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ARTIFICIAL INTELLIGENCE AND THE FUTURE OF COMMERCE

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Abstract:

Artificial Intelligence (AI) is becoming an important force in the transformation of contemporary commerce. Its applications now extend across marketing, retail, e-commerce, customer service, forecasting, decision support, supply chain management, and business operations. This paper examines the role of AI in shaping the future of commerce by synthesising existing academic literature on AI-enabled commercial transformation. The study adopts a conceptual and descriptive approach based on a narrative review of peer-reviewed secondary literature. The review focuses on five interrelated themes: personalisation and consumer engagement, predictive decision-making, intelligent automation, AI-mediated customer experience, and responsible AI governance. The synthesis indicates that AI is shifting commerce from standardised to increasingly personalised interactions, from reactive to predictive decision-making, and from predominantly manual processes towards human-AI collaboration. These developments can improve efficiency, relevance, convenience, innovation, and competitiveness. At the same time, expanded use of consumer data and algorithmic decision-making creates significant concerns related to privacy, transparency, bias, accountability, consumer autonomy, and workforce transformation. The paper argues that technological capability alone is insufficient to create sustainable commercial value. The future of commerce is likely to depend on the ability of organisations to combine AI capabilities with human judgement, consumer trust, ethical governance, and sustainability considerations. A conceptual framework is proposed in which AI-enabled capabilities influence commerce transformation and commercial outcomes, while responsible governance acts as a critical enabling condition. The paper concludes that competitive advantage in an AI-enabled economy will depend not merely on the speed of AI adoption, but on how effectively and responsibly organisations integrate AI into commercial systems and stakeholder relationships.

Keywords: Artificial Intelligence, Commerce, Digital Transformation, E-Commerce, Consumer Engagement, Business Innovation

Introduction

Artificial Intelligence (AI) has emerged as one of the most influential technologies shaping the future of commerce. The rapid growth of digital platforms, e-commerce, data analytics, and automated systems has changed the way businesses interact with consumers, make decisions, manage operations, and create value. AI is further accelerating this transformation by enabling businesses to analyse large volumes of data, predict consumer behaviour, personalise experiences, automate routine processes, and improve decision-making.

The application of AI is increasingly visible across marketing, retail, e-commerce, customer service, supply chain management, and other commercial activities. Technologies such as machine learning, recommendation systems, predictive analytics, chatbots, and generative AI are helping organisations move from traditional and standardised approaches towards more personalised, predictive, and data-driven models of commerce. At the same time, AI is changing consumer expectations by providing faster, more convenient, and increasingly customised experiences.

However, the growing use of AI also presents significant challenges. Issues related to consumer privacy, data security, algorithmic bias, transparency, employment, accountability, and trust have become important considerations for businesses. Furthermore, the long-term value of AI depends not only on technological adoption but also on how responsibly and sustainably organisations integrate it into their commercial practices.

Literature Review

1. Leveraging AI to Drive Online Impulse Buying: A SOBC Perspective — Khalid Shamim & Subhas Chandra Misra — 2025

The study examines how AI-enabled services influence online impulse buying among Indian consumers using the Stimulus-Organism-Behaviour-Consequence framework. Data were collected from 325 Indian online shoppers and analysed through structural equation modelling. The findings indicate that AI service quality, including security, reliability, accuracy, timeliness and interface quality, significantly influences consumers' hedonic and utilitarian value perceptions. Personalisation also contributes positively to both forms of perceived value, while hedonic value has a particularly important influence on the urge to make impulse purchases. Trust further strengthens the relationship between the urge to buy and actual impulse buying. The study establishes the growing influence of AI on online consumer behaviour, but its focus on impulse buying leaves scope for research examining the broader effects of AI on planned purchases, loyalty, long-term engagement and other dimensions of Indian digital commerce.

2. Predicting Consumer Intentions for Shopping Using Generative AI Chatbots — Sana Zehra Kamoonpuri & Anita Sengar — 2025

The study investigates consumers' attitudes and behavioural intentions towards using generative AI chatbots for retail shopping. Based on the Theory of Planned Behaviour, data were collected from 448 adult shoppers in India and analysed using PLS-SEM. Shopping enjoyment, optimism and perceived control emerged as important predictors of positive attitudes towards generative AI chatbots, while attitude subsequently influenced consumers' intention to shop through such systems. The need to physically touch products negatively affected both attitudes and behavioural intentions, highlighting that AI adoption may vary according to the characteristics of the shopping task. The research provides valuable early evidence concerning generative AI in Indian retail but concentrates primarily on adoption intention, leaving scope to investigate actual purchasing behaviour, repeat usage, trust development and long-term consumer relationships with generative AI shopping systems.

3. Transforming Customer Engagement with Artificial Intelligence E-Marketing: An E-Retailer Perspective in the Era of Retail 4.0 — Rajat Kumar Behera — 2024

The study investigates the use of artificial intelligence e-marketing in transforming customer engagement within the Retail 4.0 environment. Primary data from 305 e-retailer customers were analysed quantitatively to understand how AI-enabled marketing applications contribute to engagement. The findings indicate that AI e-marketing has considerable potential to improve customer engagement by integrating customer data, digital technologies and personalised interactions into e-retailing processes. It positions AI as an important component of the transition towards technology-driven retail experiences. However, the study primarily examines engagement from an e-retailing perspective, creating scope for further research on how AI marketing affects consumer trust, purchase behaviour, brand relationships and long-term loyalty across different Indian commercial sectors.

4. Investigating Chatbot Users' E-Satisfaction and Patronage Intention Through Social Presence and Flow: Indian Online Travel Agencies (OTAs) — Nisha Pradeepa S.P., Asokk D., Prasanna S. & Ansari Sarwar Alam — 2024

The study investigates how AI-enabled chatbot characteristics affect e-satisfaction and patronage intention among customers of Indian online travel agencies. Data from 397 chatbot users were analysed using covariance-based structural equation modelling. The findings show that e-satisfaction positively influences patronage intention and that social presence, flow and chatbot usability contribute to consumer satisfaction. Perceived anthropomorphism and the need for human interaction also influence relationships among chatbot usability, social presence and flow. The research demonstrates that effective AI interaction requires more than technical functionality because psychological and social characteristics also affect customer responses. However, its concentration on Indian online travel agencies creates scope for research across retail, banking, fashion and other commercial contexts.

5. Journey of Customers in This Digital Era: Understanding the Role of Artificial Intelligence Technologies in User Engagement and Conversion — Surajit Bag, Gautam Srivastava, Md Mamoon Al Bashir, Sushma Kumari, Mihalís Giannakis & Abdul Hannan Chowdhury — 2021

The study examines the role of AI technologies in influencing user engagement, conversion, online shopping experience and repurchase intention in India. Primary consumer data were used to empirically test relationships between digital technologies and different stages of the customer journey. The findings establish a positive relationship between AI technology deployment, user engagement and conversion, while conversion contributes to a satisfying customer experience and satisfactory experiences subsequently influence repurchase intention. The study provides useful evidence that AI can influence multiple stages of the digital customer journey rather than only the initial purchase decision. However, it was conducted during the unusual conditions of the COVID-19 period, creating scope for contemporary research examining whether these relationships remain consistent in India's post-pandemic and increasingly generative-AI-driven commercial environment.

6. Role of Artificial Intelligence on Consumer Buying Behavior: The Dual Effects of AI-Enabled Features on Decision-Making and Trust — Rishika Bhojwani, Justin Paul & Rajesh Srivastava — 2026

The study investigates how different AI-enabled features, particularly recommendation engines, chatbots and comparison tools, affect consumer trust, decision-making ease and purchase intention in the context of electronic products. Structural equation modelling is used to examine how these AI capabilities influence consumer outcomes. The findings indicate that AI features can simplify product evaluation, increase perceived usefulness and improve consumer confidence and satisfaction. At the same time, privacy risks, excessive technological dependence and decision fatigue can negatively affect consumer trust. The research is valuable because it does not treat AI as one homogeneous technology but compares different AI features throughout the consumer journey. However, its concentration on electronic products creates an opportunity to examine whether the same relationships apply across other product and service categories within Indian commerce.

7. Influence of Artificial Intelligence on Consumers' Lifestyle Product Choices and the Key to Driving Sustainable Behaviour — 2025

The study examines the influence of consumers' AI experiences on sustainable behaviour while considering the mediating roles of perceived value, customer engagement and purchase intention. A quantitative survey of 421 young consumers from Delhi-NCR was analysed using structural equation modelling. The results demonstrate that AI experience significantly affects perceived value and that perceived value plays an important role in connecting AI experiences with customer engagement and sustainable behaviour. The study is particularly useful because it links artificial intelligence with both consumer purchasing and sustainability rather than treating them as independent research areas. However, the sample is restricted to young consumers in Delhi-NCR, creating scope for research covering different age groups, geographical regions and commercial categories across India.

8. Analyzing the Impact of Artificial Intelligence on the Online Purchase Decision-Making

Process Through the Lens of the UTAUT 2 Model — Rinku Sharma Dixit, Shailee Lohmor Choudhary & Nikhil Govil — 2025

The study examines how artificial intelligence affects consumers' online purchase decision-making using the UTAUT2 framework. It considers factors including trust, habit, hedonic motivation, perceived risk, personal innovativeness, effort expectancy and social influence to understand consumers' adoption of AI-enabled shopping technologies. The findings indicate that behavioural intention is an important predictor of actual usage, while trust, habit, hedonic motivation and personal innovativeness contribute substantially to consumers' willingness to use AI. Perceived risk negatively influences adoption. The research demonstrates that AI adoption is influenced by psychological and behavioural factors alongside technological usefulness. However, its geographical concentration on Delhi-NCR limits generalisation across India's highly diverse digital consumer population, creating scope for comparative regional studies.

9. Consumer-Brand Relationships with AI Anthropomorphic Assistant: Role of Product Usage Barrier, Psychological Distance and Trust — Vimi Jham, Gunjan Malhotra & Nidhi Sehgal — 2023

The study investigates how anthropomorphic AI assistants influence relationships between consumers and brands using questionnaire data collected from Indian consumers. The findings show that product usage barriers and psychological distance mediate the relationship between AI anthropomorphic assistants and consumer-brand relationships, while trust performs an important moderating role. The research demonstrates that making AI appear more human-like can potentially strengthen brand relationships, but consumer responses depend on psychological distance, perceived difficulty and trust. The study contributes to understanding AI from a relationship-marketing perspective rather than viewing it purely as an operational technology. However, the research leaves scope for examining newer forms of anthropomorphic AI, including generative AI assistants, virtual influencers and conversational shopping agents.

10. Exploring India's Generation Z Perspective on AI Enabled Internet Banking Services — Shaheema Hameed & Abhinav Nigam — 2022

The study investigates Generation Z consumers' comfort with and usage of AI-enabled internet banking services in India. The findings reveal an important distinction between technological familiarity and actual adoption: despite being generally technology-oriented, Generation Z consumers do not necessarily perceive significant advantages from using AI-enabled banking services, and interpersonal communication remains important. The research demonstrates that being digitally comfortable does not automatically translate into willingness to adopt AI services. However, the study focuses only on Generation Z and banking, creating a gap concerning other age groups and commercial contexts. Further research can investigate how age, trust, perceived usefulness and preference for human interaction influence AI adoption across broader Indian commerce.

11. Feature Importance of E-Consumers Behaviour and Perceived Risk in Retailing — Tejus Sangameshwara & P. Nagesh — 2026

The study uses artificial intelligence and machine learning to examine e-consumer buying behaviour, repurchase intention and perceived risk using data from 500 digital retail buyers. A Random Forest model is employed to identify the relative importance of factors such as product features, clarity, product image, feedback, advertisements and product information. The predictive models demonstrate strong discriminative performance for both repurchase intention and willingness to take risks. The research shows how AI can support data-driven segmentation, personalisation and retail decision-making by predicting consumer behaviour rather than merely describing it. However, the study concentrates on predictive feature importance, leaving scope for research integrating machine-learning predictions with psychological constructs such as consumer trust, AI awareness and perceptions of algorithmic personalisation.

12. Framework for Adoption of Generative AI for Information Search of Retail Products and Services — Astha Sanjeev Gupta & Jaydeep Mukherjee — 2025

The study investigates the psychological factors affecting consumer adoption of generative AI for searching information about retail products and services. Thirty-one in-depth interviews with early generative-AI users were analysed using grounded theory and thematic analysis. The findings indicate that consumers experience uncertainty about how generative AI operates and that trust plays an important role in adoption and continued usage. The research is especially relevant to future commerce because generative AI can potentially reduce information overload and change traditional online product-search behaviour. However, the qualitative and early-adopter nature of the study limits generalisation to the broader Indian consumer population. Future quantitative research can test the framework among larger consumer samples and examine whether information-search behaviour ultimately translates into actual purchases.

13. Importance of AI Attributes in Indian Retail Stores: A Conjoint Analysis Approach — Kavita Srivastava & Divyanshi Pal — 2024

The study examines the relative importance Indian consumers attach to five AI-enabled retail attributes: chatbots, facial recognition, virtual fitting rooms, smart parking and cashier-free stations. A conjoint experiment required consumers to evaluate different combinations of these technologies. Retail chatbots emerged as the most preferred AI attribute, followed by facial recognition, virtual fitting rooms, smart parking and cashier-free stations. Consumers also differed significantly in their preferences, demonstrating that there is no universally preferred AI retail experience. The study provides valuable evidence about Indian shoppers' receptivity to AI-enabled physical retail technologies. However, it primarily measures stated preferences rather than actual adoption and purchasing behaviour, creating scope for field experiments and longitudinal studies examining real-world usage of these technologies.

14. Unlocking the Potential of AI: Enhancing Consumer Engagement in Beauty and Cosmetic Product Purchases — Debarun Chakraborty, Aruna Polisetty, Sowmya G, Nripendra P. Rana & Sangeeta Khorana — 2024

The study examines the transformative potential of AI-enabled technologies, particularly augmented and virtual reality, within beauty and cosmetic purchasing. It develops a conceptual framework based on AI affordances, distinguishing existence, perception, actualisation and effect to explain how intelligent technologies can shape consumer engagement and satisfaction. The research highlights that consumers may be willing to use smart technologies in beauty services, but awareness and willingness to adopt different AI-led technologies remain insufficiently understood. The paper therefore establishes a foundation for understanding AI-enabled beauty commerce while simultaneously highlighting the need for empirical validation of the proposed relationships, particularly among different consumer segments and in different retail environments.

15. Indian Shopper Motivation to Use Artificial Intelligence — Komal Chopra — 2019

The study explores why young Indian consumers use artificial intelligence tools while shopping and applies Vroom's expectancy theory to understand consumer motivation. Using a grounded-theory approach, the research identifies intrinsic, extrinsic and forced-choice motivations and explains adoption through expectancy, instrumentality and valence. Ease of using AI, the ability of the technology to perform desired shopping tasks, satisfaction, rewards and trust emerge as important considerations. The study is significant as an early attempt to understand AI adoption among Indian shoppers from a motivational perspective. However, it is limited to young Indian consumers and uses an inductive qualitative approach, creating scope for quantitative validation across wider age groups and contemporary technologies such as generative AI, recommendation systems and conversational commerce.

Section 4: AI, Business Transformation and Human-AI Collaboration

16. Bridging AI Minds and Corporate Sustainability: Exploring the Role of Business Model Innovation and Organizational Sensemaking — Vinit Ghosh, Varun Chotia, Rsha Alghafes, Sarah Basahel & Asif Nazrul — 2025

The study investigates how organisational understanding of artificial intelligence contributes to corporate sustainability through business model innovation and organisational sensemaking within Indian manufacturing. Data from 260 employees were analysed using SmartPLS, supplemented by qualitative responses from experts. The findings show a positive relationship between AI understanding and corporate sustainability, with business model innovation and organisational sensemaking acting as important mediating mechanisms. The study demonstrates that the commercial value of AI depends not simply on possessing technology but also on the organisation's capacity to understand, interpret and integrate it into business models. However, its manufacturing focus leaves scope for examining these relationships across retail, services, e-commerce and other sectors of Indian commerce.

17. Application of UTAUT2 on Adopting Artificial Intelligence Powered Lead Management System (AI-LMS) in Passenger Car Sales — Sougato Das & Biplab Datta — 2024

The study investigates the adoption of AI-powered lead management systems among passenger-car dealership sales executives using the UTAUT2 framework. Data from 242 sales executives in West Bengal were analysed using PLS-SEM. Habit and hedonic motivation emerged as important influences on behavioural intention, while social influence, effort expectancy, facilitating conditions and performance expectancy played interconnected roles in AI adoption. Age also partially influenced adoption behaviour. The study demonstrates how AI can transform sales management and employee decision-making rather than focusing only on customer-facing AI. However, the research is geographically restricted to dealerships in West Bengal and examines adoption intentions before widespread AI-LMS implementation, creating scope for post-adoption and cross-industry studies.

18. Leveraging Digital Technology in Retailing Business: Unboxing Synergy Between Omnichannel Retail Adoption and Sustainable Retail Performance — Manjunath S. Vhatkar, Rakesh D. Raut, Ravindra Gokhale, Mukesh Kumar, Milind Akarte & Sudishna Ghoshal — 2024

The study examines the interaction between digital technology, omnichannel retail adoption and sustainable retail performance using data from 485 employees in the Indian retail sector. Structural equation modelling demonstrates that digital technologies strengthen the financial, environmental and social outcomes associated with omnichannel retailing. Generative AI applications such as chatbots, visual search and personalised retail experiences are identified as important components of this transformation. The study provides evidence that digital and AI capabilities can simultaneously contribute to commercial performance and sustainability. However, the employee-centred design creates scope for studies incorporating consumers, managers and objective organisational performance data to establish a more comprehensive picture of AI-enabled retail transformation.

19. Adoption of Artificial Intelligence and Cutting-Edge Technologies for Production System Sustainability: A Moderator-Mediation Analysis — Sheshadri Chatterjee, Ranjan Chaudhuri, Sachin Kamble, Shivam Gupta & Uthayasankar Sivarajah — 2023

The study examines how AI and other advanced technologies contribute to sustainable production systems and firm performance. The proposed model was tested using 412 responses from manufacturing firms in India through PLS-SEM. The results demonstrate a significant positive influence of AI and other advanced technologies on production-system sustainability, while operational sustainability contributes to firm performance and technological turbulence affects some relationships. The research demonstrates that AI transformation extends beyond marketing and customer experience into production and operational systems. However, AI is examined alongside several other technologies, making it difficult to isolate its independent contribution. Future research can investigate AI-specific capabilities and compare their effects across manufacturing, retail and service organisations.

20. Usability and Responsiveness of Artificial Intelligence Chatbot on Online Customer Experience in E-Retailing — 2021

The study investigates how the usability and responsiveness of AI chatbots influence online customer experience and satisfaction in e-retailing. A model integrating the Technology Acceptance Model and Information Systems Success Model was tested using 425 valid consumer responses and SmartPLS. The research demonstrates that chatbot adoption and quality characteristics can significantly influence consumers' digital shopping experiences and satisfaction, while individual personality characteristics can alter these relationships. The study establishes that effective AI commerce depends on the quality of interaction rather than simply the presence of automation. However, it predates the widespread adoption of generative AI and large language model-based conversational systems, creating a significant opportunity to reassess these relationships using contemporary generative AI chatbots.

21. AI-Driven Sustainability Marketing Transforming Consumers' Perception Toward Eco-Friendly Brands — Vikas Garg, Sailaja Bohara & Arpita Srivastav — 2025

The study examines the intersection between artificial intelligence, sustainability marketing and consumer perceptions of environmentally responsible brands. Through a systematic literature review and bibliometric analysis, the research identifies important themes and variables linking AI-driven marketing with green consumer behaviour and develops an ADO-based framework for understanding the field. The study demonstrates that AI can potentially support sustainability marketing by enabling more targeted communication, consumer understanding and engagement around eco-friendly products. However, the existing literature remains fragmented and much of the relationship between AI marketing and sustainable consumer behaviour is conceptual rather than empirically established. This creates scope for India-specific empirical studies testing how AI sustainability communication affects trust, purchase intentions and actual green purchasing behaviour.

22. Artificial Intelligence Technology Readiness for Social Sustainability and Business Ethics: Evidence from MSMEs in Developing Nations — Apoorva Vikrant Kulkarni, Shaji Joseph & Kanchan Pranay Patil — 2024

The study examines AI readiness among MSMEs and its influence on business ethics and social sustainability using the Technology-Organisation-Environment framework. Data from 236 MSME employees were analysed through structural equation modelling. AI readiness was found to directly influence social sustainability, while business ethics also had a significant effect and partially mediated the relationship between AI readiness and sustainability. The study demonstrates that AI adoption should be assessed not only according to efficiency and profitability but also according to employee skills, working conditions, safety and ethical behaviour. However, its focus on MSMEs creates scope for research comparing responsible AI practices across large corporations, digital platforms and different Indian industries.

23. Unpacking Service Failures in Artificial Intelligence: Future Research Directions — Ritika Chopra, Seema Bhardwaj, Park Thaichon & Kiran Nair — 2024/2025

The study conducts an extensive review of the causes of service failures associated with artificial intelligence technologies. Using a hybrid review combining descriptive, bibliometric and content analysis under the SPAR-4-SLR protocol, literature from 2001 to 2023 is synthesised to identify technological, ethical and collaborative dimensions of AI service failure. The research highlights that AI does not automatically improve customer experience because technological defects, ethical problems and inadequate coordination between humans and intelligent systems can create service failures. Six future research directions are proposed. The review provides an important responsible-AI perspective but also demonstrates the limited empirical understanding of how consumers respond to specific AI failures and how businesses can restore trust following such failures, particularly in Indian commercial environments.

24. Generative Artificial Intelligence for Sustainable Development: Predictive Trend Analysis in Key Sectors Using Natural Language Processing — Chetan Sharma, Shamneesh Sharma, Vivek Bhardwaj & Balwinder Kaur Dhaliwal — 2025

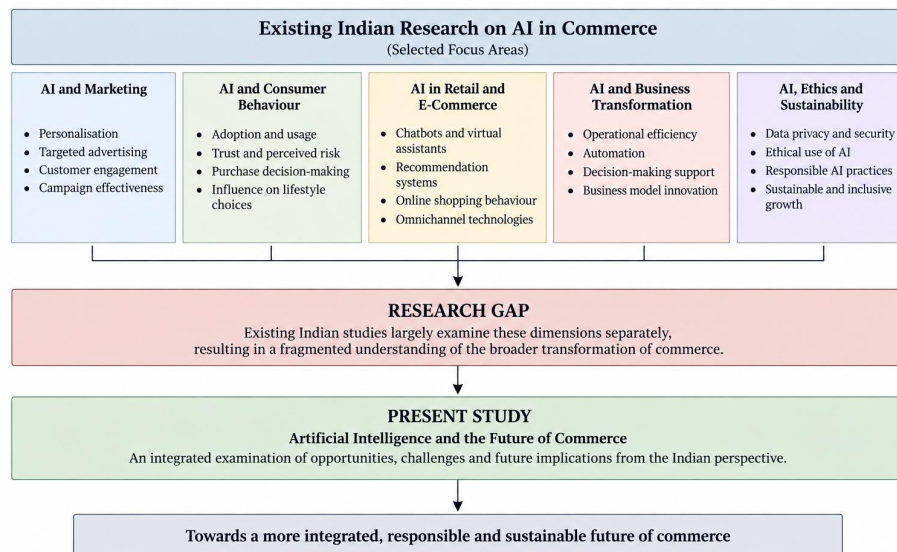
The study examines the potential contribution of generative artificial intelligence to sustainable development across key sectors and uses natural language processing to identify emerging trends and application areas. It connects generative AI with sustainable development goals while also emphasising the importance of ethical AI implementation. The research demonstrates that generative AI has potential applications extending beyond productivity and automation to sustainability-related decision support and innovation. However, much of the field remains at an emerging stage, with limited evidence regarding the long-term economic, environmental and social outcomes produced by generative AI implementation. This creates a need for empirical studies measuring whether AI adoption actually generates sustainable commercial outcomes rather than merely technological efficiency.

25. Artificial Intelligence in Retail Commerce in India: Opportunities and Challenges — N. Rekha — 2024

The study examines the growing application of artificial intelligence within Indian retail commerce and discusses both the opportunities and challenges created by AI adoption. It considers the role of AI in improving customer experience, personalisation, operational efficiency and profitability while recognising that retailers must address technological, organisational and consumer-related challenges when implementing intelligent systems. The study is useful because it directly positions artificial intelligence within the Indian retail-commerce environment and highlights its potential contribution to future business models. However, its broad and largely conceptual treatment of the subject creates scope for more rigorous empirical investigation into specific AI applications, consumer responses, organisational performance and responsible AI practices across India's organised and digital retail sectors.

Research Gap

Existing studies demonstrate the growing role of artificial intelligence across marketing, consumer behaviour, retail, e-commerce, customer engagement, business operations and sustainability. Within the Indian context, researchers have examined applications such as AI-enabled chatbots, personalised recommendations, generative AI, digital retail technologies and AI-supported decision-making. These studies establish that AI can contribute to personalisation, customer experience, operational efficiency and improved business decision-making. However, much of the existing Indian literature examines these areas individually, resulting in a fragmented understanding of the broader transformation of commerce.



Objectives of the Study

1. To examine the role of Artificial Intelligence in transforming modern commerce by understanding its growing applications across marketing, retail, e-commerce and business operations, and its contribution to the development of more data-driven, personalised and technology-enabled commercial practices.
2. To understand the influence of Artificial Intelligence on consumer behaviour and customer engagement by examining how AI-enabled personalisation, recommendation systems, chatbots and other intelligent technologies affect consumer experiences, purchase decision-making, trust and technology adoption.
3. To identify the key opportunities and benefits associated with the adoption of Artificial Intelligence by businesses, particularly in improving operational efficiency, automating

routine processes, supporting data-driven decision-making, enhancing customer experiences and enabling innovation in products, services and business models.

4. To examine the major challenges associated with AI-driven commerce, including concerns related to consumer data privacy, algorithmic bias, transparency, ethical use of AI, consumer trust and the need to maintain appropriate human involvement and accountability in AI-supported decisions.
5. To explore the future implications of Artificial Intelligence for responsible and sustainable commerce, with particular reference to the Indian business environment, by considering how organisations can balance technological advancement and commercial growth with ethical responsibility, consumer interests and long-term sustainability.

Research Methodology

1. Research Design

The present study adopts a qualitative, exploratory and descriptive research design to examine the growing role of Artificial Intelligence in transforming modern commerce. The exploratory approach is used to understand emerging developments and applications of AI, while the descriptive approach helps explain its influence across marketing, consumer behaviour, retail, e-commerce, business operations, ethics and sustainability. The study aims to develop a broader understanding of AI-driven transformation rather than test a specific causal relationship.

2. Nature and Type of Data

The study is based entirely on secondary data and does not involve primary data collection through surveys, interviews or experiments. Existing academic and professional literature is used to understand how AI is currently being applied within commerce, the benefits associated with its adoption, the challenges experienced by businesses and consumers, and its potential implications for the future of commercial activities.

3. Sources and Collection of Data

Secondary information has been collected from peer-reviewed journal articles, research papers, conference publications, academic databases, government publications, industry reports and other credible sources. Greater emphasis is placed on scholarly studies relevant to the Indian business and consumer environment. Literature addressing AI-enabled personalisation, recommendation systems, chatbots, generative AI, automation, predictive decision-making, consumer trust, privacy, ethical AI and sustainability has been considered to provide a comprehensive understanding of the subject.

4. Scope and Selection of Literature

The study primarily considers literature published between 2015 and 2026, with greater emphasis on recent studies because of the rapid development of Artificial Intelligence technologies.

5. Method of Analysis and Interpretation

The selected literature is examined using a thematic analysis and synthesis approach. The studies are classified into five major themes i.e. AI and Marketing, AI and Consumer Behaviour, AI in Retail and E-Commerce, AI and Business Transformation, and AI, Ethics and Sustainability. Findings across these themes are compared to identify recurring patterns, emerging applications, major opportunities, challenges and areas where existing research remains fragmented.

Findings

1. AI is making commerce more personalised

AI is helping businesses move away from one-size-fits-all approaches. Personalised recommendations, targeted communication and customised shopping experiences are becoming an important part of modern commerce.

2. Consumer experience is becoming more AI-driven

Chatbots, recommendation systems, virtual assistants and generative AI are changing how consumers search, compare, interact and make purchase decisions. Convenience is improving, but consumers still value trust and human interaction.

3. AI is improving business efficiency and decision-making

Businesses are increasingly using AI to automate routine activities, analyse large amounts of data, predict consumer needs and support faster decisions. This allows employees to focus more on strategic and creative activities.

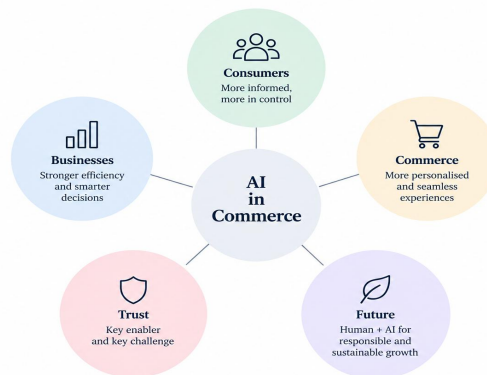
4. Trust remains a major challenge

The literature repeatedly highlights concerns around privacy, data security, transparency, algorithmic bias and overdependence on AI. Consumers are more likely to accept AI when they understand its role and feel that their information is being used responsibly.

5. The future is likely to be AI-enabled, not completely AI-controlled

The studies suggest that AI will become increasingly integrated into commerce, but human judgement will continue to remain important. Businesses that combine AI capabilities with human understanding, responsible practices and sustainability are more likely to create long-term value.

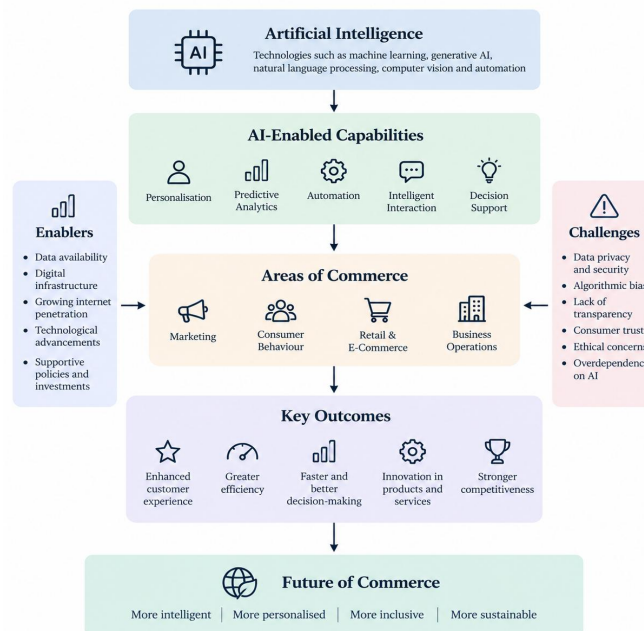
Overall, the literature indicates that AI is not simply another digital tool; it is gradually changing how businesses understand consumers, make decisions and deliver value. At the same time, the future of AI-driven commerce will depend on how effectively businesses balance technology, trust, human involvement and responsibility



Conceptual Framework

The conceptual framework explains how Artificial Intelligence contributes to the transformation of modern commerce. AI technologies enable businesses to develop capabilities such as personalisation, predictive analytics, automation, intelligent customer interaction and data-driven decision-making. These capabilities influence major areas of commerce, including marketing, consumer behaviour, retail and e-commerce, and business operations, leading to improved customer experiences, greater efficiency, better decision-making, innovation and competitiveness.

However, the effectiveness of AI adoption is also influenced by enabling factors such as data availability, digital infrastructure and technological development, as well as challenges related to privacy, algorithmic bias, transparency, consumer trust and ethical concerns. The framework therefore suggests that the future of commerce will depend not only on greater adoption of AI, but also on how responsibly businesses integrate these technologies to create a more intelligent, personalised, inclusive and sustainable commercial environment.



Interpretation and Implications

The findings suggest that AI is changing commerce by making business activities more personalised, predictive and automated. However, the value of AI does not depend on technology alone. Its effectiveness is closely linked to the quality of data, organisational readiness, consumer acceptance and responsible implementation.

A key implication is the growing importance of trust. While AI can improve convenience, efficiency and customer experience, concerns related to privacy, transparency and algorithmic bias can negatively affect consumer acceptance. Businesses must therefore balance personalisation and automation with responsible data practices and appropriate human oversight.

The findings also indicate that AI is more likely to complement human capabilities than completely replace them. AI can support data analysis, prediction and routine decision-making, while human judgement remains important for creativity, empathy, ethical reasoning and complex decisions. The future of commerce can therefore be understood as a human-AI collaborative environment, where technological advancement is balanced with trust, responsibility and sustainable business practices.

Artificial Intelligence and Sustainable Commerce

Artificial Intelligence can contribute to sustainable commerce across economic, social and environmental dimensions. Economically, AI can improve productivity, forecasting, resource allocation and operational efficiency. Socially, responsible AI adoption requires attention to fairness, inclusion, workforce transformation and the development of employee skills.

Environmentally, AI can support better inventory planning, logistics optimisation and resource management, potentially reducing waste and unnecessary resource use.

However, AI should not automatically be considered sustainable. Its use also involves computational resources, energy consumption and broader social implications. Sustainable AI-enabled commerce therefore requires businesses to balance commercial performance with responsible resource use, consumer trust, employee development and long-term stakeholder value.

Managerial and Future Implications

The growing use of AI requires businesses to focus on its effective and responsible integration, rather than adopting technology simply because it is available. Organisations should use AI for clearly defined needs such as improving customer experience, supporting decision-making, increasing efficiency and understanding consumer behaviour, while maintaining human involvement in complex and sensitive decisions.

Businesses should also strengthen data governance, employee capabilities and responsible AI practices, particularly in relation to privacy, transparency, fairness and accountability. Looking ahead, commerce is expected to become increasingly personalised, predictive and automated. Long-term competitive advantage is therefore likely to depend on how effectively organisations combine AI capabilities, human expertise, consumer trust and responsible governance.

Limitations

The present study has several limitations. First, it is a conceptual narrative review based on secondary literature and does not empirically test the proposed framework. Relationships among AI capability, consumer trust, organisational readiness, and commercial outcomes therefore require further empirical investigation.

Second, the paper integrates several domains of commerce. This provides breadth but limits the depth with which individual industries can be examined. AI adoption in financial services, fashion retail, healthcare commerce, hospitality, manufacturing, and business-to-business markets may involve different consumer expectations and organisational risks.

Third, artificial intelligence is developing rapidly. New technologies, regulatory approaches, and consumer behaviours may change the relevance of particular conclusions. Future research should therefore examine AI-enabled commerce longitudinally and across countries and industries.

Empirical studies could investigate relationships among AI personalisation, perceived usefulness, privacy concerns, consumer trust, engagement, and purchase behaviour. Researchers could also compare fully automated commercial interactions with human-AI hybrid service models to identify situations in which consumers prefer each approach.

Future research is also required in relation to sustainability. Studies should measure the environmental and social effects of specific AI applications rather than assuming that digital optimisation automatically produces sustainable outcomes.

Conclusion

Artificial Intelligence is transforming commerce by making business activities more personalised, predictive, automated and data-driven. Across marketing, retail, e-commerce and business operations, AI is helping organisations better understand consumers, improve decision-making and create more efficient commercial processes.

However, the future of AI-driven commerce will depend not only on technological advancement but also on trust, transparency, privacy, ethical practices and appropriate human involvement. Businesses must therefore balance the opportunities offered by AI with responsible implementation and effective governance.

The study concludes that the future of commerce will be shaped by the successful integration of AI capabilities, human judgement and responsible business practices. Sustainable competitive advantage will not come simply from adopting AI faster, but from using it effectively, responsibly and in ways that create long-term value for both businesses and consumers

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