

The Role of AI Adoption in Shaping Consumer Behaviour and Purchase Intention in Digital Commerce

OPEN ACCESS

Volume: 13

Special Issue: 1

Month: March

Year: 2026

P-ISSN: 2321-4643

E-ISSN: 2581-9402

Citation:

Ramya Shree, AM. "The Role of AI Adoption in Shaping Consumer Behaviour and Purchase Intention in Digital Commerce." *Shanlax International Journal of Management*, vol. 13, no. S1, 2026, pp. 284–92.

DOI:

<https://doi.org/10.34293/management.v13iS1-Mar.10778>

AM. Ramya Shree

*Assistant Professor, Department of Commerce
Jain College Autonomous, Bengaluru*

Abstract

E-commerce marketing now uses artificial intelligence (AI) technologies to provide personalized recommendations together with intelligent search functions and automated customer support systems which create marketing systems that drive consumer decision- making during online shopping. The research investigates how AI implementation AIP affects customer PI through the extended TAM framework. The model evaluates how AIP affects three fundamental beliefs which include PU and PEOU and PR while it studies how these beliefs impact CX which leads to PI. The researchers collected information through a structured questionnaire which they distributed to 384 online consumers and they used SEM to examine their research propositions. The researchers conducted reliability and validity tests on the measurement model before testing the structural path. The study results demonstrate that AI adoption leads to positive impacts on PU and PEOU while it creates negative impacts on PR in customer experience. The researchers found that customer experience serves as the main process which transforms AI technology acceptance beliefs into actual purchasing behaviour. The study shows that customers trust AI systems when these systems provide beneficial features and their data handling methods are completely visible to users. The research establishes new evidence through its investigation of AI usage in marketing and online retailing which shows how AI technology affects customer behaviour through experiential channels, while also offering practical guidance to e-commerce businesses that want to enhance their conversion rates.

Keywords: AI Adoption, e-commerce, AI Marketing, Consumer Behaviour, TAM Model, Customer Experience

Introduction

Digital commerce, which people also call The term “e-commerce” is used to characterize exchanges of products and services conducted over the Internet through secure online platforms such as eBay and Shopify and Amazon. The system uses standard technologies to enable businesses to reach international markets while delivering customized marketing solutions and improved communication tools for seller-buyer interaction and multimedia content. E-commerce provides continuous service throughout the day because it operates 24 hours and customers can access it at any time. The 5Cs of digital commerce provide essential operational principles which include Commerce for transaction processing and Collaboration for partner development and Communication for digital user interaction

and Connection for business software integration and Computation for resource optimization. Various transaction models are established, including B2B, where transactions occur between businesses; B2C, involving direct sales to consumers; C2C, enabling individual exchanges; C2B, where individuals sell to companies; and B2A and C2A for transactions with government entities. Additionally, mobile commerce (M-commerce) further enhances the digital transaction landscape, providing convenience and greater accessibility through mobile devices (Mwiinga & Mugala, 2024). Artificial intelligence (AI) has drastically changed a number of industrial areas in recent decades, most notably business. AI makes it easier to automate manual tasks and provides data-driven insights that improve decision-making and operational effectiveness. Artificial intelligence (AI) can be essential for competitiveness for start-ups, which have limited resources and a heavy reliance on digital technology. It can help with tasks like supply chain optimisation and consumer data analysis. Adoption of AI, however, may be delayed by hurdles like high implementation costs, a lack of experience, and moral and legal dilemmas (Irman & Putra, 2025).

Start-ups experience major benefits from AI implementation because it helps them develop better growth methods, increases their ability to satisfy customers, and creates more efficient business operations while it brings access to new market possibilities (Kulkov, 2021). The operating expenses of start-ups together with their insufficient experience and their system compatibility problems will prevent them from competing with larger companies except through AI technology. The planning process for system integration needs to provide complete business protection while it handles data security issues and privacy protection requirements. Organizations must manage data and make their algorithms visible to the public because these practices will help them meet ethical standards and legal requirements which support their operational growth. People nowadays choose shopping methods which provide them with customized experiences and dependable service. Online shopping systems benefit from AI tools such as chatbots because they boost shopper trust and make it easier for customers to make purchasing decisions (Ahn et al., 2022).

The online retail services use three main components which include digital platform trust and customer reviews as social proof and artificial intelligence together with augmented reality for customized shopping experiences. These elements determine how customers select products and how they build loyalty to platforms while making unplanned purchases. The internet buying process consists of three steps which start with awareness as customers discover products and proceed through consideration when they evaluate different options before they complete their purchase decision. The entire shopping process needs to be understood because all three stages rely on trust factors established by customers (Parihar, 2025).

With the recent innovation of AI by content creators, audience engagement in online markets has totally transformed. Research demonstrates that automated customer service, AI-generated ads, and tailored product suggestions increase consumer trust and perceived convenience, which in return increases buy intentions. Chatbots and virtual assistants driven by AI also lessen consumer confusion when purchasing online by resolving typical issues with product selection and after-sale services (Kumari & Thakur, 2025).

The content that follows is structured as follows: The literature review on this subject is included in Section 2. We go into further detail about the study approach in Section 3. In Section 4, we provide the outcomes and conclusions of the data analysis. A conclusion and implications are presented in Section 5.

Literature Review

(Credibility & E-commerce, 2025) examined that fashion business is employing AI-based marketing techniques, particularly chatbots, to enhanced their brand presence 27/7 and achieve

a competitive advantage. The research set out to first investigate the effects of CPU & CPC on BL within the fashion retail business. This study's findings indicated that CPU, CPC, and BL are significantly related and positively correlated. When using chatbots can help build trust as well as provide a better experience to the end customer, hence increasing conversion rates. The study's findings indicated that a successful chatbot must be able to respond intuitively to the customer, increasing transparency as well as credibility to generate brand loyalty.

(E-commerce & Istiqomah, 2024) determined the role of attitude towards use as a mediator variable between perceived benefit and perceived ease of use that influences actual use, with an emphasis on the Indonesian market for online clothing retailers. The study used a quantitative-explanatory research approach and surveyed 270 individuals with two or more purchases made in the fashion e-commerce sector. Perceived ease of use and perceived benefit both positively affect both actual and attitude-based usage, according to the results. Additionally, the findings revealed that attitude towards use partially mediated the influence of perceived benefit and perceived ease of use on actual use.

(Lopes et al., 2024) investigated the role played by artificial intelligence (AI) in improving e-retailing by developing algorithms for customer engagement. This study set out to answer the question, "How do subjective norms, faith, consciousness, and perceived control relate to the ease of use enabled by AI and its relation to purchase intention?" by surveying 1438 Portuguese consumers about their thoughts and feelings about AI. According to the study's results, subjective standards have no impact on the AI-enabled usability, but beliefs, awareness, and perceived control do. This research provided a model that influenced on purchase intention and further explored the role played by AI in e-commerce.

(Phamthi, 2024) aimed to conduct a systematic review of the 133 research articles on the influence of perceived risk on purchase intention (PR&PI) in the context of electronic commerce, with particular emphasis on the trends in the theories, contexts, and methods with the application of the theory-context-method (TCM) approach. This research also aimed to apply the SOR approach for the identification of the factors affecting the PR & PI. This research also aimed to provide an approach for businesses on the management of risk, as well as the risk perceptions, emotions, and responses of the consumers, which would be helpful for the electronic businesses.

(Tinggi et al., 2023) involved 198 samples was carried out to identify the relationship between perceived ease of use, perceived usefulness, trust, and loyalty. The results exhibited that the research has verified five out of the six proposed hypotheses. This means that there are direct connect the dots among trust, a sense of utility, imagined ease of use, perceived utility & commitment, and trust and loyalty. The theoretical contributions of the research were based on the intention of contributing to the development of customer loyalty theories based on the framework of the Technology Acceptance Model (TAM).

(Chen & Yang, 2020) examined the mediation effect of network structure embeddedness on the relationship between customer experience and consumer purchase intention, with the context of cross-border electronic commerce. The structural equation model was used to evaluate the findings of 321 online surveys in this research. The findings showed that customer cost and consumer purchase intention were mediated by network centrality and network density, whereas website relationship service and website ease of use were directly related. According to the results, it's crucial to use the network structure to establish rapport between online retailers and their customers, which extended the traditional marketing concept.

Research Gap

The research field of artificial intelligence has received extensive investigation yet existing studies have not achieved complete understanding of how TAM constructs and perceived risk and trust and customer experience affect e-commerce operations. The majority of research studies investigate single relationships which include three specific connections between perceived usefulness and brand loyalty and between perceived ease of use and actual usage and between perceived risk and purchase intention, and so on, without considering the overall model of artificial intelligence adoption. Some studies also found the mediator effect of attitude/psychosocial factor, while some other studies found the effect on customer satisfaction/loyalty, rather than direct purchase intention. In addition, few studies simultaneously investigated the effects of artificial intelligence adoption, technology acceptance beliefs (PU, PEOU, PR), customer experience, and purchase intention with a single structural model. Most studies mainly focused on the overall e-commerce environment, while some other studies focused on particular industries, such as fashion, rather than the digital commerce environment. Therefore, it is imperative that an integrated model be developed to demonstrate the influence of AI adoption on consumer actions and desire to buy as seen from the perspectives of tech-acceptance attitudes and customer experience in the digital commerce environment.

Objectives of the Study

- To examine the impact of AI adoption in e-commerce (AIP) on technology acceptance beliefs PU, PEOU, and PR.
- To analyze the influence of PU, PEOU, and PR on CX.
- To determine the effect of CX on PI in digital commerce.

Hypothesis of the Study

- H1: AI adoption in e-commerce (AIP) has a significant positive effect on PU, PEOU and PR.
- H2: PU and PEOU positively influence CX, while PR negatively influences CX.
- H3: CX has a significant positive effect on PI in digital commerce.

Research Methodology

The researchers conducted their study using a quantitative research design to assess how artificial intelligence adoption affects consumer behavior and their online shopping purchase intentions. The researchers collected research data through a structured questionnaire which they distributed to 384 participants who had previously used AI-based digital shopping platforms. The research created measurement items for AI adoption (4 items) perceived ease of use (4 items) perceived usefulness (4 items) perceived risk (5 items) customer experience (5 items) and purchase intention (4 items) using existing constructs through the Likert scale data collection method. The researchers used SEM to test their hypotheses by analysing the data they collected. The research team used multiple assessment techniques to evaluate measurement model reliability and validity through factor loading and construct consistency metrics. The results demonstrate that the model reaches acceptable fitting standards while all model components achieve suitable loading values. The research team analysed the structural model to test their proposed construct relationships by assessing path coefficients and testing variable significance levels. The research team established their research methodology to demonstrate how AI adoption impacts technology acceptance beliefs and customer experience and purchase intention in digital commerce settings.

Conceptual Framework

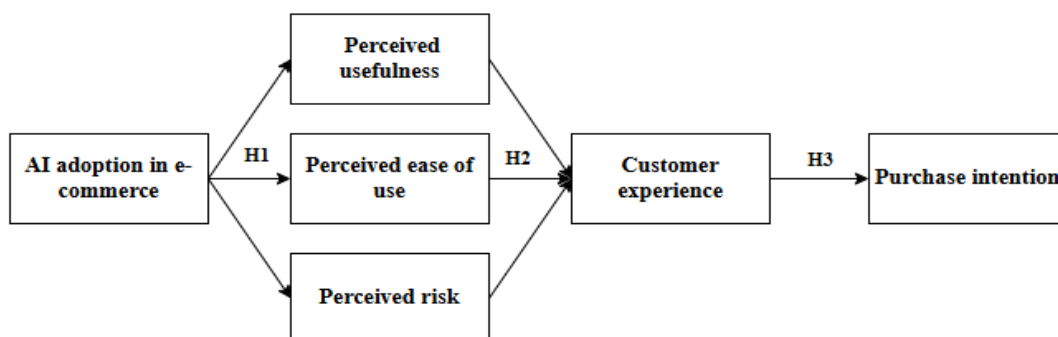


Figure 1 Conceptual Framework

Data Analysis

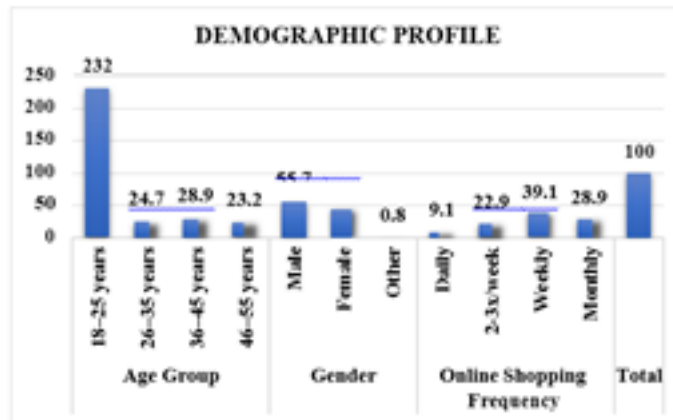
Results and Findings

Here we show the findings from the study that looked at how the use of AI affected online shoppers' actions and intentions to buy. To set the stage for the study, we will first go over the demographics of the people who took part in it. After this, the findings from the hypothesis testing are given, with an emphasis on the correlation between AI adoption, customer experience, perceived ease of use, perceived utility, risk perception, and purchase intention as determined by SEM.

Demographic Profile

Table 1 Demographic Profile

Variables		Frequency	Percentage (%)
Age Group	18–25 years	89	23.20
	26–35 years	85	22.00
	36–45 years	111	28.90
	46–65 years	89	23.20
Gender	Male	214	55.7
	Female	167	43.5
	Other	3	0.8
Online Shopping Frequency	Daily	35	9.1
	2-3x/week	88	22.9
	Weekly	150	39.1
	Monthly	111	28.9
Total		384	100.0



The demographic distribution of the 384 respondents reveals an almost equally distributed number of individuals across the different categories of age, gender, and online shopping frequency. Of the total number of respondents, 89 are in the 18–25 age bracket, 95 are in the 26–35 age bracket, 111 are in the 36–45 age bracket, and another 89 are in the 46–55 age bracket. This shows that those between the ages of 36 and 45 make up the bulk of the replies. In terms of the breakdown of the respondents by gender, we find that 214 are men, 167 are female, and 3 are classified as “other.” This indicates that men make up the bulk of the online shopping habit survey participants. Out of all the respondents, 35 buy something online every single day. This is in relation to the distribution of respondents across all categories of online shopping frequency, 88 of them shop online 2-3 times per week, 150 of them shop online weekly, and 111 of them shop online monthly. Given that 35% of the participants are shopping online once or more per week, the next sum-27%-suggests that they do the same but less frequently, i.e. once a month.

Hypothesis Implementation

Table 2 Hypothesis Implementation

Hypothesis	Relationship path			Estimates	Sig.p
H1	AI adoption	<---	Perceived ease of use	0.466	P<0.05
	AI adoption	<---	Perceived usefulness	0.517	P<0.05
	AI adoption	<---	Perceived risk	0.437	P<0.05
H2	Customer experience	<---	Perceived ease of use	0.356	P<0.05
	Customer experience	<---	Perceived usefulness	0.414	P<0.05
H2	Customer experience	<---	Perceived risk	-0.189	P<0.05
	Customer experience	<---	Purchase Intention	0.643	P<0.05

Users’ acceptance of digital commerce technologies depends on their existing technological beliefs about AI adoption. The study proves that AI implementation results in higher perceived ease of use (0.466, $p < 0.05$) and perceived usefulness (0.517) because smart recommendation systems and intelligent search systems enhance customer experience and decision-making process. AI adoption establishes a strong relationship with perceived risk which has a correlation value of 0.437 yet consumers maintain skepticism about AI technology despite its advantages. The customer experience factor plays a vital role in determining how people accept technology within

their organization. Customer experience establishes a significant positive link with perceived ease of use which reaches 0.356 at a statistical significance level below 0.05 because users find digital systems more accessible when they have enjoyable experiences with them. Customer experience increases perceived usefulness at the rate of 0.414 but it decreases perceived risk at the rate of -0.189 because consumers who have positive experiences become less worried about potential data privacy violations and security threats. The research demonstrates that customer experience affects purchase intention through a pathway that has a value of 0.643 and achieves statistical significance at $p < 0.05$. The research shows that AI- powered digital shopping environments create a seamless online experience which enables businesses to establish customer trust and emotional relationships with their customers.

Discussion

Collectively, the three studies highlight the impact of customer experience and artificial intelligence (AI) in facilitating change in consumer behaviors and business outcomes in the digital context. In their research, (Chen & Yang, 2020) emphasize the need for customer experience in the context of cross-border electronic commerce. There is a strong correlation between customer experience factors including website usability, relationship service, and pricing and the likelihood that a consumer would make a purchase, according to the study. Structured embeddedness in the network, including centrality and density, mediates this. Contributing to the conventional wisdom about marketing, this study draws attention to the reality that customers' buying behaviors are not only influenced by the direct experiential effects but are also influenced by consumers' network structure in the digital context. In another research, (Huang & Rust, 2021) developed a strategic artificial intelligence framework, which incorporates mechanical, thinking, and feeling artificial intelligence in the context of marketing research, strategy (STP), and action. Furthermore, (Ameen et al., 2023) have found that the customer experience with the help of AI depends on trust, perceived convenience, personalization, and perceived sacrifice. Trust and relationship commitment have been found to be the pivotal roles as the mediator. The three studies have found that the technology-based customer experiences are effective for the purchase intention and loyalty with the help of technology, as well as the help of relationship mechanisms such as trust building, positioning, and personalization, which redefine the traditional meaning of competitive advantage.

Conclusion and Implications

The research study shows AI adoption creates a major effect on consumer behavior which affects their online shopping choices through digital commerce. AI technologies enable better shopping experiences for consumers by developing digital commerce platforms which customers find simple to operate and advantageous. People show higher acceptance of these technologies because their positive perception of these technologies. The study needs to address trust issues because trust functions as a vital element required to understand technological progress. The positive experiences that customers have with a product will enhance their perception of its usability and value while decreasing their assessment of security threats. The customers develop trust in AI technologies through secure interactions which also help to decrease their doubts about the system. Customer experience serves as the main element which determines whether customers will decide to make a purchase. AI-based solutions which deliver personalized experiences to users establish trust and emotional bonds with users, which results in higher purchase intent from those users. Digital commerce needs AI technology to operate successfully because it requires both advanced technical systems and exceptional customer experiences that result from strategic AI deployment on digital platforms. Implications

The research results contribute significantly to the fields of theory and practice applications. The study advances technology acceptance research by demonstrating that AI technology adoption affects users' impressions of the product's usability, use, and real customer experiences which together drive purchase intention. The research demonstrates that digital commerce companies should develop AI systems which make it easy for users to understand information because these systems will enable better decision-making during purchases. The solution to customer worries about artificial intelligence implementation requires businesses to make their AI systems work better. Businesses need to use customer experience data from their operations to select AI systems that will optimize their online sales performance because customer experience data drives consumer purchasing choices. Digital commerce companies can build customer trust and drive higher buying rates by using their technological advancements and commitment to enhancing customer experience.

References

1. Ahn, S., Kim, K., & Lee, K. (2022). Technological Capabilities, Entrepreneurship and Innovation of Technology-Based Start-Ups : The Resource-Based View. <https://doi.org/https://doi.org/10.3390/joitmc8030156>
2. Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2023). Computers in Human Behavior Customer experiences in the age of artificial intelligence. *Computers in Human Behavior*, 114 (September 2020), 106548. <https://doi.org/10.1016/j.chb.2020.106548>
3. Chen, N., & Yang, Y. (2020). Journal of Retailing and Consumer Services The impact of customer experience on consumer purchase intention in cross-border E-commerce —— Taking network structural embeddedness as mediator variable. *Journal of Retailing and Consumer Services*, October, 102344. <https://doi.org/10.1016/j.jretconser.2020.102344>
4. Credibility, P., & E-commerce, B. L. I. (2025). ArtificialIntelligence Transformations in Marketing: the Nexus Between Chatbots' Perceived Usefulness, Perceived Credibility, and Brand Loyalty In E-Commerce. July, 455–467. https://www.researchgate.net/scientific-recruitment/?utm_source=researchgate&utm_medium=community-loggedout&utm_campaign=indextop&_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InBYmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19
5. E-commerce, A. F., & Istiqomah, P. (2024). Navigating Style : Exploring the Influence of Perceived Benefit and Perceived Ease of Use on Attitude Towards Use in. 05(01), 1–14. <https://doi.org/10.24123/jeb.v5i1.6070>
6. Huang, M., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. 30–50.
7. Irman, D., & Putra, D. (2025). AI Adoption in Business : Opportunities and Challenges for Start-ups. 6(1), 99–104. <https://doi.org/10.46336/ijbesd.v6i1.881>
8. Kulkov, I. (2021). Technology in Society The role of artificial intelligence in business transformation : A case of pharmaceutical companies. *Technology in Society*, 66(August 2020), 101629. <https://doi.org/10.1016/j.techsoc.2021.101629>
9. Kumari, A., & Thakur, P. (2025). Examining the Factors Influencing Online Purchase Intention : A Digital Marketing Perspective. 1291–1303. <https://doi.org/10.32628/IJSRST251222656>
10. Lopes, M., Silva, L. F., & Massano-cardoso, I. (2024). behavioral sciences AI Meets the Shopper : Psychosocial Factors in Ease of Use and Their Effect on E-Commerce Purchase Intention. <https://doi.org/https://doi.org/10.3390/bs14070616>
11. Mwiinga, P., & Mugala, S. (2024). DIGITAL COMMERCE A Comprehensive Guide to E- Commerce Systems E-COMMERCE. 1–41. <https://doi.org/10.5281/zenodo.14567802>

12. Nuralam, I. P., Yudiono, N., Robith, M., Fahmi, A., Yuliaji, E. S., & Hidayat, T. (2024). Perceived ease of use, perceived usefulness , and customer satisfaction as driving factors on repurchase intention: the perspective of the e- commerce market in Indonesia. *Cogent Business & Management*, 11(1). <https://doi.org/10.1080/23311975.2024.2413376>
13. Parihar, N. (2025). Consumer Behavior in Online Retailing : Factors , Trends and Implications in India. *XII(2321)*, 972–977. <https://doi.org/10.51244/IJRSI>
14. Phamthi, V. A. (2024). The influence of perceived risk on purchase intention in e-commerce — Systematic review and research agenda. November 2023, 1–28. <https://doi.org/10.1111/ijcs.13067>
15. Threstia, Y., B, E. A., & Trisnawati, J. D. (2023). The Influence of Customer Experience and Perceived Risk on Online Purchase Intention. *Atlantis Press International BV*. <https://doi.org/10.2991/978-94-6463-008-4>
16. Tinggi, S., Ekonomi, I., & Tarakan, B. (2023). The Effect of Perceived Ease of Use and Perceived Usefulness on Trust , Loyalty of E-Commerce Customers (Issue 74). *Atlantis Press International BV*. <https://doi.org/10.2991/978-94-6463-008-4>