EXAMINING THE MECHANISMS LINKING AI ADOPTION TO SHOPPER EXPERIENCE IN OMNICHANNEL RETAILING

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ABSTRACT

Purpose: The objective of this research paper is to develop a theoretical framework which explains the relationship between shoppers' experience in Omni channel retailing and artificial intelligence adoption in retail practices. The study more specifically looks at the influence of consumer trust, personalized customer experience made possible by AI, service efficiency and the digital literacy of the shoppers on consumer experiences in integrated web and offline retail environments.

Design/Methodology/Approach: Conceptual research methodology was used based on the integrative literature review of related literature on Artificial Intelligence in Retail, Omnichannel retailing, Consumer trust, Personalization, Service efficiency, Digital literacy and Shopper experience. The proposed framework is built by using the models of Stimulus – Organism – Response (S–O–R) theory and the Technology Acceptance Model (TAM) and literature on omnichannel customer experience to create the relationships between the key constructs.

Findings: The suggested process outlines how AI implementation can contribute to a better shopper journey in terms of personalised interactions and more effective service along the integrated retail channels. The new intermediary is proposed as "Consumer trust", capturing the measures between using AI and delivering shopper experience; meanwhile "Shopper digital literacy" is proposed as a

moderating mechanism that could enhance the shopper's experience provided by the AI processes. It also acknowledges the importance of the nuances of consumer perception - privacy, transparency, reliability and control - that play a key role in the value of AI-powered personalization.

Research Limitations: This study is conceptual and testing of the hypothesized links between variables is not performed. Empirical studies, however, would be needed in the future to test the proposed framework for a variety of retail types, products and customer and cultural situations.

Managerial Implications: The research indicates that retailers need to not only pay attention to the implementation of AI but also pay attention to creating consumer trust, transparency, protecting consumer data, and creating accessible AI-enabled services. Combined with AI-powered personalization, retailers can offer a superior shopping experience, alongside delivering to customers efficiently, recognising consumer's varying digital skill sets.

Originality/Value: The study combines the aspects of AI adoption, consumer trust, AI personalisation, AI service efficiency, shopper digital literacy and shopper experience within a single omnichannel framework.

Key Words: *Artificial Intelligence Adoption; Omnichannel Retailing; Shopper Experience; Consumer Trust; Personalization; Service Efficiency; Digital Literacy; Customer Experience.*

INTRODUCTION

Over the past few years, and even years, the retail landscape has revolutionized with quick advancements in technology and shifting client demands. During the last years, and even years, only a little, it seems that the retail surroundings have certainly changed. Population and the traditional geographical distribution of retail stores has slowly shifted to more integrated retail networks, where both channels, online and offline are integrated. With the advent of omnichannel retailing, the retail industry has reached a whole new level where consumers can communicate with brands through a variety of connected channels such as social media platforms, websites, apps and brick-and-mortar stores.

In omnichannel retailing, the dream of a seamless customer journey from one touchpoint to another is realized as shoppers get—you can't hold it up, can you?—dripped over the customer journey by numerous channels that offer a fluid, integrated experience. Then, a user might discover information online, add it to an app via its knit price, visit retail shop, experience good quality of products, and buy on a digital platform. With the convenience and flexibility demanded by customers, this new shopping experience is gaining popularity. Shopping behaviors related to customization and its experiences of retail brands. As Omnichannel marketing is gaining along with that, the adoption of Artificial Intelligence (AI) has also increased in that same time period. Technological innovations which could really help improve retail life and customer relations. AI technologies, powers mediators to investigate huge amounts of customer data, and make use of useful details about customers. Personality, tastes and buying habits.

AI technology, such as AI-powered customer service platforms, intelligent AI chatbots and virtual assistants, is helping businesses to be more successful. Understand the opportunities for retailers in terms of assistant models, predictive inventory management and personalised recommendation engines to increase their use. There are more regular uses of AI that are enhancing the in store experience, content creation and social media engagement, and smart advertising tools.AI-powered chatbots, virtual assistants, and other intelligent support systems, as well as AI-driven content creation and social media interaction, and intelligent advertising tools. Inventory management, and AI-powered personalised recommendation systems for retailers. These technologies can provide retailers with the ability to offer customer-specific service, assist in decision making, and increase the efficiency of the operations. With the integration of AI technologies, retailers can gain insights to optimize their operations and maximize profitability. Apprenticeship receives greater understanding of customer needs and individualised shopping experiences are delivered to enhance the Customers'

satisfaction and keep. AI use in retail has increased and AI and shopper experience in omnichannel is a complex issue as it is still evolving. Whilst AI can bring various advantages including service improvements, more personalised service and better operational efficiency, this may be perceived differently by consumers due to differing factors including trust, transparency and technological familiarity.

Consumer trust is a key determinant in attitude to AI-powered businesses. When engaged with the digital retail platform, consumers can be disclosing personal and financial details, so trust is a critical factor to successful technology adoption. Consumers may perceive the reliability of systems, the privacy of their data, and how AI is used in decision-making, which can all affect their willingness to use AI in retail environments.Users' confidence in the reliability of systems, concerns about data privacy and the use of AI in decision making can all impact their acceptance of AI retail technology. Digital literacy is the most important factor influencing how consumer effectively interact with AI enabled retail platform systems. Digital literacy is the capacity of an individual to access, understand and adeptly use digital technology in daily life. Consumers with a higher level of digital literacy are more likely to feel at ease navigating in complex digital environments, as well as more physically comfortable using advanced technologies like AI recommendation systems and automated service platforms. While there has been some research in the general domain of using AI tools in retail, literature focused on the synergistic effect of the adoption of AI and digital literacy and distrust on the shopper experience in omnichannel settings is scarce. Existing studies often focus works separately on the individual elements of the technology adoption rather than giving a general framework which incorporates the key elements.

Given these advancements and trends, the present study aims to formulate a conceptual connection regarding the effect of AI on a shopper's experience in omnichannel retailing. Trust in the company and consumers' digital literacy are also critically examined as influential factors to consumer interactions with AI-driven retail platforms. The study builds upon and synthesises results from other research and theories to provide a comprehensive examination of how AI technologies can boost the shopping experience in today's retail environments.

Conceptual Background

Artificial Intelligence in Retailing

AI is the technology of computer systems that can execute tasks which we previously used to do by hand. Any activity relying on human intelligence as a means of problem solving, reasoning, decision making and learning. When it comes to retail, AI technologies are increasingly being used to assist

with different aspects of the business and its operations, as well as for customers. Retail agencies can leverage AI-powered analysis tools to uncover insights from the overwhelming amount of customer data that can be harnessed to enhance customer service. To facilitate guide marketing and development of products and improvement of customer service.

Using AI algorithms, patterns in Retailers can identify consumer's behavior on which they can rely to predict consumer tastes and preferences. make tailored suggestions for products. Another realm of AI's application in the retail sector is in the form of intelligent Customer Service tools like chatbots and virtual assistants.With these kinds of technologies, they will have the ability to assist staff with real-time queries, answer retail data queries from customers and direct customers through the shopping process. AI systems can also play a role in better supply chain management with demand forecasting and smart inventory management. Therefore, the retail sector has seen the introduction of new possibilities for engaging customers with the use of AI technologies and providing them with a more personal shopping experience.

Omnichannel Retailing

The integration of various sales and communication channels into a cohesive strategy, where retailers aim to provide a seamless cadence to their customers, is what is referred to as omnichannel retailing. While the old channels work separately, with the omnichannel approach, the concern is on having everything working in synch and harmony.

With omnichannel, the consumer can engage with the retailer via multiple channels such as an online store, mobile application, social media and in store. The integration allows consumers to seamlessly switch between channels without gaps, ensuring a uniform experience. For retailers who face highly competitive environments and strongly want their consumers to be convenient, flexible, and have an interaction experience that is personalized, the application of omnichannel retailing has become vital.

Shopper Experience

Shopper experience is a consumer's impressions and feelings obtained from the interactions they have with a retailer during the entire shopper's buying process. There are different facets to Customer Experience, from the quality of the service, the convenience, the personalization, to the emotional connection. Retailers turning to long-term customer relationships will find delivering outstanding customer experiences to be a vital differentiating element. Retailers could benefit from using AI technologies to improve the shopper experience, by delivering more personalized, effective services through multiple channels.

Literature Synthesis

The impact of Artificial Intelligence (AI) on modern retail is increasingly recognised in the academic literature. As AI becomes more prevalent in retail, companies can automate customer service processes, interpret vast amounts of customer data, and tailor their interactions and customer service more dynamically and individually to consumers. AI has therefore become more than just a technological solution; it's a valuable part of customer experience management and service. Huang and Rust (2018) believe that the potential of AI to engage in mechanical and analytical service tasks is becoming more impressive, which opens the door for companies to restructure service encounters to leverage the complementary capabilities of humans and intelligent technologies. Likewise, more recent studies show that services using AI can impact customer experience for reasons of convenience, personalization, service quality and trust. (Ameen et al., 2021; Grewal et al., 2020).

Personalisation is one of the foremost applications of AI in retailing. AI recommendation systems can leverage browsing patterns, shopping histories, product interests, and other customer data to deliver personalized product recommendations. These systems can be used to increase the activation of the information from a product, which can improve relevance of the product information, and to decrease the amount of cognitive activity that is needed for searching the products. Ameen et al. (2021) identified that personalization and convenience are important factors in developing AI mediated customer experiences, and that trust is a significant mediator. Likewise, Tyrväinen et al. (2020) revealed that personalization has positive cognitive and emotional effects on customer experience with omnichannel retailing. Recent studies have shown that the effectiveness of AI in personalization is not enough, as credibility, risk, and trust also influence consumers' reactions (Jasim et al., 2026). Personalization then can improve the shopping experience to the extent that users value and find value in the body of personalized suggestions provided by artificial intelligence systems; otherwise, it can generate different responses to the extent of being too personalized or intrusive.

Personalisation and consumer behaviour is thus not solely linked positively. While the suggestions provided by AI can streamline decision-making processes and boost customer engagement with products, the disadvantages lie in the potential for over-collection of data and consumer misgivings about algorithmic limitations. There is recent experimental evidence that personalized AI items can boost purchase habits due to users' perceived helpfulness, whereas perceived intrusiveness can create the opposite effect (2026). Therefore, retailers should be able to design personalization systems that

are valuable to consumers but also give consumers autonomy and transparency and control over personal information.

The role of AI in customer service has also been significantly revolutionized with the advent of chatbots, conversational agents, and virtual assistants. These systems are able to respond automatically to customer inquiries, help customers in product search, give product information and offer support during the buying process. Huang and Rust (2018) describe AI's potential to perform routine service activities, whereas through a meta-analysis of the research on retail virtual-assistants, Blut et al. (2024) examined various factors affecting customer willingness to engage with virtual helpers including perceived value, support, social influence, anthropomorphism, competence, trust and performance risk. These results indicate that the usefulness of the customer service with the help of artificial intelligence not only determined by the technical function of the technological means, but also the psychological attitude of consumers to technological means.

The insights gained from studies on retail chatbots corroborate the role of service quality and trust. Hsu and Lin (2023) discovered that the service-recovery quality, conversational quality and satisfaction of a chatbot significantly improved user satisfaction, whereas user satisfaction and core chatbot service quality led to chatbot loyalty. Similarly, Huang et al. (2024) were able to show that the nature of trust affects customer satisfaction and subsequent behaviour towards a chatbot-based service and that chatbots can achieve outcomes similar to a human-driven service, combined with some human interaction. Wang et al. (2023) also discovered that consumers might also have less trust and less favorable emotional reactions towards a chatbot than towards a human agent, especially in situations where they rely on subjective tasks. The results of this study suggest that trust, task properties, emotional reactions and the perception of service competence all influence the perceived value of AI service systems for service efficiency and service convenience.

Several factors are found in the literature which are positively and negatively influencing consumer's acceptance of AI-powered conversational agent. According to Jan et al. (2023), ease of use, usefulness, informativeness and trendiness can facilitate the use and adoption of text-based conversational agents (TCAs), whilst functional risks, intrusiveness and other risks can hinder the use and adoption. Similarly, Kamoonpuri and Sengar (2023) came up with barriers of implementing AI-powered Virtual Assistants in Retail, including customer-related, technical, and financial issues. Following that, Li and Zhang (2023) showed that personalisation, connectivity, visibility and anytime-anywhere availability can help drive consumers' preference for conversational agents over

human agents. The results highlight how consumer attitude towards risk and usefulness, as well as the advantages of technology, influences AI integration in retail.

Multichannel and cross channel marketing strategies of the contemporary retailing are another significant advancement. Omnichannel integration is a practice in which marketers leverage multiple customer touchpoints to enable customers to effortlessly shift from an online environment to an offline one—and back again—and vice versa—along the course of their retailing trip. Omnichannel strategies are not about going to physical stores, websites or to their mobile apps and doing the same thing, but rather about building a system in which customers have a seamless and unified experience regardless of the channel. (Verhoef et al., 2015; Beck & Rygl, 2015). This trend of channel integration is of significance in an AI-driven retail landscape, as AI can process customer interactions across various channels and leverage the insights to deliver more unified and personalized support.

Another crucial aspect of omnichannel customer experience is personalization. For Tyrväinen et al. (2020), personalisation has a positive effect on customer experiences, both cognitively and emotionally, and plays a role in loyalty. Similarly, Zhang et al. (2024) showed that the various omnichannel attributes can have different effects on the dimensions of customer experience, where personalization has a significant impact on hedonic experience and connectivity on utilitarian experience. These results highlight the need for retailers to see the customer journey as a whole, rather than a series of separate experiences across different channels, for omnichannel marketing efforts to be effective.

While all this is great, there are also some privacy and security concerns that can arise with omnichannel integration. Quach et al. (2022) discovered that the consistency and transparency of the service have significant impacts on customer experience and customers' perceived privacy risk. The more the retailers gather and amalgamate data from a variety of sources, the more consumers will have to worry about how information is being collected, processed, shared, and used with them. This establishes a clear conflict between personalization and privacy – the same information that can be used to deliver highly relevant recommendations can also make people feel more vulnerable or watched. AI-powered personalization in e-commerce also highlights the need for transparency, consumer control, and privacy to foster trust in AI systems (Xu & Chen, 2025; Oesterreich et al., 2025).

Consumer trust, therefore, plays a pivotal role in comprehending the adoption and efficacy of AI-driven retail technologies. Trust is especially crucial in a digital commerce environment where people may be required to release personal and monetary data without the retailer's actual contact. Kim and Peterson (2017) applied a meta-analysis to trust-related issues in e-commerce, and found that security, privacy, information quality and other technology traits are significant factors in consumer's trust. More recently, Oesterreich et al. (2025) compiled information from 74 empirical studies and confirmed that perceived usefulness, system quality, security, privacy, reputation, service quality, and structural assurance are factors that drive the intentions of trust in digital platforms.

Consumers might wonder about the accuracy of AI-generated recommendations, the fairness of automated decisions, and the appropriate use of their personal data. Transparency and perceived control can hence be a key factor in shaping consumers' attitudes towards automation in retailing. Prior research in the field of AI-powered platforms for retailing has revealed that trust and usefulness are essential in influencing consumers' attitudes to using AI-enabled shopping technologies (2024). In line with this, recent studies on AI autonomous buying reveal that transparency, decision control, accountability, trust, and perceived risk are all salient elements to consumers' readiness to entrust their purchasing to AI systems (2026).

Another essential consumer-level determinant of the adoption and effective use of AI-powered retail technologies is digital literacy. Digital literacy is not only about being technically proficient with digital technologies: it is also about being able to access, understand, evaluate, produce and effectively utilize information in digital spaces (Pangrazio et al., 2020). The review by Tinmaz et al. (2022) which cited the research from the Scopus and Web of Science and other academic databases is an example of a systematic review proving that digital literacy is an integrated set of digital skills, digital competencies, digital thinking and information literacy. Digital literacy is defined as a cross-dimensional skill in navigating the increasingly complex digital world. The use of digital literacy can influence consumer behaviour and consumer perception including recommendations, credibility of information, concerns on privacy and the use of digital interfaces. Individuals who have more digital skills might be better able to evaluate the value and the recommendations made by AI in personalized questions and limitations of AI-generated personalized recommendations. Conversely, non-technology savvy customers may struggle to remember that they can use the technology if they have assistance available. Pangrazio et al. (2020) note that in today's digital era, technical skills in digital literacy are not only important but critical and reflective abilities as well. This separation is especially important in the case of the new retailing experience, since consumers are increasingly

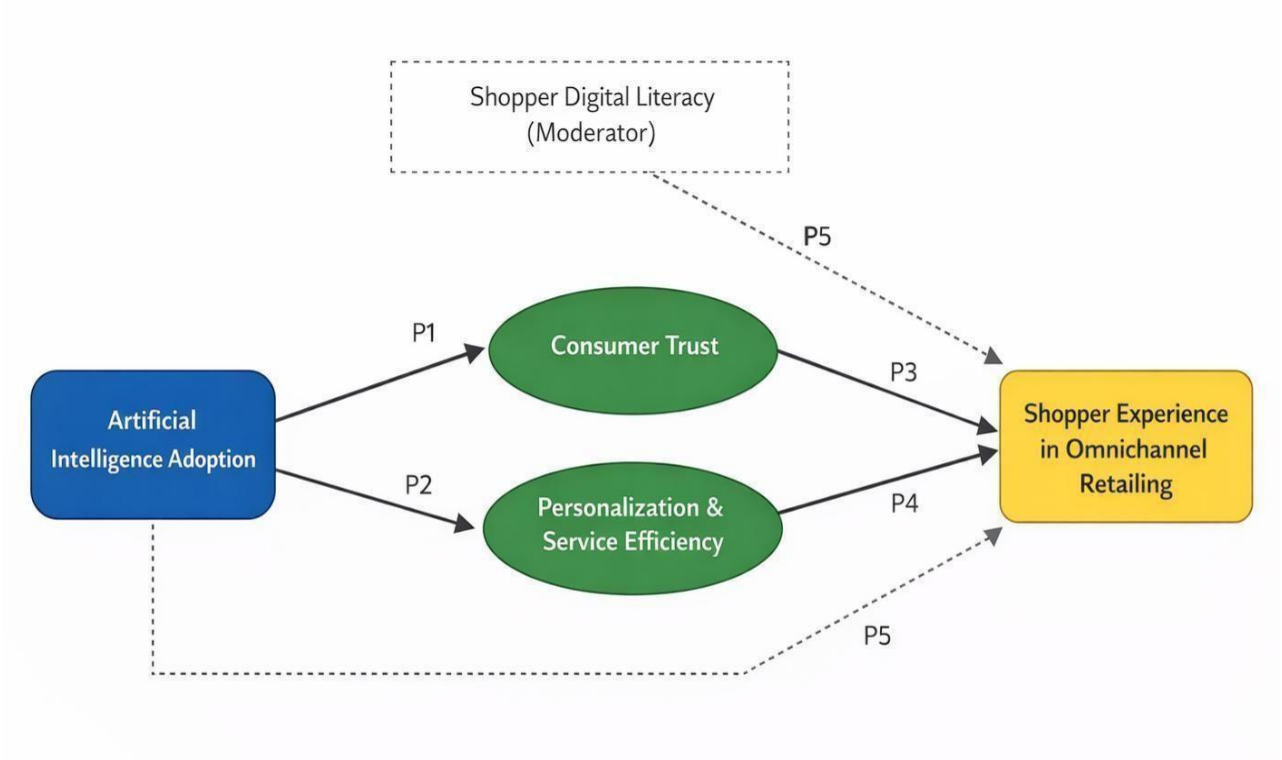
concerned with not only how to use digital systems but how these systems make recommendations, and how they use personal data.

The body of literature as a whole supports the significance of the five key factors discussed: AI, personalization, omnichannel integration, trust, digital capabilities, and service quality, for creating the retail experience of today. However, they have often been explored in isolation in different research streams. The topics of technology adoption, automation, personalisation and services efficiency are commonly addressed in AI studies, while the integration of channels and customer experiences are the key areas of research for omnichannels. Trust studies go through security, privacy and reliability, and digital-literacy studies are mostly dealing with individual skills and competencies in the use and evaluation of digital technologies. While these streams are valuable sources of information, the use of these streams in one empirical framework is still relatively limited.

Thus, a conceptual approach integrating these constructs is needed. This can span the technological and consumer aspect of AI driven retailing as the details of technology adoption and consumer capability and perceptions could impact shopper experience. The proposed research, then, aims to bring a contribution to the literature by studying the relationship between the adoption of Artificial Intelligence, digital literacy, consumer trust and the consumer experience in omnichannel retailing. The study will be able to offer a wider understanding of the mechanisms through which emerging technologies affect consumer experiences when these constructs are combined in a single empirical study. When these constructs are combined and used in the same empirical study, the study can provide a more comprehensive understanding of the mechanisms through which emerging technologies affect consumer experiences. The results can be theoretically valuable through bridging the existing research on AI and omnichannel marketing, and practically valuable through developing new AI-powered omnichannel strategies that are accessible, personalized, efficient, trustworthy, and transparent for consumers of varying technological capacities.

Proposed Conceptual Framework

Based on the insights gained from reviewing literature related to the adoption of retail technology, customer experience and digital consumer behavior, the present study proposes a conceptual framework that outlines the relationship between the adoption of Artificial Intelligence and the improvement of the shopper experience in an omnichannel retail environment.



According to the proposed framework, AI is the top technological trend affecting shopper experience. By leveraging AI technologies, retailers can offer personalized services, optimize operations, and ensure timely customer support.

Consumer trust is regarded as a possible mediating variable that influences consumer perceptions of AI-empowered retail systems. The trust in AI systems fosters positive shopping experiences and drives consumers to interact with these technologies, leading to reliable, transparent, and safe interactions. Apprentices are likely to be more engage in AI systems and to be satisfied with their shopping experience. customers has moments where he/she believes that the operating systems are reliable, transparent and secure. Other key pathways that AI technologies can impact shopper experience are personalization and service efficiency. AI Systems have the ability to anticipate the customer's tastes based on their purchasing records and provide tailored product recommendations.

Shopper digital literacy is integrated into the framework as a moderating variable that will affect the relationship between the use of AI and shopper experience. Are better able to interact with digital platforms, particularly those with greater digital literacy. Leverage cutting-edge technological capabilities to maximize the capabilities of AI-powered services. The end result or dependent variable of the model is shopper experience in omnichannel retailing, which represents

consumer satisfaction, engagement and perception of value from the interaction with retail platforms.

Research Propositions

The propositions are formulated based on the conceptual framework:

P1: The adoption of Artificial Intelligence has a positive effect on consumers' trust in retail platforms.

P2: Retail interactions are improved in terms of personalization and services efficiencies, through the adoption of Artificial Intelligence.

P3: Consumer trust has a positive effect on shopper experience in omnichannel retailing.

P4: Personalization and service efficiency have a positive impact on shopper experience.

P5: The ability to shop digitally improves the connection between Artificial Intelligence adoption and shopper experience.

Discussion of Findings

This study investigates the impact of AI on the shopper experience within the context of omnichannel retailing and explores how AI adoption might create channels and funnel changes.This study explores the role that AI plays in affecting shopper experience in omnichannel retailing and discloses how AI adoption can trigger channel and funnel shifts. Instead of focusing on AI as a pure technology, the study adopts a perspective of AI as an integral part of the modern shopping journey and explores how AI technology in the retail environment impacts shoppers' perceptions, psychological reactions, and entire shopping experience. The results could suggest that AI uptake is not as directly and straightforwardly impactful on shopper experiences as once assumed. In contrast, it is through a mix of positive experiences like personalisation, convenience, perceived usefulness and service efficiency, along with potential negative elements such as perceived intrusiveness and privacy concerns.

The results support the increasing trend of acknowledging the potential for AI to redefine the retail experience, allowing merchants to tap into their customer's deeply intimate tastes and adapt to them accordingly. In the omnichannel context, customers touch points with retailers are linked by various channels such as physical shops, website, mobile app, social media, digital payment,

recommendation engine, and customer services interface. With all the information collected from these touchpoints, AI can merger them and respond more personally and contextually. The benefit of AI adoption, therefore, is not just about automation; it's about creating a more responsive and seamless shopper journey.

One important implication of the findings is the importance of feeling personally involved. By leveraging AI tools, recommendation systems, personalized product suggestions, targeted promotions and tailored communication, shoppers may feel they're being addressed on a one-to-one basis, meeting their personal needs. Relevant and helpful personalisation can cut down on search time and/or make the shopping experience seem more valuable. Especially in omnichannel retailing, where anchor plays a crucial role for consistency as the customer expects consistency from all channels. If you go on mobile and look up a product on your mobile app, for instance, then you come to a retailer's website or store, you likely want to see info about that product at that location. As AI technology works with customer and transaction data, these technologies can help orchestrate this seamless experience, creating consistent and contextually relevant interactions.

The results also show that service efficiency and convenience play an important role in the linkage between AI implementation and the customers' experience. Waiting time can be shortened, and decision making complicated with AI-driven chatbots, automated customer support, intelligent search systems, predictive inventory management, and recommendation technologies. At the end of the day, the shopper will feel the benefits of an AI system, with decreased cognitive and transactional inputs. Especially in the case of omnichannel retail, where the shopper has to go from channel to channel prior to making a decision. AI can save time by supplying data, answering customer inquiries, locating product availability, suggesting products and optionality, and aiding in buying decisions. So, by adopting AI in customer journeys can be much more efficient and convenient.

Another important mechanism is the trust in AI. AI technologies can only provide long-term benefits where consumers are willing to trust them and make their decisions based on their suggestions. While the results indicate that it is important same technological sophistication is not enough to ensure a positive shopper experience. However, customers must believe that AI-powered offerings are accurate, reliable, clear, and useful. If the advice is always pertinent and responses are always reliable, customers might be more likely to trust AI. On the other hand, when certain recommendations are incorrect, ads are not relevant to the consumers' needs, decisions are not

explained, or the answers are automated, trust can be undermined. Trust is thus a key psychological factor bridging the gap between technological capabilities and shopper experiences.

Meanwhile, the study highlights the complex dynamics of AI implementation. AI can bring value to customers, while causing privacy concerns and some levels of intrusiveness. While these data could be used to provide personalized services, the many developments that occur as the data is collected, analyzed, and processed/cordiented could lead to concerns by shoppers regarding how their data is collected, the analysis performed, the data storage and the subsequent uses. Therefore, the response to personalization can vary based upon the level of perceived usefulness, as well as, perceived invasiveness, of the personalization. If AI shows up in situations where customers' needs are being met without causing any discomfort, then personalization could be a good thing? Some of the same technology, however, when it comes across as overly specific, off-target, or another step in a non-relevant process may be considered intrusive.

This is especially important in the context of an “omnichannel approach to retail because certain information can be gathered via various customer interactions. A customer can contact a store using a cell phone app, web site, in-store experience, loyalty program, and social media. There are many benefits to integrating these data sources for personalization, but the trade-off is that the perception of surveillance might also increase. Thus, retailers must realize that offering more personalization does not a better experience create. Achieving the balance between personalisation and a sense of privacy is crucial for the success of AI.

Theory is important, too, in the case of the role of shopper digital literacy. Internet-savvy and self-confident consumers might be better able to comprehend the services that utilize AI, assess suggestions, and identify the advantages and restrictions of automated solutions. These customers can therefore see AI as helpful and hassle-free. Consumers who are less technologically savvy, on the other hand, might feel confused or struggle to understand AI-driven recommendations and automation. The correlation between the adoption of AI and shopper experience may therefore be impacted by digital literacy.

The results suggest that AI implementation is not just about technology; it is about a strategic investment in innovation that can yield significant benefits. It's a consumer experience driver, which affects how customers engage with retailers, how they make decisions, how they process

information, and their channel movements. The impact of AI is only positive if shoppers find interactions with the AI beneficial, personalized, convenient, credible and respectful of their privacy. The study advances the understanding of AI-enabled omnichannel retailing beyond an inquiry into whether retailers should adopt AI, and instead goes one step further to inquire how this adoption of AI generates value for shoppers and when that value might be undermined.

The main finding of this study is that adopting AI is not good or bad, but can be both positive and negative. The impact of its use will be determined by the design of the technology, the person who experiences it and how shoppers understand and interpret its application. When it comes to implementing this technology, it must be done in a way that is both user-centric and relies on technology's usefulness to ensure it fosters trust, transparency, privacy, personalization, and customer control.

Managerial Implications

AI should be considered a tool for building a cohesive, customer-focused, credible, and enriching shopping experience.

Take the approach of building AI around the needs of customers, instead of technology.

The first implication the retailers can draw is to take a shopper-centric AI approach. It is not enough to simply deploy a chatbot, recommendation engine, predictive analytics, or automation system to get a better customer experience. It is important for retailers to identify specific shopper issues, and then consider where AI can deliver value to those issues.

For instance, AI can streamline the search process for products, suggest personalized recommendations, find matching alternatives if a desired product is out of stock, respond to commonly asked queries, and deliver up-to-the-minute updates on orders and deliveries. These applications will directly meet shopper needs and thus are more likely to create perceived value.

Use AI to Create Seamless Omnichannel Experiences

Retailers should use AI to eliminate the boundaries between online and offline shopping channels. The customer has more and more come to expect the retailer to recognize them and give them the same information, no matter which channel they use. Retailers can leverage AI to connect information across websites, mobile apps, their stores, loyalty programs, and their customer-service systems. For instance, if a customer goes to Google and searches for a product,

they should be able to get information about the product's physical location nearby. The same applies to purchase history; it can be used to make relevant recommendations in various channels. The management advantage is a smoother customer journey, less channel resistance, and easier for the customer.

Enhance personalization without being intrusive

There is no doubt that one of the major advantages of AI is personalization, but retailers must be careful not to over personalise. Designing AI systems that make recommendations based on information that is directly relevant to the product is therefore essential for retailers. There should also be some choice for customers about personalisation. Retailers, for example, might offer consumers the opportunity to change their preferences, rather than constantly offering them specific suggestions. This can help build a sense of customer control, while still enjoying the advantages of AI-driven personalization.

Improve Trust in AI.

The results suggest that trust is a key factor in making AI features into positive shopper experiences. Clearly explaining the use of AI is therefore crucial for retailers. The consumer should be aware if they are talking to a chatbot, recommendation algorithm, or a human representing the company. It's crucial that retailers don't place themselves in a position where they fall for the trap of thinking they are talking with a person when actually the bot is talking with the person.

Support Human-AI partnerships.

Fund partnerships between humans and AI. Businesses shouldn't overestimate the capabilities of AI to replace human interaction. The results indicate that the value of AI is maximized when it can be integrated with but not in place of human support. For instance, if the issue is something that cannot be solved by the chatbot, it should include a definite choice to speak to a human customer-service representative. This co-bot human-AI collaboration model can offer efficiency and empathy.

Recognize the differences in shopper digital literacy.

The results on shopper digital literacy suggest that retailers should not take a blanket approach to AI in their stores. Savvy, tech-savvy consumers might want more advanced features, personalized recommendations, voice control and automated services. But other customers might like the ease of use and human interaction.

Retailers can thus provide varying degrees of technological assistance. For less tech-savvy consumers, clear instructions, simple interfaces, human support options, and educational information can enable them to make use of AI-powered services.

Track the Quality of AI Recommendations

Retailers should continually test and retest AI suggestions to make sure they are accurate and applicable.

Technical indicators should be complemented by indicators of the customer experience, including:

- Recommendation relevance
- Customer satisfaction
- Trust
- Complaint rates
- Repeat usage
- Conversion rates
- Customer retention
- Perceived convenience
- Perceived intrusiveness

This will give retailers a better idea if AI is actually providing customer value.

Create a Responsible AI Governance Framework

Last, retailers need to create governance processes on privacy, transparency, algorithmic bias, data security, human oversight and customer consent. Good AI should be integrated into the retail strategy, and not just considered as a tech challenge. Companies that can show their customers how the data is being used responsibly and that they know about how the AI is being applied will likely be more successful in building a loyal customer base.

Overall Managerial Benefit

In terms of management, there are three levels of benefits that can be achieved with the effective use of AI.

The first category of benefits: Customer-level benefits, including greater convenience, personalization, faster service, better product discovery, and improved experience.

Secondly: Operational benefits – better demand forecasting, efficient customer support, better inventory management, lower service costs, better resource allocation.

Third, strategic benefits: better customer relationship, higher engagement, higher loyalty, differentiation from competition, better omnichannel retail ecosystem integration.

Hence, the management implication drawn from the study shows that the retailers should not go in for AI just because the competitors are going for it. They should use AI when it can help them solve actual customer issues, ensures the seamless omnichannel customer journey, and delivers measurable value, while also being trustworthy, transparent, private, and controlled by humans.

Future Research Directions

The suggested framework could be tested in a number of different retail environments and in the different geographical regions, as an empirical study would be applied.

The present study presents an empirical knowledge of the mechanisms that impact shopper experience in the context of omnichannel retailing when using AI. However, there are still several avenues for future research. Given the dynamic development of AI technologies, future research could build upon the current scope, including the investigation of other technological, psychological, behavioural, and contextual factors.

Longitudinal Studies

In future studies, a longitudinal research design could be used to investigate variations in shopper perceptions of AI over time. Much of the current knowledge about the use of AI comes from snapshots of perceptions at a specific moment in time. Over time, however, consumer trust, acceptance, satisfaction, and privacy perceptions are likely to change as a result of repeated exposure to AI-powered recommendations, chatbots, personalization, and automated services. Longitudinal studies would then be able to assess whether the benefits of the use of AI grow as it is used more often or whether there is some level of "technology fatigue" or privacy concerns after being exposed to AI more and more.

Further research is needed to determine if there are cultural implications on the association between AI adoption and shopper experience. There may be country and/or culture differences in consumer attitudes towards privacy, technology, personalisation and trust. Comparative studies of India with other Asian economies, Europe, North America and emerging markets would provide interesting data on the generalizability of the proposed framework.

Generational Differences

Comparisons between the Generation Z, Millennials, Generation X, and older consumers could be

explored in future research. While younger consumers might be more sophisticated with using AI-powered digital services, older consumers might rely on more personal touchpoints and trust in security. Understanding generational differences may enable retailers to tailor their AI-driven experiences to suit specific generations.

Artificial Intelligence Literacy

The present study highlights the importance of shopper digital literacy. Future studies might be able to create a more specific measure of AI literacy, and determine whether or not AI literacy affects trust, perceived usefulness, perceived risk, and the willingness of consumers to engage with AI-powered retail systems.

Privacy, surveillance and perceived intrusiveness

The privacy–personalization paradox needs to be studied in more depth. Customers like to be told what to buy, but they also don't like it when retailers know too much about their likes and dislikes or when they know too much about their shopping habits. The threshold between usefulness and intrusiveness in personalization could be explored in future studies. This would give retailers valuable insight into personalization strategies that will be considered responsible.

Human–AI Collaboration

Future studies might explore the superior shopper experiences that can be delivered through human–AI interaction compared with the fully automated and fully human service options. For instance, they could contrast customer support via chatbot with customer support via human agents, and also with AI-enabling human customer service. This research could help identify the interactions with customers that should be handled by a human being and what can be automated.

Holistic View of a Successful Retail Visit

Future research can allow the variables to be expanded beyond the overall shopper experience. It was possible to investigate how AI-powered experiences affect:

- Customer satisfaction
- Purchase intention
- Repeat purchase
- Customer loyalty
- Customer lifetime value
- Word-of-mouth
- Brand advocacy
- Customer retention

Dynamic and Emerging Omnichannel Technologies

Lastly, new technologies like AI-powered virtual shopping assistants, Augmented Reality, Virtual Reality, Computer Vision, Voice Commerce, Autonomous Checkout and AI-generated product content should be explored in the future. The customer journey is expected to be changed by these technologies, which will become a multi-channel experience.These technologies will most likely drive the multi-channel customer journey. Future studies could explore whether the identified mechanisms in the current study are still applicable as AI is integrated into every aspect of the shopper journey.

Conclusion

It is a huge change in retailing revolution which is powered by Artificial Intelligence. AI is rapidly transforming the retail industry with the ability to offer retailers more tailored assistance, personalised, efficient and integrated shopping experience over the channels. But, the functionality of AI-based Consumers' perceptions and opinions are crucial to retail systems, in addition to the technological competency.

The present study integrates the concepts of Artificial Intelligence adoption, consumer trust, Digital literacy and shopper experience, providing an overall landscape of the future of omnichannel retail. The proposed model, that summarizes the researchers and practitioners' experiences of the evolution of their consumer's understanding, which was observed in their own environment, and how it is likely to evolve in a more digital retail environment, and what potential new technologies hold to enhance their consumers' experience.

This study delved into the connection between AI use and the actual customer experiences of the omnichannel retail and the mechanisms. Given the transformation of the retail space from seamless operational tech to a central component in the retail customer experience and engagement and empowered by AI, the study drove by this. As consumers navigate through multiple retail channels, AI helps retailers customize product recommendations, automate their services, predict consumer trends, improve their search features, optimize their stock management, and further trim down the shopping process.As more and more shoppers go shopping on multiple channels, AI enables these stores to make customized product recommendations, automate services, anticipate their consumers' needs, enhance search experience, fine-tune stocking and present a more seamless shopping journey altogether.

The results offer a crucial takeaway on the link between AI adoption and shopper experience: AI

isn't a guarantee of improving shopper experience. The usefulness of its value is in how its uses are perceived as relevant, useful, convenient, trustworthy and respectful of privacy to the shoppers. Thus, the connection between adopting AI and shopper experience needs to be dissected through the avionics and the mediators of its capabilities on shopper perceptions and behavioural responses.

More emphasis is placed on an individual personalization, ease of service, usefulness and trust in AI are given more attention. These processes represent a means by which AI can add consumer-value. Product information relating to the search, and personalised suggestion to reduce the search efforts. AI service systems are able to improve the responsiveness and convenience of service.AI service systems can boost customer responsiveness and convenience. Smart search and suggestion can assist in decision making. These can be combined to help provide a more cohesive and satisfying ‘omnichannel' experience.

The study also reveals the negative aspects of the adoption of AI. Cutting edge technologies used for personalisation may also include collecting and analysing vast quantities of data about potential customers. This may result in some privacy concerns or customer complaints about the intrusive nature of AI-driven communications. Too personal, hint at suspicious or tracking can reduce the feeling of authentic and comfortable shopping. So, there's no straight line relationship between AI and a better shopper experience, and it is not always good.

Trust is a key element in this instance. shoppers will have to find assurance that the AI systems are reliable and value adding, instead of personalized for exploitation. With trust established, customers may be more open to new recommendations and services provided by AI in their retail experience. However, even AI-powered systems with a high degree of trust and sophistication can fail to produce satisfactory results for customers when trust is compromised. Trust is not only a “side effect” of the adoption of the technology, it is also a vital consideration retailers should give when in implementation.

As the concept of shopper digital literacy continues to gain emphasis, there is a growing need for a differentiated approach to using AI in retailing. Consumers are not alike in their understanding, assessment and engagement with the digital tools. Thus, an individual AI application could be a positive for one customer and negative for another. This means that retailers need to develop AI user interfaces for everyone: for disabled users who lack the technical expertise, for people who do, but still prefer not to engage with complex innovations, and for those who are tech-savvy and value convenience. Meanwhile retailers will have to develop AI interfaces for all customers,

making sure that these interfaces are accessible to people with different degrees of tech skills and provide enough information and control.

The study is aligned with the increasingly expansive research of AI in retail, but rather than the ‘should retailers adopt AI’ discussion, it focuses on the more relevant question of ‘how does the adoption of AI create shopper value?'. This approach provides more insight into the correlation of shoppers' experiences and AI. The customer value created by AI must be understood within the context of a series of technological, perceptual and psychological processes.

The takeaway is that AI strategy practititioners at the retailer end are advised to have a ‘cool and balanced’ approach, taking into account the repercussions that emerged. The aim is to optimise their own personalisation, ease, effectiveness and integration of channel benefits and minimise any negative effects such as privacy, intrusion, insecurity and loss of control for the customer. It isn't about using as much AI as you can in the retail sector, it's about using AI to make the shopper more valuable.

The study also reinforces the importance of human–AI collaboration. AI can take care of numerous parts of retail operations, but there is still a critical need for human interaction, particularly when dealing with emotional considerations and high involvement purchases, such as the handling of complex or difficult customer inquiries. So, in the near future, there will no longer be a time when full-born human replacement in omni-channel shopping was in the future. On the other hand, the more productive model is for the AI to do ordinary and data-driven work and for the humans to provide judgment, empathy, reassurance and relationship-giving skills.

While AI-driven solutions are an enormous chance for omnichannel.e-retailers, there's much to be determined on how using them in a way that affects the user experience and which of these digital tools will achieve success depends on how they're applied. While AI can help to improve the shopping experience in a more customized, efficient, convenient and seamless fashion, those advantages can be undermined if the customer feels like AI is getting in the way, it's not transparent, it's not reliable or that it's intrusive or not respecting their privacy. Therefore, to be successful, AI-driven omnichannel retailing needs to be a balance between tech and consumer experience.

It's certainly a study that suggests there's more to it than just technology-first and that a consumer-centric, privacy-aware, trust-based and transparent AI approach should be adopted by retailers.

References

- Chen, C.-J., & Cheng, J. M.-S. (2026). When help feels creepy: A MOA model of AI smart-retail adoption via perceived intrusiveness and the moderating role of trust in AI. *Journal of Retailing and Consumer Services, 90*, 104699. https://doi.org/10.1016/j.jretconser.2025.104699
- Jasim, K. M., Puthineedi, V. B., & Jha, A. K. (2026). AI-powered personalization in online fashion stores: Exploring the impact on shoppers' perceived risk and intention to buy and recommend. *Information & Management, 63*(4), 104347. https://doi.org/10.1016/j.im.2026.104347
- Osman Zobair, A. S., Osman Kodai, Z. M., Almansour, M. A., & Mohammed, S. D. A. (2026). When AI advice backfires: Field experimental evidence on personalization, intrusiveness, and purchase behavior. *Journal of Retailing and Consumer Services, 92*, 104844. https://doi.org/10.1016/j.jretconser.2026.104844
- Vu, C., Ozuem, W., Willis, M., & Katz, J. (2026). Navigating trust and the personalization-privacy paradox in AI-driven e-commerce: A consumer pathway framework. *Journal of Retailing and Consumer Services, 93*, 104938. https://doi.org/10.1016/j.jretconser.2026.104938
- Yang, G., Du, Q., Cai, W., Fang, Y., & Agag, G. (2026). Designing persuasive chatbots: Cross-market evidence on cognitive and affective pathways in AI-mediated retail interactions. *Journal of Retailing and Consumer Services, 92*, 104809. https://doi.org/10.1016/j.jretconser.2026.104809
- Metwally, A. B. M., Al-Maghzom, A., Shabeeb Ali, M. A., & El-Halaby, S. (2026). Human familiarity meets machine intelligence: Evidence from experimental studies of generative AI and financial performance in U.K. retail. *Journal of Retailing and Consumer Services, 91*, 104726. https://doi.org/10.1016/j.jretconser.2026.104726
- Blumenstein, E., Bamiatzi, V., Hult, G. T. M., & Pena Marin, J. (2026). Making omnichannel work: A dynamic capabilities roadmap for retail transformation. *Journal of Retailing*. https://doi.org/10.1016/j.jretai.2026.03.003
- Hou, C., Li, T., & Gu, Y. (2026). Artificial intelligence versus human providers for personalized solutions? The influence of expected group size and perceived uniqueness

on adoption intentions. *Journal of Retailing and Consumer Services, 88*, 104544. https://doi.org/10.1016/j.jretconser.2025.104544

- Qadri, U. A., Ahmed Moustafa, A. M., & Waqas, M. (2026). When and how AI personalization drives sustainable purchases: The roles of relevance, privacy, and transparency in eco-friendly advertising. *Journal of Retailing and Consumer Services, 89*, 104592. https://doi.org/10.1016/j.jretconser.2025.104592
- Lopes, J. M., Massano-Cardoso, I., & Silva, F. (2026). From AI-enabled service quality to digital immersion state: Effects on the awe experience in fashion e-retail. *Future Business Journal, 12*, 53. https://doi.org/10.1186/s43093-026-00763-3
- Pang, H., Wang, Y., Sun, M., & Wang, R. (2026). How artificial intelligence functionalities boost consumer benefit and impulse shopping? The significant role of responsive communication and conversational communication. *Computers in Human Behavior, 181*, 108999. https://doi.org/10.1016/j.chb.2026.108999
- Arce-Urriza, M., Chocarro, R., Cortiñas, M., & Marcos-Matás, G. (2025). From familiarity to acceptance: The impact of generative artificial intelligence on consumer adoption of retail chatbots. *Journal of Retailing and Consumer Services, 84*, 104234. https://doi.org/10.1016/j.jretconser.2025.104234
- Chen, Y., & Prentice, C. (2025). Integrating artificial intelligence and customer experience. *Australasian Marketing Journal, 33*(2), 141–153. https://doi.org/10.1177/14413582241252904
- Artusi, F., Magistretti, S., Bellini, E., & Dell'Era, C. (2025). Technology-aided customer experience innovation: Implementation modes in retail. *Creativity and Innovation Management, 34*(2), 414–426. https://doi.org/10.1111/caim.12646
- Sharma, N., Acquila-Natale, E., Dutta, N., & Hernández-García, Á. (2025). A tale of stores and screens: Unveiling consumer behaviour in omnichannel retailing through the lens of behavioural reasoning. *Electronic Commerce Research and Applications, 70*, 101480. https://doi.org/10.1016/j.elerap.2025.101480
- Brindha, G., Vidya, M., & Reshma, M. (2025). AI-driven omnichannel marketing and customer experience: A bibliometric overview. *Indian Journal of Marketing, 55*(11), 69–92.

- Oesterreich, T. D., Anton, E., Hettler, F. M., & Teuteberg, F. (2025). What drives individuals' trusting intention in digital platforms? An exploratory meta-analysis. *Management Review Quarterly, 75*, 3615–3667.
- Blut, M., Wünderlich, N. V., & Brock, C. (2024). Facilitating retail customers' use of AI-based virtual assistants: A meta-analysis. *Journal of Retailing, 100*(2), 293–315.
- **Ameen, N., Tarhini, A., Reppel, A., & Anand, A. (2021).** Customer experiences in the age of artificial intelligence. *Computers in Human Behavior, 114*, 106548.
- Gao, M., & Huang, L. (2021). Quality of channel integration and customer loyalty in omnichannel retailing: The mediating role of customer engagement and relationship program receptiveness. *Journal of Retailing and Consumer Services, 63*, 102688.
- Gao, W., Fan, H., Li, W., & Wang, H. (2021). Crafting the customer experience in omnichannel contexts: The role of channel integration. *Journal of Business Research, 122*, 255–265.
- Quach, S., Barari, M., Moudrý, D. V., & Quach, K. (2022). Service integration in omnichannel retailing and its impact on customer experience. *Journal of Retailing and Consumer Services, 65*, 102267.
- Tyrväinen, O., Karjaluoto, H., & Saarijärvi, H. (2020). Personalization and hedonic motivation in creating customer experiences and loyalty in omnichannel retail. *Journal of Retailing and Consumer Services, 57*, 102233.