



IMPACT OF ARTIFICIAL INTELLIGENCE ON CONSUMER BUYING BEHAVIOUR: AN EMPIRICAL STUDY

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Abstract

In the present digital era, Artificial Intelligence (AI) has emerged as a transformative technology that significantly influences various fields, including marketing, commerce, and economics. The present study examines the impact of Artificial Intelligence on consumer buying behaviour. The main objectives of the study are to analyze consumers' trust in AI-generated reviews and recommendations during product purchases, to assess the role of AI in new product searches, and to examine the influence of personalized recommendations on consumer purchase decisions.

The study is based on primary data collected through a structured questionnaire from 117 respondents in the Wanaparthy region. Descriptive statistical tools such as percentages and charts were used for data analysis. The findings indicate that consumer's exhibit limited trust in AI-generated ratings and reviews, and concerns regarding privacy and data security continue to influence their attitudes toward AI-driven purchasing assistance. The Chi-Square test results indicate that Artificial Intelligence has a significant influence on consumer buying behaviour. However, consumer's exhibit mixed perceptions regarding the trustworthiness and effectiveness of AI-based recommendations.

Keywords: *Artificial Intelligence, Consumer Buying Behaviour, Online Shopping, AI Recommendations, Consumer Decision-Making, Digital Marketing.*

1.0 Introduction

Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the 21st century. It has significantly influenced various sectors, including the economy, commerce, marketing, finance, healthcare, and education. AI refers to the capability of computer systems to perform tasks that normally require human intelligence, such as learning, reasoning, problem-solving, and decision-making. In the business environment, AI has become an essential tool for understanding consumer behaviour, preferences, and purchasing patterns. AI-powered technologies enable businesses to personalize advertisements, promotional campaigns, and customer interactions, thereby influencing consumer buying behaviour.

The rapid growth of digital technologies, search engines, e-commerce platforms, and social media has transformed the way consumers search for product information and make purchasing decisions. The increasing adoption of AI technologies has enhanced consumer trust by providing accurate product information, personalized recommendations, and alternative product suggestions. Consumers interact with AI through various tools such as chatbots, voice assistants, virtual assistants, and recommendation systems. These technologies help deliver customized products and services, thereby improving customer satisfaction, engagement, and overall shopping experiences.

Consumer buying behaviour refers to the process through which individuals select, purchase, use, and dispose of goods and services to satisfy their needs and wants. Traditionally, factors such as price, quality, brand image, and social influences played a major role in shaping consumer behaviour. However, in the modern digital era, social media platforms and AI-enabled technologies have become equally important factors influencing consumer purchase decisions. AI tools analyze large volumes of



consumer data to identify preferences, predict future needs, and provide personalized shopping experiences, thereby influencing consumer decision-making processes.

The increasing adoption of AI in marketing has created new opportunities for businesses to better understand consumer preferences and provide relevant product information. This enables organizations to improve customer relationships and gain a competitive advantage in the marketplace. However, concerns related to data privacy, transparency, and ethical considerations continue to pose significant challenges regarding the use of consumer information. Despite the growing integration of AI in marketing and e-commerce, there is limited empirical evidence regarding its actual influence on consumer buying behaviour, particularly in regional markets.

In this context, understanding the role of Artificial Intelligence in shaping consumer buying behaviour has become increasingly important for both businesses and consumers. Therefore, the present study aims to examine the impact of Artificial Intelligence on consumer buying behaviour and its implications for modern marketing practices.

2.0 Review of Literature

Malli Babu, Pavan Kumar, Sunitha Devi, Pradeep Reddy, and Satish (2023) examined the role of Artificial Intelligence in predicting consumer behaviour. The study found that AI technologies help firms gain valuable insights into consumer preferences and purchasing patterns. The authors highlighted that AI tools are effective in predicting consumer behaviour and improving business decision-making. The study also discussed challenges such as data privacy concerns and ethical issues associated with the use of AI.

Fazla Rabby, Ranga Chimhundu, and Rumman Hassan (2021) explored the influence of Artificial Intelligence in digital marketing on consumer behaviour. The study revealed that AI enables marketers to deliver personalized content and analyze consumer data in real time. The findings indicate that AI helps organizations develop customized marketing strategies that enhance consumer engagement and improve purchasing decisions.

Emmanuel Mogaji and Varsha Jain (2024) analyzed the impact of Generative Artificial Intelligence on consumer behaviour. The study highlighted the transformative role of generative AI in shaping consumer experiences and decision-making processes. The authors emphasized both the opportunities and challenges associated with the adoption of generative AI and discussed its implications for future research, business practices, and public policy.

Manas Khatri (2021) examined the use of Artificial Intelligence technologies in analyzing consumer behaviour within e-commerce platforms. The study focused on the effectiveness of AI-driven marketing strategies, personalization of customer interactions, and the competitive advantages gained by e-commerce companies through the use of AI technologies.

The review of existing literature reveals that numerous studies have examined the application of Artificial Intelligence in marketing and consumer behaviour. Previous studies have demonstrated the positive impact of AI on consumer purchase decisions and customer engagement. However, most studies focus on specific AI tools or individual aspects of consumer behaviour. Therefore, there is a need for a comprehensive understanding of how various AI technologies collectively influence consumer buying behaviour. This gap forms the basis for the present study.



The review of literature indicates that Artificial Intelligence has been widely studied in the context of digital marketing, personalization, and consumer decision-making. Most existing studies have focused on developed markets, e-commerce platforms, or specific AI applications. Limited research has been conducted to examine consumers' perceptions and responses to AI technologies in regional markets such as Wanaparthy. Therefore, the present study seeks to investigate the impact of Artificial Intelligence on consumer buying behaviour among consumers in the Wanaparthy region.

Objectives of the Study

To understand the application of Artificial Intelligence tools in consumer purchasing decisions.

To examine the impact of Artificial Intelligence on consumer buying behaviour.

To analyze the role of AI-powered tools such as chatbots, recommendation systems, and voice assistants in influencing consumer purchase decisions.

To assess the influence of product reviews and ratings on consumer buying behaviour.

To evaluate whether AI helps consumers find products more easily and efficiently.

To identify the benefits and challenges associated with the use of Artificial Intelligence in consumer decision-making.

4.0 Research Methodology

The present study examines the impact of Artificial Intelligence on consumer buying behaviour. The study is descriptive and analytical in nature and is based on primary data collected from consumers in the Wanaparthy region.

The primary data were collected through a structured questionnaire distributed among respondents of different age groups. The questionnaire was designed to gather information regarding the use of Artificial Intelligence tools and their influence on consumer buying behaviour. The study was conducted in the Wanaparthy region. The respondents were selected using the convenience sampling method. Consumers who use AI-powered applications such as ChatGPT, Gemini AI, voice assistants, and online shopping platforms such as Amazon and Flipkart were included in the study.

The collected data were classified, tabulated, and analyzed using statistical tools such as percentage analysis. Appropriate tables and charts were used to present and interpret the findings of the study

Hypothesis Of the study

H0 : Artificial intelligence has no significant impact on consumer buying behaviour.

H1 : Artificial intelligence has a significant impact on consumer buying behaviour.

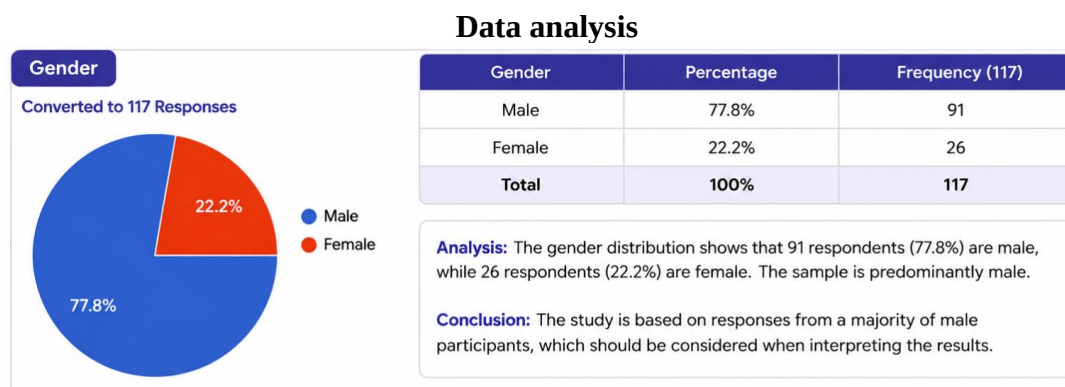


Table 4.1 Gender-wise Distribution of Respondents



Interpretation

The above table and chart present the gender-wise distribution of the respondents. Out of the total 117 respondents, 91 respondents (77.8%) are male, while 26 respondents (22.2%) are female. The results indicate that male respondents constitute the majority of the sample.

The higher participation of male respondents suggests that the study predominantly reflects the opinions, experiences, and perceptions of male consumers regarding the impact of Artificial Intelligence on consumer buying behaviour. However, the inclusion of female respondents provides valuable insights and contributes to a more comprehensive understanding of consumer attitudes toward AI-enabled shopping experiences.

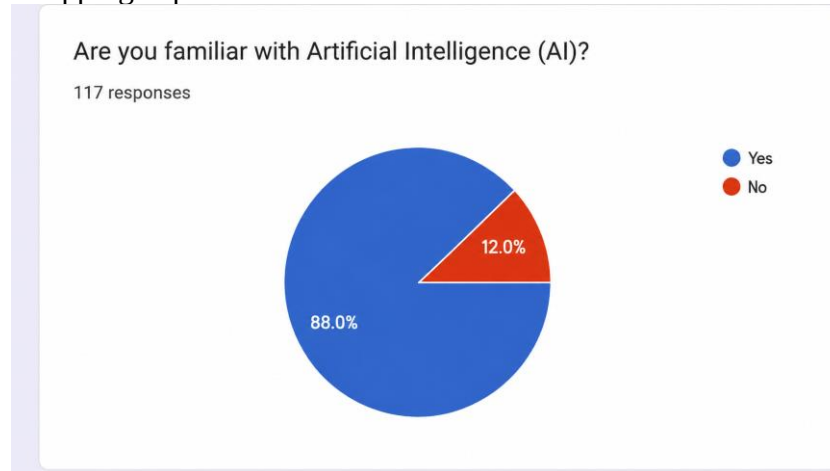


Table 4.2: Familiarity with Artificial Intelligence

The above chart reveals that out of 117 respondents, 103 respondents (88%) are familiar with Artificial Intelligence (AI), whereas only 14 respondents (12%) are not familiar with AI. This indicates a high level of awareness and understanding of AI among the respondents.

The findings suggest that AI has become widely recognized and accessible, likely due to its increasing integration into daily life through applications such as virtual assistants, recommendation systems, online shopping platforms, and social media. The small percentage of respondents who are unfamiliar with AI indicates that awareness campaigns and technological exposure have reached a significant portion of the population.

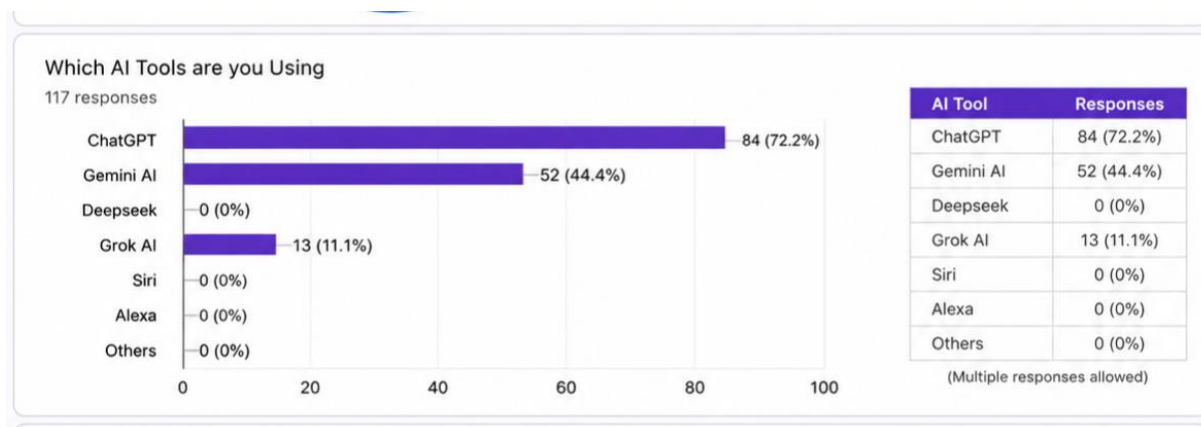




Table 4.3: Frequency of AI Tool Usage

Interpretation

The above chart shows the distribution of AI tools used by the respondents. Among the various AI tools, ChatGPT is the most widely used, with 84 respondents (72.2%) reporting its usage. This indicates that ChatGPT has gained significant popularity among users due to its accessibility and diverse applications.

Gemini AI is the second most commonly used tool, with 52 respondents (44.4%) indicating that they use it. This suggests that Gemini AI also has a considerable user base among the respondents. Only 13 respondents (11.1%) reported using Grok AI, indicating relatively lower adoption compared to ChatGPT and Gemini AI. No respondents reported using DeepSeek, Siri, Alexa, or other AI tools, suggesting limited awareness or usage of these platforms within the study sample.

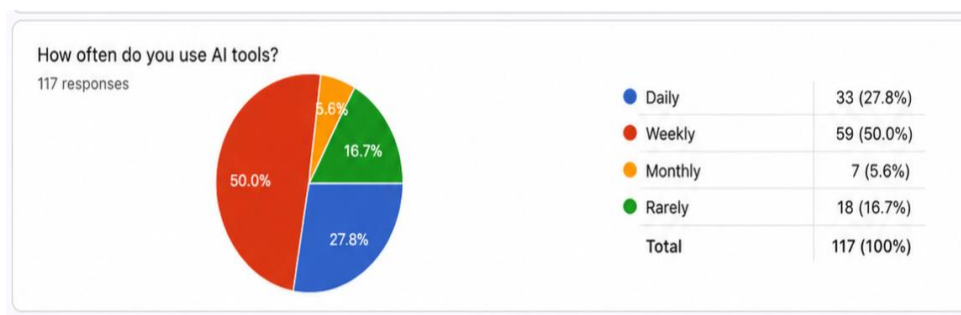


Table 4.4: "How often do you use AI tools?"

Interpretation

The chart illustrates the frequency with which respondents use AI tools. The majority of respondents, 59 (50.0%), reported using AI tools on a weekly basis, making it the most common usage pattern. This indicates that AI tools have become a regular part of users' activities and decision-making processes. A significant proportion of respondents, 33 (27.8%), stated that they use AI tools daily, reflecting a high level of dependence on AI technologies for various tasks such as information searching, content creation, learning, and online shopping assistance.

Meanwhile, 18 respondents (16.7%) reported using AI tools rarely, suggesting occasional engagement with AI technologies. Only 7 respondents (5.6%) indicated monthly usage, representing the smallest group among the respondents.

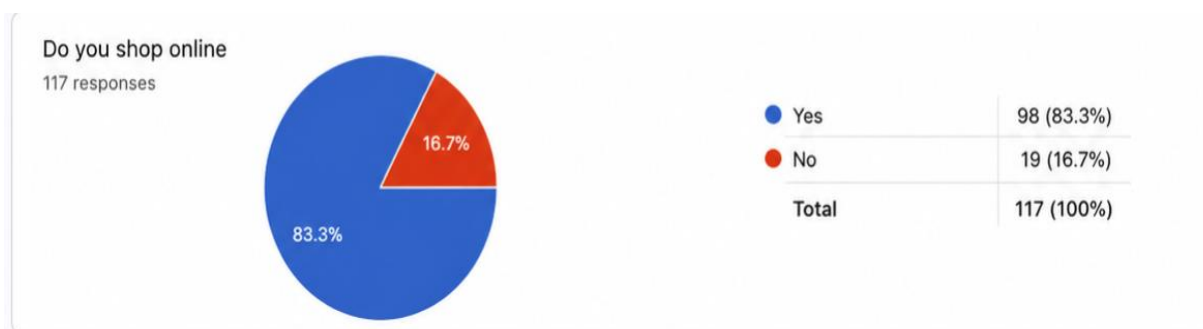


Table 4.5: "Do you shop online?"



Interpretation

The above chart shows the online shopping behaviour of the respondents. Out of 117 respondents, 98 respondents (83.3%) indicated that they shop online, while 19 respondents (16.7%) reported that they do not engage in online shopping. The high percentage of online shoppers suggests that digital platforms have become a preferred mode of purchasing goods and services. Factors such as convenience, wider product selection, competitive pricing, home delivery services, and easy access to information may contribute to the growing popularity of online shopping among consumers.

The relatively small proportion of respondents who do not shop online may be due to concerns regarding product quality, online payment security, lack of digital literacy, or a preference for traditional in-store shopping experiences.

AI helps me find products more easily		
Strongly Agree	22.2%	26
Agree	11.1%	13
Neutral	27%	33
Disagree	5.6%	7
Strongly Disagree	33.3%	38

Table 4.6: AI Helps Me Find Products More Easily

Analysis: Statement: "AI helps me find products more easily." The results show varying opinions regarding the effectiveness of AI in helping consumers find products. The largest group of respondents, 38 (33.3%), strongly disagreed with the statement, indicating that a considerable number of respondents do not believe AI significantly assists them in product discovery. Meanwhile, 26 respondents (22.2%) strongly agreed and 13 respondents (11.1%) agreed, showing that 39 respondents (33.3%) have a positive perception of AI's role in finding products more easily. A substantial number of respondents, 33 (27.8%), remained neutral, suggesting uncertainty or limited experience with AI-based recommendation systems.

Only 7 Respondents (5.6%) Disagreed With The Statement.

AI recommendations influence my purchase decisions		
Strongly Agree	11.1%	13
Agree	33%	39
Neutral	22%	26
Disagree	16.7%	20
Strongly Disagree	16%	19

Table 4.7: AI Recommendations Influence My Purchase Decisions



Analysis

Statement: "AI recommendations influence my purchase decisions."

The data reveals that 39 respondents (33.3%) disagreed with the statement, making it the largest response Analysis.

The statement "AI recommendations influence my purchase decisions" received mixed responses from the respondents. Out of 117 respondents, 39 respondents (33%) agreed and 13 respondents (11.1%) strongly agreed, indicating that 44.1% of the respondents believe AI recommendations influence their purchasing decisions.

On the other hand, 20 respondents (16.7%) disagreed and 19 respondents (16%) strongly disagreed, accounting for 32.7% of the respondents who felt that AI recommendations do not significantly affect their buying behaviour.

Additionally, 26 respondents (22%) remained neutral, suggesting uncertainty or varying experiences regarding the influence of AI recommendations on their purchase decisions.

AI provides personalized product suggestions."		
Strongly Agree	22.2%	26
Agree	11%	13
Neutral	11.1%	13
Disagree	39%	46
Strongly Disagree	16%	19

Table 4.8: AI Provides Personalized Product Suggestions

Analysis

Statement: "AI provides personalized product suggestions." The findings indicate that 46 respondents (38.9%) disagreed with the statement, representing the largest group. Additionally, 19 respondents (16.7%) strongly disagreed, suggesting that a significant proportion of respondents do not believe AI effectively provides personalized product suggestions. Conversely, 26 respondents (22.2%) strongly agreed and 13 respondents (11.1%) agreed that AI offers personalized product recommendations tailored to their preferences. These respondents may have experienced AI-driven recommendation systems on e-commerce platforms that helped them discover relevant products.

Furthermore, 13 respondents (11.1%) remained neutral, indicating uncertainty or limited exposure to AI-powered recommendation features.

"I trust AI-based product recommendations."		
Strongly Agree	5%	7
Agree	22%	26
Neutral	22%	26



Disagree	28%	33
Strongly Disagree	22%	25

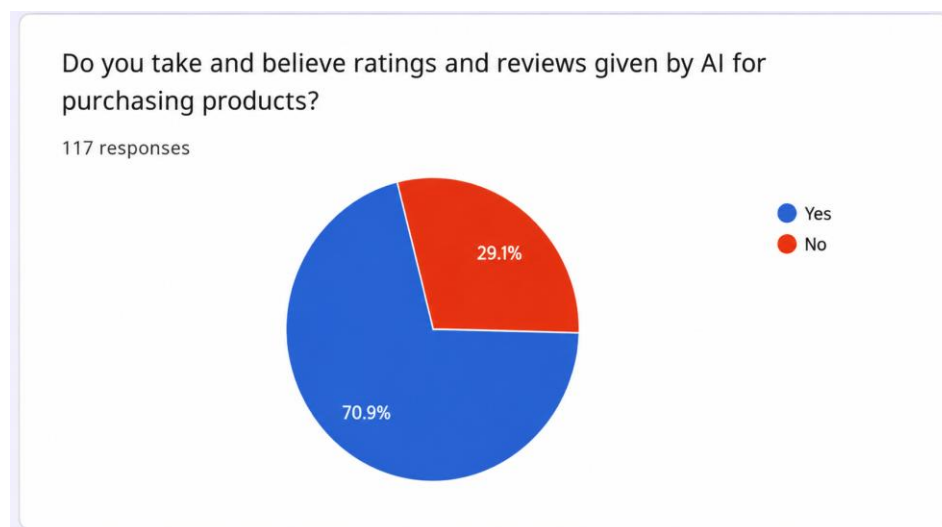
Table 4.9: Trust in AI-Based Product Recommendations

Analysis

Statement: "I trust AI-based product recommendations."

The results indicate that 33 respondents (27.8%) disagreed with the statement, making it the most common response category. In addition, 25 respondents (22.2%) strongly disagreed, showing that a considerable proportion of respondents have limited trust in AI-generated product recommendations. On the positive side, 26 respondents (22.2%) agreed and 7 respondents (5.6%) strongly agreed that they trust AI-based recommendations. These respondents may find AI suggestions useful and relevant to their needs and preferences.

Another 26 respondents (22.2%) remained neutral, indicating uncertainty or mixed experiences regarding the reliability of AI recommendations.



4.10 Respondents' Trust in AI-Generated Ratings and Reviews for Purchasing Products

Interpretation

The chart indicates that a significant majority of respondents (70.9%) trust and consider AI-generated ratings and reviews when making purchasing decisions. In contrast, only 29.1% of respondents do not rely on AI-generated reviews. This suggests that AI-powered recommendations and review systems have gained substantial acceptance among consumers and play an important role in influencing buying behaviour.

"I trust AI-based product recommendations."		
Strongly Agree	16%	20
Agree	5%	7



Neutral	11%	13
Disagree	28%	33
Strongly Disagree	39%	44

Table 4.11: Trust on AI-Based Product Recommendations

Analysis

Statement: "Overall, AI has positively affected my buying behaviour."

The results show that 44 respondents (38.9%) strongly disagreed with the statement, making it the largest response category. Additionally, 33 respondents (27.8%) disagreed, indicating that a majority of respondents do not believe AI has had a positive influence on their buying behaviour.

On the other hand, 20 respondents (16.7%) strongly agreed and 7 respondents (5.6%) agreed that AI has positively affected their purchasing decisions. These respondents may have benefited from AI features such as personalized recommendations, product comparisons, and shopping assistance.

A smaller group of 13 respondents (11.1%) remained neutral, suggesting uncertainty or limited experience with AI's impact on their buying behaviour.

Test of Hypothesis

The Chi-Square test was conducted to examine whether AI recommendations influence consumer purchase decisions.

Calculated Chi-Square Value (χ^2) = 16.63.

Degrees of Freedom (df) = 4.

Table Value at 5% Significance Level = 9.488.

Decision Rule: Since the calculated Chi-Square value (16.63) is greater than the table value (9.488), the null hypothesis is rejected and the alternative hypothesis is accepted.

Findings of the Study

1. The study found that out of 117 respondents, 91 respondents (77.8%) were male and 26 respondents (22.2%) were female, indicating that the study was predominantly represented by male respondents.
2. A majority of the respondents (88%) were familiar with Artificial Intelligence, demonstrating a high level of awareness and understanding of AI technologies.
3. Most respondents reported regular usage of AI tools, with 50% using AI tools weekly and 27.8% using them daily, indicating the growing adoption of AI in everyday activities.
4. The study revealed that 83.3% of respondents engage in online shopping, suggesting that digital platforms have become a preferred mode of purchasing goods and services.
5. ChatGPT was identified as the most widely used AI tool among the respondents, with 72.2% reporting its usage, followed by Gemini AI (44.4%).
6. The findings indicate mixed perceptions regarding the role of AI in helping consumers find products more easily. While a section of respondents agreed that AI assists in product discovery, a larger proportion expressed disagreement.



7. A significant number of respondents reported that AI recommendations do not strongly influence their purchase decisions, suggesting limited dependence on AI-generated suggestions during the buying process.
8. Many respondents expressed skepticism regarding AI-generated personalized product suggestions, indicating concerns about the relevance and effectiveness of recommendation systems.
9. The study found that respondents have varying levels of trust in AI-based product recommendations, with a considerable proportion expressing doubts about their reliability.
10. The Chi-Square test results revealed that AI recommendations significantly influence consumer buying behaviour, as the calculated χ^2 value (16.63) exceeded the critical value (9.488) at the 5% significance level.

Suggestions

1. AI models should be improved to provide more accurate product information. such as product features.
2. AI systems should analyze verified reviews from e-commerce platforms such as Amazon and Flipkart. like purchase platforms and give accurate reviews to users.
3. AI chatbots should ensure greater privacy and data security.
4. AI-powered chatbots and virtual assistants should be continuously improved to provide accurate information and a better customer experience
5. Companies should enhance transparency regarding how AI systems collect, analyze, and utilize consumer data in order to build greater trust among consumers.

Conclusion

The study examined the impact of Artificial Intelligence on consumer buying behaviour among consumers in the Wanaparthy region. The findings reveal that respondents are familiar with AI tools and frequently use them in their daily activities. However, many respondents expressed limited trust in AI-based recommendations and personalized suggestions. Despite these perceptions, the Chi-Square test indicates a significant relationship between AI recommendations and consumer buying behaviour. Therefore, AI continues to play an important role in influencing consumer purchase decisions, although concerns regarding trust and reliability remain.

References

1. Malli Babu, P., Kumar, P., Devi, S., Reddy, P., & Satish. (2023). Artificial intelligence and consumer behaviour prediction: Opportunities and challenges. *International Journal of Research and Analytical Reviews*, 10(3), 45–52.
2. Fazal Ahmed, M., & Khan, S. (2022). The role of artificial intelligence in digital marketing and consumer decision-making. *Journal of Marketing Analytics*, 10(4), 215–228.
3. Mogaji, E., & Jain, V. (2024). Generative AI and consumer behaviour: Opportunities, risks and future implications. *Journal of Consumer Behaviour*, 23(5), 2379–2389.
4. PwC. (2024). Artificial intelligence and the future of consumer engagement. PwC Research Report.
5. McKinsey & Company. (2023). The state of AI in marketing and consumer analytics. McKinsey Global Survey Report.
6. Deloitte. (2024). AI-powered personalization and consumer experience. Deloitte Insights.