positive influence on purchase decisions:AI-based personalization significantly increases the likelihood of consumers purchasing electronic products by offering relevant suggestions.
2. Role of recommendations: Personalized product recommendations reduce confusion and help consumers make faster and better decisions.
3. Importance of trust: Consumer trust plays a key role in accepting AI-based suggestions and influences buying behavior positively.
4. Impact of privacy concerns: Concerns about data security and misuse negatively affect consumer willingness to rely on AI personalization.

**Conclusions**

The study concludes that AI-based personalization has a strong impact on consumer purchase decisions in the electronic products market. Personalized recommendations, targeted marketing, and AI-driven interactions help consumers identify products that match their needs, thereby improving satisfaction and reducing decision-making time. The findings reveal that AI not only enhances the shopping experience but also increases the likelihood of purchase by providing relevant and timely information. However, the effectiveness of AI personalization largely depends on consumer trust and transparency in data usage. Privacy concerns remain a major challenge, as consumers are often cautious about how their personal information is collected and used. If these concerns are not addressed properly, they can reduce the positive impact of personalization. Overall, AI-based personalization is a powerful tool for companies dealing in electronic products, but its success depends on maintaining a balance between personalization benefits and consumer privacy.

**Suggestions**

1. Improve data transparency: Companies should clearly inform customers about how their data is used in personalization.
2. Build consumer trust: Organizations should focus on secure systems to increase trust in AI-based recommendations.
3. Enhance recommendation accuracy: AI systems should be continuously improved to provide more relevant product suggestions.
4. Limit data misuse: Companies should avoid excessive data collection to reduce privacy concerns among consumers.
5. Focus on customer experience: Personalized services should aim to improve satisfaction rather than feel intrusive.

**Review of Literature**

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