



## **Enhancing Customer Experience and Value through Artificial Intelligence (AI): Opportunities, Challenges, and Future Prospects**

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### **Abstract**

*Artificial Intelligence (AI) transforms business-consumer interactions, providing significant opportunities to improve customer experience and increase revenue. Organisations may use technology such as machine learning, natural language processing, and predictive analytics to get deep insights into client behaviours, customise interactions, automate service delivery, and foresee future requirements. AI-powered solutions like chatbots, recommendation systems, and virtual assistants have become essential for delivering smooth, responsive, and intuitive consumer experiences across several sectors. This study examines the several functions of (AI) in improving customer experience and generating profit. It analyses how AI facilitates personalised marketing, real-time assistance, and data-informed decision-making for organisations, resulting in enhanced customer happiness, loyalty, and sustained engagement. Moreover, the incorporation of AI into Customer Relationship Management (CRM) systems enables more responsive and intelligent reactions to client needs, while enhancing operational efficiency. The implementation of AI presents many obstacles. Ethical considerations, including data privacy, algorithmic bias, and transparency, must be meticulously addressed to uphold trust and equity. Moreover, organisations have technological and organisational challenges in deploying AI, such as substantial expenses, data silos, and staff adjustment. Confronting these obstacles is essential to optimising AI's capabilities in customer-focused initiatives. The future of AI in customer experience will include more human-like interactions, predictive customer path mapping, and proactive service models. As AI technologies advance, customer expectations will also develop, necessitating that companies always innovate and adapt. This article concludes by emphasising the strategic significance of responsible AI implementation and the need for a balanced strategy that prioritises both technological progress and ethical concerns to realise long-term consumer value.*

**Keywords:** Customer experience, Artificial Intelligence, customer support, automation.

## **1.0 Introduction**

The need to enhance customer experience has intensified in recent years due to heightened competition. To enhance service delivery and provide tailored treatment to clients, companies integrate artificial intelligence (AI). While companies are enthusiastic about future investments in technology, its implementation relies on comprehending the potential and problems it entails (Prentice & Nguyen, 2020).

Customer experience is defined by the impressions and emotions elicited by a customer's contacts with a business throughout the stages of purchase, use, and service of a product. Businesses using technology may now better understand their clients, hence customizing preferences and service delivery for people (Varghese *et al.*, 2022). AI enables companies to enhance customer service interactions via personalised treatment that advantages both parties. AI facilitates the real-time customisation and recommendation of items around the clock on websites, mobile devices, and social media platforms, thereby fostering deeper consumer relationships.

## **2.0 Understanding Customer Experience**

The total of all encounters that a consumer has with a firm is what they consider to be the customer experience. According to Prentice and Nguyen's research from 2020, there are four essential elements that contribute to the formation of customer experience. In the first place, the human experience that is brought about by the attitude of employees towards clients. Second, the functional experience that is associated with the dependability of the service itself and the technical quality of the service. Furthermore, the customer's impression is influenced by the sensory components that are included in the mechanical experience. These components include sights and sounds. The fourth point is that the previous three experiences influence the cognitive and emotional impressions of the quality of the service. The influence of artificial intelligence was seen via its capacity to provide convenience, as shown by auto-messaging services that are available around the clock, which are aligned with the functional experience. Despite this, a sizeable proportion of customers continue to place a higher value on human contact with staff than they do on services driven by artificial intelligence, and they express displeasure when services do not allow for personalisation. Consumers' responses are determined by the emotional capabilities they possess; some consumers continue to accept artificial intelligence, while others are negatively impacted by unpleasant encounters with staff service experiences. Considering this, emotional intelligence plays a significant part in determining how customers perceive and react to service offerings during encounters.

## **3.0 The Role of AI in Customer Experience**

With the help of artificial intelligence, the primary engagement that consumers have with businesses is undergoing a little transformation. When consumers need support, they are increasingly turning to technology-enabled channels as their first port of call rather than seeking aid from human agents. The ability of artificial intelligence to assess and modify the whole user experience has the potential to increase the efficiency with which organisations gain new

consumers, interact with existing customers, and keep existing customers (Varghese *et al.*, 2022). According to Prentice and Nguyen (2020), Artificial Intelligence technologies like chatbots, digital assistants, knowledge management systems, and machine learning algorithms all make it possible to create possibilities that have never been seen before for improving stakeholder experiences and value generation. In recent years, the deployment of artificial intelligence has continued to be a major area of organisational endeavour. This is in conjunction with the belief that AI will continue to gain in importance as a fundamental aspect that underpins competitive advantage.

Despite the widespread deployment, however, the fundamental dynamics of artificial intelligence continue to be poorly understood, and a significant number of AI programs have been found to be ineffective. With the experience of COVID-19, it has become even more apparent that it is essential for businesses to embrace artificial intelligence systems more quickly, effectively deploy them, and manage them in an efficient manner to maintain their viability and relevance in an environment that is always changing. This difference highlights the need for a more comprehensive knowledge of the phenomena associated with artificial intelligence (AI) as well as a more comprehensive delineation of the potential and problems that are given by AI. The efficient use of artificial intelligence is a known priority for practitioners and a topic of active academic study. It presents a fruitful channel of exploration that promises to give both practical advice and theoretical advancements (Prentice & Nguyen, 2020).

#### **4.0 Opportunities Presented by Artificial Intelligence**

The use of artificial intelligence (AI) makes it possible to engage in unique types of personalisation and direct connection with clients. It helps with natural language processing and speech identification, and it builds on early statistical efforts to make dynamic interactions possible.

Messages that are both personalised and relevant are given by AI algorithms in response. These algorithms handle complex combinatorial problems that people are unable to answer as fast or precisely, and they personalise their solutions to the specific requirements and preferences of each individual consumer on an individual basis (Jones, 2018).

Technology that was entirely out of reach only a few years ago has resulted in further advantages of a similar kind. The potential to build new fusion data sets and execute analysis that were previously impracticable are among them. Other examples include artificial intelligence (AI), chatbots, virtual and augmented reality, networked sensors, and more capabilities. More personalisation, enhanced customer service, predictive analytics, and the automation of corporate operations are four of the most important ways that artificial intelligence may be used to create value (Varghese *et al.*, 2022).

#### **4.1 Personalization of Services**

Businesses now can design and provide highly personalised goods, services, and experiences with increased speed, convenience, and relevance thanks to artificial intelligence (AI). According to Prentice and Nguyen (2020), one of the most important opportunities is the capability to anticipate the demands of customers, to deliver personalised suggestions, and to create

experiences that are relevant, real, and adapted to individual tastes. Personalisation that is driven by artificial intelligence enables businesses to increase consumer engagement and loyalty, which in turn allows them to surpass their rivals in terms of growth and profitability. One example of how artificial intelligence may be used to allow trend identification, predictive consumer insights, and customer-support automation components that are needed for providing highly customised, data-driven, and emotionally linked experiences is the use of AI. Furthermore, artificial intelligence stimulates innovation in corporate models and processes by enhancing interaction intelligence and engagement.

#### ***4.2 Enhanced Customer Support***

AI makes it possible for customer service representatives to provide individualised assistance that is tailored to the specific qualities and requirements of each individual consumer. It aids agents by reading about the purpose of a client and carrying out necessary actions, such as processing a refund or elevating an issue via the right channels. Using generative artificial intelligence, replies may be composed or adapted, response times can be sped up, and related articles can be suggested to better assist the consumer. Through the exchange of information and the recording of tacit expertise, the system increases the productivity of workers with high levels of expertise. It also provides real-time suggestions that make it possible for even less experienced agents to provide service of the highest possible quality. Because of this capacity, waiting times are cut down, and staff are freed up to focus on more difficult duties that need human intelligence and interpersonal skills.

#### ***4.3 Predictive Analytics***

One of the most significant advantages of artificial intelligence is the ability to do predictive analytics, which enables businesses to improve their knowledge of the customer journey and to anticipate the behaviour of customers in the future. Artificial intelligence predictive analytics may anticipate consumer behaviours, preferences, and wants by analysing past data and recognising trends. This allows for strategic decision-making and resource allocation to be informed by the outcomes of these analyses.

The importance of predictive analytics to overall customer experience has been established in a variety of different scenarios (Varghese *et al.*, 2022). A comprehensive survey of the literature on artificial intelligence-driven research demonstrates that predictive analytics is a key focus of present research. When applied to the field of healthcare, artificial intelligence predictive analytics makes use of sophisticated algorithms and machine learning techniques to examine patient data. This process reveals previously concealed patterns and connections, which enables more accurate forecasting in comparison to more conventional approaches. There has been a significant amount of recognition of the promise of AI-driven predictive analytics in the healthcare industry; yet there has been a limited amount of investigation into the influence that this potential has on patient outcomes across a wide range of ailments and situations (Dixon *et al.*, 2024). Despite this, predictive tools that are based on statistical methods have shown to be quite useful in predicting occurrences based on previous data. Moreover, machine-learning

algorithms make early diagnosis and preventative care more accessible by forecasting patient risks and identifying potential responders to therapy. This, in turn, drives a change towards a healthcare strategy that is focused on the patient. There is parallel relevance that develops in other areas, such as banking, retail, and travel, where artificial intelligence provides comparable benefits in optimising service delivery.

#### ***4.4 Automation of Processes***

Automating systems that need human contact is one of the most important uses of artificial intelligence. This transition is made possible by technologies that specialise in intelligent automation, which combine automation tools with artificial intelligence and sophisticated analytics to handle difficult problems. On the other side, artificial intelligence-powered solutions manage exceptions and analyse processed data, while robotic process automation (RPA) manages repetitive, rules-based operations in an effective manner. To offer broad process coverage, automation that is powered by artificial intelligence operates across a wide variety of data types, including unstructured information such as emails and photos.

Processes that are accessible to AI augmentation often display high levels of unpredictability and need a significant amount of decision-making. It is becoming more common for intelligence augmentation systems to emerge as tools that are scalable, cost-effective, and capable of handling activities that are both complicated and unexpected. Case studies indicate that new technologies that are automated by artificial intelligence may bring significant gains to organisations. These improvements include quicker automation, decreased costs, improved service quality, better responsiveness, and compliance with regulatory requirements. The ability to successfully harness the value created by artificial intelligence is available to organisations that carefully examine and choose acceptable use cases, taking into consideration the interaction between cognitive and automation technologies (Anagnoste, 2018).

#### ***4.5 Growth and productivity at the macroeconomic level***

There is increasing agreement that artificial intelligence (AI), and generative AI in particular (GenAI), is a versatile technology with significant productivity potential. On top of earlier AI gains, the McKinsey Global Institute projects that GenAI could generate an additional \$2.6 – \$4.4 trillion in value annually across the use cases that have been examined (McKinsey, 2023). In support of this, recent OECD research highlights distributional dynamics and contends AI's autonomy and self-improvement can help boost slow productivity growth (OECD, 2024). Approximately 40 – 60% of jobs, depending on development level, will be exposed to AI, according to IMF projections. This suggests significant potential for augmentation-led productivity, in which tasks are complemented rather than replaced (IMF, 2024).

#### ***4.6 Employee augmentation and firm-level efficiency***

In a randomized trial, ChatGPT access decreased task time and enhanced output quality for mid-level professional writing tasks; the greatest benefits were experienced by participants with lower skill levels, suggesting the possibility of skill equalization (Noy & Zhang, 2023). This experimental

evidence demonstrates instantaneous, useful gains. Surveys conducted across businesses show a quick adoption of GenAI and expectations of increased software, sales, and service productivity (McKinsey, 2023).

#### **4.7 Accelerated R&D and scientific discovery**

Discovery cycles are already accelerated by AI. For example, by predicting protein structures with almost experimental accuracy, AlphaFold revolutionized structural biology and opened the door to further uses in enzyme sign and drug discovery (Jumper *et al.*, 2021). The 2024 AlphaFold 3 expands therapeutic design possibilities by extending predictions to protein-nucleic acid-ligand complexes (AlphaFold 3 authors, 2024). Similarly, accelerated bio-innovation pipelines are predicted by parallel developments in de novo protein design, which demonstrate generative models producing functional proteins (Watson *et al.*, 2023).

### **5.0 Challenges in Implementing Artificial Intelligence (AI)**

There are also significant obstacles and constraints that are brought up using AI in customer experience. Concerns about data privacy stand out among them, particularly in relation to the process of personalisation and the collection of information. In addition to these problems, there are also challenges with the interaction with legacy systems, the expense of installation and maintenance, and the lack of knowledge and skills among personnel. To enable effective deployment of artificial intelligence in customer-facing procedures, it is essential to address these problems (Papagiannidis *et al.*, 2023; Varghese *et al.*, 2022).

#### **5.1 Data Privacy Concerns**

According to Zarifis *et al.* (2024), concerns about data privacy are a key factor that contributes to the sluggish or restricted adoption of artificial intelligence (AI) technology within sensitive settings. These contexts include health insurance and healthcare in general. When customers are unable to make changes to their health information, as they would be able to do with their bank or social media login credentials, the ownership of private data takes on a greater level of significance. Therefore, health insurance companies have a responsibility to protect the privacy of their patients while simultaneously choosing the AI settings that are best appropriate for an individual's specific use case. Furthermore, the very sensitive nature of healthcare data is comparable to current worries around unauthorised monitoring, data breaches, and the inappropriate designation of people as unsafe or troublesome situations, which are made worse by predictive analytics. It is still very necessary to implement stringent data security procedures to protect sensitive patient information and protect against the possibility of human damage.

Big data and the incorporation of AI both exacerbate concerns about privacy. In most cases, customers express ambiguity over the precise use of their personal data and whether the use of their data in the future may potentially be detrimental. It is thus unsettling that the capability of autonomously retrieving and evaluating data that is beyond the capacities of humans continues to exist. There is a correlation between the perceived humanness of AI contact and the level of openness about automated procedures, which in turn influences public trust. It is also necessary

to give serious thought to the disclosure of explicit AI engagement as part of the launch of AI services; in addition, depending on the circumstances, varied degrees of disclosure, ranging from complete transparency to no indication of AI involvement, may be appropriate.

### ***5.2 Integration with Existing Systems***

Interfaces that are both extensible and adaptive are often required to ease integration between artificial intelligence systems and preexisting client platforms. APIs that are adaptable are included in several commercial artificial intelligence platforms, such as smartphones and biometric devices, to satisfy integration needs of this kind. To address these issues about integration, artificial intelligence may be paired with robotic process automation, which is a developing technology that is aimed to augment current systems with the capabilities of automation (Varghese *et al.*, 2022).

### ***5.3 Cost of Implementation***

Investment of a considerable amount of money is required for AI (Prentice & Nguyen, 2020). Organisations need to strike a balance between the enhanced value that artificial intelligence (AI) delivers and the large investment in technology and skills that is required. To guarantee the continuous operation and learning of artificial intelligence systems, human labour continues to play a crucial role. There is the potential for significant expenses to be incurred while recruiting or retraining the workforce. The magnitude of the required investment and the rate of change are two of the most significant hurdles, but there are other intangible aspects that contribute to the problem, such as the desire to give up control over automated decision-making. In addition, the value that is at stake if AI fails might be enormous in terms of either economics, reputation, or society. The positions that entail interacting with customers are much too critical to allow for autonomous decision-making; hence, people must continue to be engaged. When it comes to the early phases of operating AI tools, human interaction is necessary until the technology reaches the point where it meets expectations and finally surpasses previous performance. Keeping in mind the expenses and the potential for failure that are involved with the implementation of AI is essential for organisations.

### ***5.4 Skill Gaps in Workforce***

The absence of staff members who are data-literate and have a strategic business vision is a barrier to the widespread use of artificial intelligence. There are skill shortages in the workforce, which further impedes the adoption and use of AI. According to Brynjolfsson *et al.* (2023), businesses that use artificial intelligence without providing their employees with proper training run the risk of squandering considerable investments and leaving organisational potential unrealised. The proliferation of apps that use artificial intelligence (AI) is contingent upon the availability of staff members who possess an acceptable skill set. Depending on factors such as age, level of experience, and employment, there is a discernible gap in the capacity of workers to reap the benefits of help from generative artificial intelligence.

## **6.0 Selected Sectoral Case Studies of Artificial Intelligence**

A significant factor that determines the distinction and success of a company is the customer experience, which may be described as the perceptions that consumers have of a brand because of their encounters with that brand. According to Prentice and Nguyen (2020), artificial intelligence (AI) can instill value by combining digital intelligence with human qualities in a way that is unique. This helps to make consumer connections more engaging and collaborative. A vital issue involves the apps that are used in the real world by businesses to improve the experience that they provide for their customers. There are several examples from a variety of industries that highlight the numerous advantages that artificial intelligence offers in terms of enhancing the entire experience and providing value for customers (Sikalumbi, 2023).

Amazon makes substantial use of artificial intelligence in the retail and logistics industries to improve consumer happiness. During the consumer journey, technologies like Alexa are used to aid, and the corporation uses complex algorithms to personalise the e-commerce experiences of its customers. To facilitate purchasing without the need for typical contacts with cashiers, the Amazon Go idea makes use of computer vision, sensor fusion, and deep learning. This helps to streamline the customer experience. Order fulfilment is automated via the employment of Kiva robots, which results in an increase in operational efficiency. Similarly, Walmart and Target also utilise robots for inventory management, which contributes to the improvement of shopping environments around the country (Papagiannidis *et al.*, 2023).

Applications in finance demonstrate how artificial intelligence systems may personalise interactions between customers and clients and assist owing instruments to meet unique needs. For the banking business, the use of artificial intelligence is becoming more characteristic of solutions, and it is continuing to alter portfolio management. Chatbots that are driven by artificial intelligence can internalise enormous amounts of information and provide competent business intelligence to engage customers and deliver information that is aware of the context. The ongoing development of artificial intelligence applications within organised finance is influenced by input from customers (Zhang *et al.*, 2022).

Within the realm of healthcare, the function of AI-driven systems goes beyond the automation of preventative and predictive analyses. In this context, machine learning involves the identification of patterns and trends in observational data. AI is also pervasive in customer relationship management solutions, which are responsible for maintaining patient involvement across the whole cycle of care. As a means of accelerating patient service and empowering patients to take ownership of and control their own treatment journey, healthcare professionals are putting a greater focus on engagement and involvement.

The travel and hotel industry has chances to improve the overall consumer experience, which may be supplemented by the proliferation of connected devices (e.g., Internet of Things). Applications that use artificial intelligence are used by industry players to assist in decision-making. These applications include predicting the arrival of customers and balancing operational needs such as inventory and turnover. It is becoming more common for robots to take on the role of people and provide passengers with individualised, context-driven services.

### **6.1. Retail Industry**

Artificial intelligence (AI) is being gradually used by the retail industry to improve the overall consumer experience. A significant increase in the number of drivers includes a boom in global e-commerce, broad use of mobile devices, increased demand for omnichannel experiences, shifting customer expectations, the deployment of AI-enabled consumer help, and increasing smartphone penetration. However, the growth of the market may be hampered by several factors, including concerns regarding data privacy and security, a lack of awareness regarding the advantages of artificial intelligence, a scarcity of skilled AI professionals, and difficulties associated with the deployment of AI applications. Increased use of artificial intelligence technology is driving transformations in retail supply networks (Varghese *et al.*, 2022).

There is the potential for artificial intelligence to be used by retail supply chains to anticipate demand trends, govern inventory replenishment, and enhance warehouse management, operational efficiency, and product quality. The retail business is still going through a period of profound transformation, and it is anticipated that disruptions will continue during the next ten years. Artificial intelligence, blockchain technology, and extended reality are the focal points of this discussion. Considering the nature of the anticipated developments in technology, effective navigation will need an updated strategic viewpoint as well as an openness to experimenting with new prospects that are disruptive (Prentice & Nguyen, 2020).

Additionally, issues that are associated with lengthy shipment durations, which typically range from eight to ten days for a new phone model, are addressed. Using artificial intelligence in the logistics process, prominent corporations like Amazon can dispatch orders within two days of receiving them. Products are delivered to consumers within twenty-four hours when they choose express delivery. The incorporation of AI strategies into operations not only improves efficiency but also contributes to the development of a favourable experience for customers.

### **6.2. Banking Sector**

The use of artificial intelligence (AI) presents banks with a tremendous opportunity to enhance the client experience and establish a distinct edge over their competitors. State Bank of India (SBI) is a worldwide organisation that has 25,000 branches, 60,000 ATMs, and almost 70 million active online and mobile banking customers. The instance of the virtual assistant SBI-SIA highlights the achievements that have been made in virtual banking at SBI. The capabilities of the virtual assistant illustrate how artificial intelligence drives digital transformation and supports banks in their efforts to serve customers of the next generation and extend their possibilities for development. Moreover, AI makes it possible to automate more business processes. In the context of lending, artificial intelligence analyses data, detects records that are problematic, makes risk predictions, and assesses whether transactions fulfil the requirements that have been set (Liu & Han, 2022). These artificial intelligence systems can provide alerts, prevent incorrect transactions in real time, and greatly improve risk management as a result.

### **6.3. Healthcare Services**

Artificial intelligence plays a significant role in the transformation of healthcare services by facilitating automation, boosting client engagement, and improving relationships. According to Fogel and Kvedar (2018), artificial intelligence applications are being implemented directly in patient-facing settings to provide practitioners with the information they need to assist them in meeting the demands of their clients. According to Varghese *et al.*, (2022), virtual assistants and automated systems are being more dependent upon managing customer enquiries and problems, hence lowering the degree to which human agents are required. The use of artificial intelligence helps to improve the knowledge of client requirements, enables personalization, and expedites administrative procedures. The data is analysed and synthesized to provide direction for decision-making, which in turn helps with the formulation of replies, customer journeys, and the production of individualized goods and services. Through the facilitation of autonomous customer service and the speedy processing of documents and requests, for instance, these technologies contribute to a rise in the whole level of satisfaction experienced by customers.

### **6.4. Travel and Hospitality**

During the experience phase of travel and hospitality, the need for physical contact, which can only be provided by robots, is once again emphasised. Chatbots, travel assistants, and service robots are examples of artificial intelligence systems that are used at the client interface (Geisler, 2018). When it comes to using artificial intelligence, the tourist sector often favours partnership models since it does not consider technology to be a key skill. For the most part, artificial intelligence influences the industry in two ways: first, it automates jobs via the use of chatbots and service robots; second, it improves judgements and enables new duties with personalised services. In contrast to customer-shifted process automation, which includes self-check-in terminals, artificial intelligence (AI) automates processes rather than just transferring human labour. As an example, supermarkets that are driven by artificial intelligence can recognise consumers and automatically charge them for their purchases. Additionally, face-recognition technologies enabled automated check-in at hotels and airports. Improvements in decision-making systems have made it feasible to deliver personalised suggestions, which was not possible in the past.

Platforms that make decisions using artificial intelligence gather, assess, and produce personalised offers for customers. This enables hotels to utilise machine learning to construct profiles of its guests and promote items and services that are appropriate for them. Artificial intelligence software collects information about consumer purchases, preferences about location, payment methods, and travel options, which assists in predicting the demands of guests in advance (Ananeva, 2019). The temperature in the hotel can be adjusted, curtains and lights may be operated, and services can be ordered using mobile applications. Guests appreciate control and flexibility, which they can exercise through these apps. Automatic in-room preference modifications are thus made possible by AI, which results in a more personalised experience. Chatbots and virtual assistants are examples of intelligent systems that have been adopted by leading hotel organisations such as AccorHotels and Marriott to improve the quality of service

provided to guests and the management of their preferences. The hospitality sector is generally characterised by technical advancements that are evolutionary in nature and have a big influence on the travel industry.

### ***6.5 Governance and service delivery in the public sector***

Social program targeting, case triage, benefits administration, tax compliance, and citizen engagement can all be enhanced by AI. To assist governments in transforming AI into improvements in productivity, responsiveness, and accountability, OECD guidance provides a readiness framework and a list of global case studies (OECD, 2024).

### ***6.6 Human capital, education, and skills***

Opportunities for formative assessment, content creation, teacher support, and personalized learning are described in UNESCO's global guidance, which also calls for governance and capacity building to guarantee equitable use (Holmes and Miao, 2023). AI is also framed in World Bank work as a tool to increase access and efficacy in educational systems, particularly in areas with limited resources (World Bank, 2024).

### ***6.7 Food and agriculture systems***

Through supply-chain analytics, precision agriculture, and crop monitoring, digital automation and artificial intelligence (AI) can boost resilience, yields, and resource efficiency. Positive business cases in a variety of contexts are demonstrated in FAO's flagship SOFA 2022 report, which highlights the co-benefits of sustainability and productivity (FAO, 2023).

## **7.0 Future Prospects of AI in Customer Experience**

According to Varghese *et al.* (2022), 28% of consumers have utilised artificial intelligence (AI) to engage with a customer service function. This is even though consumer tastes are rapidly favouring the usage of developing technologies in service interactions. Since artificial intelligence is being integrated into a variety of aspects of people's daily life, it is anticipated that AI will play a significant role in future encounters. In addition to management, sociology, and strategy, marketing has been at the vanguard of embracing artificial intelligence (AI) and continues to be at the forefront of the field. The use of artificial intelligence (AI) gives several chances to interact with consumers within the context of customer experience (Prentice & Nguyen, 2020). By their very nature, consumers are neural-paper-based animals, headed by the younger formations of the brain. They seldom complete transactions without obtaining information. Because of this, artificial intelligence has the benefit of being able to adjust to the customer's present emotional state and/or general disposition over their lifespan. It is anticipated that technologies such as virtual reality (VR), voice assistants, strategies, and automation will all integrate alongside artificial intelligence to deliver brand interactions that are more immersive and convenient. Additionally, it is anticipated that consumers will wear brain-monitoring headsets in parallel with these developments. Consumers and artificial intelligence are likely to engage in a wide variety of interactions over the next several decades, and it is not difficult to imagine how these

interactions will develop. The direction of the growth curve will continue to be determined by the desire, permissions, and lifestyles of markets. It is still abundantly evident that the next ten years of artificial intelligence research will be very important for evolutionary changes that will result in long-lasting commercial effects.

### **7.1. Emerging Technologies**

Artificial intelligence has become a fundamental component of daily living, presenting novel experiences and possibilities in recent years. Various industries, like retail, finance, healthcare, and travel, are now using AI technology to improve the quality of consumer experience. A thorough definition of customer experience encompasses all interactions between a client and an organisation throughout the duration of their relationship (Varghese *et al.*, 2022). AI solutions aid consumers in several aspects of service delivery, pinpointing possible enhancements and significantly improving the quality of customer experience.

Innovative technologies aimed at improving consumer experience are becoming more significant. Artificial Intelligence originates from the computer science objective of developing computers that can execute activities necessitating human intelligence. Despite being in its infancy, AI encompasses a wide array of technologies. Innovative solutions save expenses while enhancing operations, a balance unachievable by traditional methods. AI solutions enhance several organisational processes. Despite the social significance of AI systems, firms seldom use high-maturity AI models that include explanation, knowledge, and exploration.

Artificial intelligence is a prominent new technology that offers significant advantages with far-reaching effects on competitiveness and society (Prentice & Nguyen, 2020). Global investments in extensive AI research and implementation are escalating; new entrants, including start-ups and established technology firms, are emerging in the sector. The financial gain-oriented nature of investing necessitates the use of AI to enhance client experience.

### **7.2. Trends in Consumer Behavior**

The external shocks from the COVID-19 pandemic have instigated a transformation in the long-term patterns of consumer behaviour (Varghese *et al.*, 2022). The development of consumer behaviour in recent decades has been shaped by technological advancements and their dissemination across the populace. Contemporary technology, pervasive in customers' life, transforms shopping and consumption patterns, augmenting the volume of transactions executed digitally or remotely (Prentice & Nguyen, 2020). The most recent cohort of digital natives has technical proficiency and is raised with perpetual access to the internet, cellphones, tablets, and social media, which shapes their consumption patterns and interactions with companies. The rising environmental and social concerns in Western industrialised cultures are shaping consumers' priorities in their purchasing decisions, promoting a trend towards sustainability and ethics linked to socio-economic growth.

### **7.3. Long-term Implications for Businesses**

The integration of AI in customer service has significant ramifications for enterprises, reflecting a distinct trend towards increased investment. However, the long-term ramifications are just beginning to surface. A tripartite methodology is suggested to investigate the unique yet interconnected effects of human-centric (emotional and psychological), organization-centered (functional efficiency), and technology-centered (mechanical-machine) experiences on customer perceptions of service quality and satisfaction in AI-driven environments. Expanding upon initial findings about the functions of humanic, functional, and mechanical cues in service, it is essential to comprehend how AI might collaboratively generate value via each in service contexts (Prentice & Nguyen, 2020). Research indicates that AI-generated service experiences surpass personnel service in metaphorical contacts, although employee service is essential in literal encounters (Varghese *et al.*, 2022). These insights indicate the possibility of a service profitability paradox, wherein companies invest in AI to enhance service quality without comprehending the optimal level required to satisfy customer engagement standards, a paradox underscored by customers' preference for interacting with employees in demanding service situations. Comprehensive systematic research is required to uncover distinct client demands, the impact of AI on customer engagement, and the long-term consequences for enterprises (Sikalumbi, 2021).

### **8.0 Ethical Considerations in AI Usage**

Artificial intelligence (AI) has become essential to customer experience, with several organisations using technology to facilitate client access to goods and services. Notwithstanding its extensive acceptance, the future of AI in this discipline remains unknown. The effect on the customer journey and the evolving function of human contacts is ambiguous, and consumer preferences within the new AI paradigm remain uncertain. Therefore, a balanced viewpoint on the future uses of AI must recognise both the benefits it presents, and the obstacles organisations face throughout its implementation.

The preceding experiences, emotions, and impressions a consumer has about a brand significantly affect their loyalty, likelihood to move to a competitor, or propensity to disseminate favourable or bad word of mouth. A dedication to providing exceptional customer experience is essential for attaining company success; so, organisations must comprehend and consistently improve how AI influences customer journey. The potential of AI to generate value and enhance experiences is apparent in its capacities, including personalised product suggestions, improved customer service, predictive analytics, and the automation of ordering and delivery processes. Organisations have several challenges in achieving these advantages, including limitations on data protection, technology integration, financial limits, and staff competencies (Sikalumbi, 2023). Evaluations of AI's influence on customer experience have been enhanced by the analysis of sector-specific implementations. Retail organisations use AI to assist consumers in identifying product preferences, banks employ AI to aid their clients, and healthcare services implement AI in diagnostics and pharmaceutical discoveries. The distinct setting of each sector influences the use of AI and the consequent customer experience. Comprehending these applications may aid in predicting how AI may revolutionise consumer experience in the next years.

The prospects for AI in customer experience are favourable, driven by the rise of conversational AI, widespread integration of digital and social technologies, the shift towards the metaverse, ongoing technical advancements, and the growing digital literacy and proficiency of customers. However, even prevalent excitement for AI must be moderated by ethical considerations. The development of AI solutions may unintentionally include reproducible biases in the training of predictive models, and clients can fail to discern when they are engaging with an AI system instead of a person. These concerns highlight the need for openness and accountability in the design and implementation of AI technology (Hermann, 2022). To guarantee that AI provides genuine advantages to consumers and society at large, it is imperative to focus on ethical standards like privacy, security, and justice.

### ***8.1 Bias in AI Algorithms***

Incorporating AI to enhance customer experience raises prejudice as a significant ethical concern. Bias occurs when the data distribution of a characteristic, such as gender or ethnicity, fails to accurately reflect reality, resulting in inequitable treatment of certain groups inside AI systems. A dataset with a limited number of women engineers may lead to the algorithm exhibiting bias against women in this category. This prejudice has been recorded in several AI applications, including criminal recidivism risk assessments that disproportionately harm African Americans. When training data are available, bias may be identified and partly rectified during model construction. Nonetheless, the absence of access to training data alongside AI services complicates the identification of bias. A two-step testing methodology may be used to identify bias and award a bias grade to AI services by examining anomalous distributions of attribute values in comparison to an unbiased baseline. Addressing bias in AI is essential for maintaining openness, accountability, and privacy in customer experience development (Srivastava & Rossi, 2018).

### ***8.2 Transparency and Accountability***

Heightened personalisation elevates dangers, including issues related to consumer protection, augmented susceptibility, and prejudice (Prentice & Nguyen, 2020). Companies engage with customers, gather and evaluate their data, and may convert an ambiguous, distrustful relationship into a clear, trustworthy one. Transparency is crucial for safeguarding client privacy, preventing discrimination, and enabling consumers to engage actively in the transaction (Dexe *et al.*, 2021). A separate trust-related issue pertains to responsibility. Companies must ensure responsibility while using AI, particularly in sectors such as credit scoring, recruiting, law enforcement, and healthcare. When organisations entrust decision-making to algorithms, complications emerge if AI generates erroneous or harmful outcomes. It is important to specify both the origin of the choice and the individual accountable for it. AI-driven algorithms aggregate and organise data from many sources, perhaps leaving customers unaware of the information retained on them, therefore allowing firms to use this data without verifying its correctness. Organisations must include customers in the decision-making process and provide clarifications about automated choices. The user should have the opportunity to overwrite or modify them.

## **9.0 Measuring the Impact of AI on Customer Experience**

The influence of AI on customer experience may be evaluated both statistically and qualitatively using key performance indicators (KPIs) including customer happiness, engagement, retention, and net promoter ratings (Prentice & Nguyen, 2020). Furthermore, companies may monitor revenue growth, market share, and return on investment as metrics of value generation via AI. Collecting direct consumer feedback, administering surveys, and facilitating focus groups provide qualitative insights into customers' impressions of AI-enhanced services (Varghese *et al.*, 2022). Data sources pertinent to evaluating AI efficacy include the examination of consumer interactions, credit card transactions, purchase history, and social media engagement. The integration of these datasets, together with voice-of-the-customer surveys and social listening techniques, facilitates the identification of adoption hurdles and informs the enhancement of AI solutions. Establishing KPIs and consistently monitoring feedback allows firms to assess the impact of AI technology on enhancing customer experience and value.

### **9.1 Key Performance Indicators**

Key Performance Indicators (KPIs) allow organisations to assess the efficacy of AI in improving customer experience. Metrics like customer satisfaction ratings, Net Promoter Score, engagement rate and frequency, retention and attrition rates, average handling time, conversion rate, personalisation accuracy, and staff adoption rate provide quantitative insights. These KPIs elucidate the efficacy of AI projects, identify areas for improvement, and monitor progress towards strategic goals, thereby facilitating data-driven governance of AI-driven customer strategy. Feedback mechanisms like surveys, interviews, focus groups, social media monitoring, and analytics platforms provide qualitative insights into consumer perceptions, experiences, and attitudes about AI-driven interactions. When integrated with KPIs, such feedback directs improvements in AI applications and aids in recognising impending difficulties. Human cues, reflecting personnel interactions with clients; functional cues, related to technical service quality; and mechanical experiences, incorporating sensory stimuli such as visual and auditory elements, influence perceptions of service quality. Employee service is a crucial element that distinguishes consumer impressions. The role of AI is mostly functional, and many customers express discontent with AI systems, preferring interactions with human employees. Nevertheless, certain AI experiences such as convenience during off-hours are well received, while the lack of customisation may lead to irritation. The emotional intelligence of customers also affects their tolerance for AI services. Adverse staff encounters influence views, highlighting the intricate relationships among AI, human service, and customer experience (Prentice & Nguyen, 2020).

### **9.2 Customer Feedback Mechanisms**

Customer input is crucial for organisations to maintain competitiveness and adaptability in changing marketplaces. Evaluations and ratings facilitate the assessment of product or service quality and highlight opportunities for improvement. Acquiring such input is difficult since consumers sometimes lack the incentive to provide assessments unless solicited. Systematic collection and analysis of insights is resource-intensive in the absence of automation. Effective

feedback systems are essential for assessing and improving consumer engagement and experience.

Service organisations heavily depend on feedback to identify client demands and enhance quality. Mechanisms include surveys, open-ended enquiries, social media commentary, and consumer panels. The expansion of social media platforms has allowed consumers to articulate their opinions openly, yielding significant qualitative data for companies to comprehend popular perceptions and attitudes (Prentice & Nguyen, 2020).

## **10.0 Conclusion**

In conclusion, artificial intelligence is changing how companies interact with their clientele and redefining customer satisfaction as a critical component of business success. Chatbots, digital assistants, and predictive algorithms are examples of AI-enabled tools that businesses can integrate to increase responsiveness, streamline processes, and provide individualized, value-driven interactions at scale (Prentice & Nguyen, 2020; Varghese *et al.*, 2022). But implementing AI is not without its challenges. Ineffective implementations, a lack of knowledge about the dynamics of AI, and difficulties with integration and workforce adaptation continue to plague many organizations. To stay competitive in a changing market, businesses must quickly adopt and improve the effectiveness of AI systems, as the COVID-19 pandemic further highlighted.

The potential of AI to improve customer experience is obvious but achieving it calls for a well-rounded strategy that incorporates human insight, technological prowess, ethical considerations, and strategic alignment. The impact of AI on customer experience will continue to be a major concern for both academics and practitioners as research and real-world applications grow.

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