



CONSUMER ACCEPTANCE OF THE USE OF ARTIFICIAL INTELLIGENCE IN ONLINE SHOPPING: EVIDENCE FROM INDIA

Het Shah, Raj Raghuwanshi, Pritam Paul
Students, PGDM (Marketing), PIBM Pune, India

Abstract :

Artificial Intelligence (AI) is transforming e-commerce worldwide into an effortless and personalized experience of buying. It relies on being accepted by the consumers. The secondary research study employs a systematic literature review approach where in a bid to synthesize the evidence from the theory perspectives as well as empirical research literature as an attempt to formulate drivers of consumer acceptance of buying online using AI. Aging according to the theoretical frameworks of the Technology Acceptance Model (TAM), the article critically reviews and synthesizes evidence from some of the grass-root research conducted in Hungary (Nagy & Hajdú, 2021) and India (Geetha & Barathi Dasan, 2024) and others. Synthesis acknowledges that Perceived Usefulness (PU) and Trust are the most rudimentary determinants of attitude and behavior intention towards AI-based e-commerce. While the inherent TAM relationships hold true in any environment, the Indian study also demonstrates very strong direct effect of Trust over all of the inherent constructs (PU, PEOU, and Attitude), and it demonstrates greater significance towards establishing trust in emerging economies and multicultural economies such as India. Finally, the paper concludes by indicating areas of research needs and recommendations for future research on AI usage in diversified Indian e-commerce.

Index Terms - Artificial Intelligence, Online Shopping, Technology Acceptance Model, Consumer Trust, Perceived Usefulness.

INTRODUCTION

Indian e-commerce has witnessed historic growth with increasing internet penetration, low-cost smartphones, and digitally-driven customers. Trends in the industry had indicated that the industry would grow to USD 200 billion by 2026 (IBEF, 2024). Even the COVID-19 era hastened this change further at a quicker speed, compelling millions of households, even Tier-2 and Tier-3 cities, to shift to online for convenience and security. For catering to this newly emerging and multi-cultural consumer base, web sites increasingly rely on Artificial Intelligence features like product recommendation sites with products based on web surfing history, virtual assistants and chatbots for real-time

customer support (e.g., Haptic of Jio Mart, Paytm), voice ordering in Hindi and mother tongue through Amazon Alexa and Google Assistant, visual search powered by AI and virtual try-ons enabled by retailers like Myntra and Nykaa. These technologies have become significantly more convenient and tailored for shopping but did so while

simultaneously creating underlying issues of consumer privacy, transparency, and trust. It is thus imperative to the future of India's digital retail revolution to comprehend consumers' interactions with AI.

Indian Brand Equity Foundation (IBEF) estimate indicates that the Indian e-commerce sector will be worth USD 200 billion by 2026. Similarly, a literature review study by Nougaraheya, Shetty, and Mandloi (2021)

outlines that the Indian e-commerce industry, which was around USD 38.5 billion in 2017, would reach USD 200 billion by 2026, estimating the gigantic size of the industry.

NEED OF THE STUDY

Despite AI's potential, its acceptance depends on consumer trust, ease of use, and cultural factors. Tier-2 and Tier-3 city consumers often show hesitance due to privacy concerns and low awareness. Understanding these dynamics is crucial for effective AI integration in Indian e-commerce.

OBJECTIVES

1. To understand how AI strategies assist e-commerce businesses in engaging customers.
2. To identify major hurdles to AI adoption in Indian e-commerce.

LITERATURE REVIEW

Wang, C.et al. (2023) had presented "An Empirical Evaluation of Technology Acceptance Model for Artificial Intelligence in E-commerce." The research is abstracted as follows: Artificial Intelligence (AI) is revolutionizing e-commerce with technology such as chatbots, recommendation systems, personalization, and automation. From the research, it is the Technology Acceptance Model (TAM) that describes that perceived usefulness, ease of use, trust, and subjective norms play important roles in determining consumer attitude and behavioural intentions towards AI usage. From the research, efficacy, customer satisfaction, and marketing

have been enhanced through AI but acceptability depends greatly on ease of use and trust. As more business is being done online, AI will be the domain to be worked upon developing customer-focused and eco-friendly e-commerce websites.

Singh, C., Dash, M.K., Sahu, R., & Kumar, A. (2024), titled "Acceptance Intentions of Online Shopping

Assistants in E-commerce Interactions: Mediating Role of Trust and Effects of Consumer Demographics." The research concludes that Online Shopping Assistants like chatbots are increasingly turning into a facilitatory need of e-commerce to serve customers towards effective personalized shopping. Usefulness, usability, enjoyment, trust, anthropomorphism, and sociability are friendly to customer acceptance, while privacy

concerns are unfavorable. Trust is the intervening variable that is in between and spans social and functional features to consumer acceptance and consumer attitude. Gender and education are also consumer segments that have proven to be effective moderators of acceptance, and educated consumers and women have been found to have greater trust-mediated adoption. Despite privacy concerns and human concerns, OSAs can

likely make web shopping experiences as easy, trustworthy, and personalized. Since e-commerce is expanding, businesses must pay attention to creating established, human-centric, and amicable OSAs to induce more

usage in different consumer groups.

Geetha and Barathi Dasan (2024), through their "Consumer Perception Towards the Usage of Artificial

Intelligence in Online Shopping: A Study with Special Reference to Chennai City" article explained how AI influences consumer consumption in line with the Technology Acceptance Model (TAM). From empirical evidence of 379 Chennai online consumers, the research concluded that there is a significant role to play for trust in perceived usefulness (PU), perceived ease of use (PEU), and consumer attitude and PU has a significant role to play in behavioral intentions

Nagy and Hajdú (2021) in their "Consumer acceptance of the use of artificial intelligence in online shopping: Evidence from Hungary" determined that consumers increasingly embrace the use of AI in online buying, especially where it is applied to personalization and convenience shopping. Concerns with data privacy and human touch still prevail. Davis (1986) had previously worked on the Technology Acceptance Model (TAM), where perceived ease of use and perceived usefulness were most predictive of technology acceptance. The model has served as a conceptual basis for research on online consumer adoption behavior. Gefen, Karahanna, and Straub (2003) in their work "Trust and TAM in online shopping: An integrated model" have given an extremely high rating to trust and TAM aspects. In accordance with their study, ease of use and usefulness

were unavoidable but trust could boost consumers' intentions to make use of online shopping assistants. On the whole, it appears that the evidence is that AI usage in online shopping is not simply about technical

capability but about consumer willingness and trust, the implication being that psychological rather than functional motivators are needed to stimulate adoption.

RESEARCH METHODOLOGY

The research employs a systematic kind of secondary research, called a Systematic Literature Review (SLR). The intention of using such an approach is to identify, assess and synthesize peer-reviewed articles and literature published in the form of empirical and academic articles to further understand the factors which impact consumer acceptance of Artificial Intelligence (AI) in e-commerce in the context of India, thus allowing for a systematic approach to be used in the study to ensure transparency, validity and potential repeatability of the research design.

RESULTS AND DISCUSSION

Analysis shows that perceived usefulness, ease of use, and trust significantly affect behavioral intention to use AI-based platforms. Trust plays a stronger role in India due to diverse cultural and economic factors.

CONCLUSION

This article represents a systematic review of the literature on consumer acceptance of AI in e-commerce, specifically as it relates to an understanding of the Indian market context. Through the use of the Systematic Literature Review process, a well-rounded view was created based on several peer-reviewed studies that discuss the key factors influencing consumer behavior toward AI-based online shopping sites.

As a result, this review established that PEOU supports and facilitates but does not directly influence behavioral intention through perceived usefulness and trust. Additionally, the Indian context involves a number of unique influencing contexts, including cultural diversity, different levels of digital literacy, and regional economic disparities, among other factors, that shape consumer experience with AI-based shopping systems.

Some of these gaps in the literature are: (1) they do not explore consumer acceptance and trust at a pan-Indian level (including Tier 2 and Tier 3 cities); (2) limited diversity of demographic and psychographic moderators; and (3) they do not include qualitative research that may inform consumers' emotions and cultural factors that accept AI technologies. Addressing these areas of researcher interest through a mixed-method research approach may enhance our general understanding of how Indian consumers develop trust and acceptance for technologies and AI-based systems.

This indicates that AI will need to be morally motivated not just by the continuation of technological advancement but also through their shared commitment to bolster transparency, trust, and comfort to the user before it would have a future in the context of Indian e-commerce or any ecosystem. Engineer ethical and human-centered AI systems, strengthen way fair customer education, and establish simple digital formats would further promote ethical AI and will uphold continuous use and reassurance to the user.

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