International Journal of Science, Strategic Management and Technology
Volume **02** Issue **04** April-**2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

Influence of Artificial Intelligence on Customer Purchase Intention in Virtual Buying: An Empirical Study in Bengaluru

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https://doi.org/10.55041/ijsmt.v2i4.634

Cite this Article: K, R. V. (2026). Influence of Artificial Intelligence on Customer Purchase Intention in Virtual Buying: An Empirical Study in Bengaluru. International Journal of Science, Strategic Management and Technology, *02*(04). https://doi.org/10.55041/ijsmt.v2i4.634

ABSTRACT

The rapid advancement of Artificial Intelligence has significantly transformed virtual buying environments by influencing consumer decision-making processes. The present study examines the influence of Artificial Intelligence on customer purchase intention among virtual buyers in Bengaluru. The research adopts a descriptive and empirical design, using primary data collected from 167 respondents through a structured questionnaire. Artificial Intelligence is analysed in terms of its ability to enhance personalization, interaction, and decision support in digital platforms.

The findings indicate that Artificial Intelligence is widely adopted and positively perceived by consumers, with a high mean score reflecting strong acceptance. Correlation analysis reveals a strong positive relationship between Artificial Intelligence and customer purchase intention ($r = 0.79$, $p < 0.01$). Regression analysis further confirms that Artificial Intelligence has a significant positive impact on purchase intention ($\beta = 0.788$, $p < 0.01$), explaining 62.4% of the variance.

The study concludes that Artificial Intelligence plays a crucial role in shaping consumer purchase decisions in virtual buying environments by improving efficiency, trust, and personalization. The findings provide valuable insights for e-commerce firms to strategically integrate AI technologies to enhance customer engagement and improve conversion outcomes.

Keywords: Artificial Intelligence, Purchase Intention, Virtual Buying, E-commerce, Personalization, Consumer Behaviour, Bengaluru

1. Introduction

The evolution of digital commerce has been profoundly shaped by rapid advancements in Artificial Intelligence (AI), which have redefined the way consumers interact with virtual buying platforms. AI technologies, including machine learning algorithms, natural language processing, and predictive analytics, have become integral components of e-commerce ecosystems. These technologies enable firms to deliver highly personalized, efficient, and interactive shopping experiences by analysing vast amounts of consumer data in real time. Virtual buying, which refers to the process of purchasing goods and services through online platforms, has consequently transitioned from a simple transactional activity to an intelligent, data-driven experience where consumer decisions are increasingly guided and influenced by AI-enabled systems.

Customer purchase intention is a crucial behavioural construct that represents the probability or willingness of a consumer to engage in a purchase decision. It is widely recognized as a key predictor of actual buying behaviour in digital commerce.

Purchase intention is influenced by multiple cognitive and affective factors, including perceived usefulness, trust, personalization, convenience, and ease of interaction. Artificial Intelligence enhances these determinants by offering tailored product recommendations, automating customer interactions through chatbots and virtual assistants, and providing predictive insights based on previous purchasing patterns. As a result, AI reduces information asymmetry, minimizes search effort, and enhances decision-making efficiency, thereby positively shaping consumers' purchase intentions.

Furthermore, AI-driven personalization plays a significant role in influencing consumer perceptions and attitudes. By leveraging customer data, browsing history, and behavioural patterns, AI systems can deliver customized product suggestions that align with individual preferences. This not only enhances the relevance of information presented to consumers but also fosters a sense of engagement and satisfaction. In addition, real-time responsiveness enabled by AI tools improves interaction quality, while predictive analytics strengthens trust by offering accurate and reliable recommendations. These capabilities collectively contribute to a seamless and enriched virtual buying experience, ultimately influencing purchase decisions.

In the context of Bengaluru, widely recognized as India's technological and innovation hub, the adoption of AI-enabled e-commerce platforms has witnessed substantial growth. The city's digitally literate and tech-savvy consumer base demonstrates a higher propensity to adopt and interact with AI-driven applications in online shopping environments. The increasing penetration of smartphones, internet connectivity, and digital payment systems further accelerates the integration of AI in virtual buying. Despite this rapid technological adoption, there remains a notable gap in empirical research specifically examining the direct influence of Artificial Intelligence on customer purchase intention within this regional context.

Review of Literature

Roy et al. (2025) examined motivational factors influencing online purchase intention in AI-enabled shopping environments. The study found that AI-enabled platforms influence purchase intention by improving convenience, personalization, and decision support. The findings indicate that when consumers perceive AI tools as useful and supportive, their willingness to purchase through online platforms increases. This study is relevant because it directly connects AI-enabled settings with online purchase intention.

Gao et al. (2025) investigated the influence of AI chatbot problem-solving capability on users' continued intention in e-commerce platforms. The study highlighted that AI chatbots improve customer service quality by solving customer problems quickly and accurately. Although the focus is on continued usage intention, the findings are relevant to purchase intention because effective chatbot support reduces uncertainty and increases consumer confidence during virtual buying.

Wen et al. (2025) studied AI-driven virtual anchors and their influence on consumer purchase intention. The research used SEM and fsQCA to examine how digital human responsiveness and related AI attributes affect purchase intention. The findings suggest that interactive and responsive AI-based digital agents can improve customer engagement and positively shape buying decisions in online environments.

Turki et al. (2025) analysed AI-powered personalization in e-commerce using transaction-level data from Amazon. The study emphasized that algorithmic personalization influences consumer behaviour by tailoring products, recommendations, and shopping experiences to individual preferences. This supports the argument that AI-based personalization strengthens purchase intention by improving product relevance and decision-making efficiency.

A 2025 study on AI-powered personalization and purchase intention found that innovation, system quality, and information quality positively affect perceived usefulness and trust, which further promote purchase intention. The study used PLS-SEM with 400 e-commerce shoppers and also found that immersive experience positively influences purchase intention. This is highly relevant to the present study because it connects AI personalization, trust, perceived usefulness, and purchase intention in e-commerce.

Abeden et al. (2025) examined the impact of chatbot human-likeness and eeriness on consumers' purchase intention in e-commerce. The study shows that AI chatbot design can influence consumer reactions positively or negatively. While

human-like chatbots may improve interaction, excessive eeriness may reduce trust and weaken purchase intention. This highlights that AI design quality is important in virtual buying platforms.

Chang (2026) examined the impact of Artificial Intelligence on consumer purchase intention in e-commerce and omnichannel retailing in China. The study found that AI technologies influence consumers' purchase intentions by improving personalization, interaction, and retail experience. This study is useful for the present research because it confirms that AI is an important determinant of purchase intention in digital retail contexts.

Aydin et al. (2026) studied brand trust in AI-driven e-commerce personalization. The study explains that AI-driven personalization involves tailoring product recommendations, pricing, content, and user interfaces based on consumer behaviour and preferences. The findings suggest that brand trust plays a central role in AI-based e-commerce because consumers are more likely to purchase when they perceive AI recommendations as reliable and trustworthy.

A 2026 study on AI technology and customer purchase intention in social commerce found that AI technology affects purchase intention through customer experience, perceived usefulness, and perceived value. Using SEM based on 320 respondents from China, the study shows that AI does not influence purchase intention only directly, but also indirectly through experience-based and value-based mechanisms.

3. Research Objectives

- To examine the adoption of Artificial Intelligence in virtual buying platforms.
- To analyse the influence of Artificial Intelligence on customer purchase intention.

4. Research Hypothesis

$H_0$1: Artificial Intelligence does not have a significant effect on customer purchase intention.

$H_1$1: Artificial Intelligence has a significant positive effect on customer purchase intention.

5. Research Methodology

5.1 Research Design

The study adopts a descriptive and empirical research design.

5.2 Data Collection

Primary data were collected using a structured questionnaire administered to consumers in Bengaluru who actively engage in virtual buying. The questionnaire was designed using a five-point Likert scale ranging from strongly disagree to strongly agree.

5.3 Sample Size and Sampling Technique

A sample of **167 respondents** was selected using a non-probability convenience sampling technique. The sample size is considered adequate for empirical analysis and

5.4 Tools for Analysis

The data were analysed using descriptive statistics, reliability analysis, correlation analysis, and regression analysis.

6. Data Analysis and Results

The primary data collected from 167 respondents were analysed in a structured sequence including respondent profile, descriptive statistics, reliability assessment, correlation analysis, and regression analysis.

Table 6.1 Respondent Profile (Demographic Characteristics)

Variable	Category	Frequency	Percent
Gender	Male	95	56.9
	Female	72	43.1
Age	18–25	44	26.3
	26–35	66	39.5
	36–45	34	20.4
	46+	23	13.8
Education	UG	78	46.7
	PG	64	38.3
	Others	25	15

The demographic composition of the respondents provides a clear understanding of the sample characteristics. The gender distribution indicates that a majority of the respondents are male (56.9%), while female respondents constitute 43.1%. This reflects a reasonably balanced representation, ensuring that the responses are not heavily biased toward a single gender group.

With regard to age, the largest proportion of respondents belongs to the 26–35 years category (39.5%), followed by 18–25 years (26.3%), 36–45 years (20.4%), and 46 years and above (13.8%). This distribution shows that a significant portion of the sample consists of young and middle-aged individuals, who are typically more active users of digital platforms and more inclined toward virtual buying.

In terms of educational qualification, 46.7% of the respondents are undergraduates, 38.3% are postgraduates, and 15% fall under other categories. The presence of a well-educated sample suggests that respondents are likely to have a better understanding of digital technologies and Artificial Intelligence applications. Overall, the demographic profile indicates that the sample is suitable for analysing the influence of Artificial Intelligence on customer purchase intention in virtual buying environments.

Table 6.2 Descriptive Statistics (Mean and Standard Deviation)

Construct	Mean	Std. Deviation
Artificial Intelligence	4.08	0.64
Purchase Intention	4.01	0.66

Descriptive statistics were computed to examine the overall perception of respondents toward Artificial Intelligence and purchase intention. The mean value for Artificial Intelligence is 4.08 with a standard deviation of 0.64. This indicates that respondents generally agree that AI technologies are actively used and play an important role in virtual buying platforms.

Similarly, the mean value for customer purchase intention is 4.01 with a standard deviation of 0.66. This reflects that respondents exhibit a strong inclination toward purchasing products through online platforms. The relatively low standard deviation values for both constructs indicate consistency in responses and suggest that the perceptions of respondents do not vary widely.

These findings imply that Artificial Intelligence is widely accepted among consumers and that purchase intention in virtual buying environments is relatively high.

Table 6.3 Reliability Analysis

Construct	**No. of Items**	**Cronbach's Alpha**
Artificial Intelligence	5	0.912
Purchase Intention	6	0.898

Reliability analysis was conducted using Cronbach's Alpha to assess the internal consistency of the measurement scales. The Cronbach's Alpha value for Artificial Intelligence is 0.912, while the value for purchase intention is 0.898. Both values are well above the recommended threshold of 0.70, indicating a high level of reliability.

The results confirm that the items used to measure Artificial Intelligence and customer purchase intention are consistent and reliable.

Table 6.4 Correlation Analysis

Variables	**AI Tools**	**Customer Experience**
AI	1	
Purchase Intention	0.79**	1
****. Correlation is significant at the 0.01 level (2-tailed).**		

Pearson's correlation analysis was conducted to examine the relationship between Artificial Intelligence and customer purchase intention. The correlation coefficient between the two variables is 0.79, which is positive and statistically significant at the 1% level.

This indicates a strong positive relationship between Artificial Intelligence and purchase intention. It suggests that as the use of AI technologies increases, the likelihood of consumers making purchase decisions through virtual platforms also increases. The strength of the relationship highlights the importance of AI in influencing consumer behaviour in digital commerce.

Table 6.5 Regression Analysis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	**F**	**Sig.**
1	0.79	0.624	0.621	0.505	129.84	0.002
a. Predictors: (Constant), AI						

Regression analysis was performed to assess the impact of Artificial Intelligence on customer purchase intention. The model summary shows that the correlation coefficient (R = 0.79) indicates a strong relationship between the independent and dependent variables. The coefficient of determination ($R^2 = 0.624$) suggests that 62.4% of the variation in customer purchase intention is explained by Artificial Intelligence.

The adjusted R^2 value (0.621) is very close to the R^2 value, indicating the stability and reliability of the model. The F-statistic ($F = 129.84$, $p < 0.01$) confirms that the regression model is statistically significant and suitable for explaining the relationship between the variables.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	12	0.17	—	12.05	0.001
	AI	0.76	0.06	0.788	11.39	0.001
a. Dependent Variable: Customer Purchase Intention						

The regression coefficient for Artificial Intelligence ($\beta = 0.788$) is positive and statistically significant ($p < 0.01$). This indicates that Artificial Intelligence has a strong positive effect on customer purchase intention. The unstandardized coefficient ($B = 0.76$) implies that a one-unit increase in Artificial Intelligence leads to a 0.76 unit increase in purchase intention.

The constant value represents the baseline level of purchase intention when Artificial Intelligence is not considered. Since the significance value is less than 0.05, the null hypothesis ($H_0 1$) is rejected, and the alternative hypothesis ($H_1 1$) is accepted.

7. Findings of the Study

Based on the empirical analysis conducted, the following findings are derived:

1. The study reveals that Artificial Intelligence is widely adopted among consumers, as reflected by a high mean score (4.08), indicating strong acceptance of AI-enabled features in virtual buying platforms.

2. Customer purchase intention is found to be relatively high (mean = 4.01), suggesting that consumers are inclined toward making purchases through online platforms.

3. Reliability analysis confirms that the measurement scales are highly consistent, with Cronbach's Alpha values of 0.912 for Artificial Intelligence and 0.898 for purchase intention, indicating strong internal reliability.

4. Correlation analysis shows a strong and positive relationship between Artificial Intelligence and customer purchase intention ($r = 0.79$, $p < 0.01$), indicating that increased use of AI is associated with higher purchase intention.

5. Regression analysis demonstrates that Artificial Intelligence has a significant positive impact on purchase intention ($\beta = 0.788$, $p < 0.01$), explaining 62.4% of the variation in customer purchase intention.

6. The findings highlight that Artificial Intelligence enhances purchase intention by improving personalization, reducing decision-making effort, and increasing consumer trust in virtual buying platforms.

8. Conclusion

The present study establishes that Artificial Intelligence plays a significant role in influencing customer purchase intention in virtual buying environments. The empirical results demonstrate that AI technologies enhance consumer decision-making by providing personalized recommendations, improving interaction quality, and delivering relevant information.

The strong positive relationship between Artificial Intelligence and purchase intention indicates that AI-driven platforms are more effective in attracting and converting consumers. The ability of AI to reduce uncertainty, improve trust, and facilitate efficient decision-making makes it an essential component of modern e-commerce systems.

The study further confirms that Artificial Intelligence is not merely a technological enhancement but a strategic factor influencing consumer behaviour. E-commerce firms that effectively integrate AI technologies can enhance customer engagement, strengthen purchase intention, and achieve competitive advantage.

Overall, the study contributes to the growing body of knowledge on Artificial Intelligence in digital commerce and provides practical implications for businesses aiming to leverage AI for improving consumer purchase behaviour.

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