

AI Chatbot as Strategic Tool for Customer Experience Management

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1.Introduction

The rapid advancement of Artificial intelligence (AI) has transformed the way organizations interact with customers, creating new opportunities to deliver personalized experiences. As noted by Dwivedi et al. (2023), AI has evolved from a supporting technology into a strategic capability that enables organizations to enhance customer engagement and service innovation. Among the various AI powered technologies, chatbots have emerged as one of the most significant innovations in customer experience management (CXM). AI chatbots are intelligent conversational systems that use technologies such as Natural Language Processing (NLP), Machine learning (ML) and generative AI to understand customer queries, provide relevant responses. Unlike traditional rule based chatbots, modern AI chatbots continuously learn from interactions, enabling them to offer more accurate, context aware and human like conversations. As customer expectations continue to evolve in the digital era, organizations across industries are increasingly adopting AI chatbots as strategic tools to enhance service quality, and build long term customer relationships.

The growing adoption of AI chatbots has been accelerated by rapid digitalization, increased internet penetration, and widespread use of smartphones and social media platforms. Mariani et al. (2023) observed that conversational AI is increasingly being adopted across industries to improve customer service, automate interactions, and enhance operational efficiency. Organizations in sectors such as banking, healthcare, retail, hospitality, education, telecommunications, travel, and e commerce increasingly deploy AI chatbots to automate customer interactions while maintaining high service standards. These conversational agents perform diverse function, including answering frequently asked questions, processing transaction, providing product recommendations, resolving complaints, assisting with bookings, tracking orders and delivering post purchase support. Their ability to handle thousands of customer interactions simultaneously make them valuable assets for organizations seeking to improve scalability without proportionally increasing operational costs.

One of the most significant advantages of AI chatbots lies in their ability to deliver personalized customer experiences. According to Koo et al. (2024), AI-driven personalization enables firms to provide tailored recommendations and strengthen customer engagement by leveraging customer data and behavioral insights. By integrating with customer relationship management (CRM) systems and analyzing historical customer data, purchase behaviour, browsing patterns, and preferences, AI chatbots can provide tailored recommendations and customized solutions. Personalization enhances customer engagement by making interactions more relevant and meaningful. Furthermore, AI powered recommendation systems enable organizations to anticipate customer needs and proactively offers products or services, thereby increasing conversion rates and customer satisfactions.

AI chatbots also contribute significantly to operational efficiency and service excellence. Adam et al. (2020) reported that AI-based chatbots improve response speed, reduce customer waiting times, and support service consistency while allowing human employees to focus on more complex tasks. Traditional customer support often involves long waiting times, inconsistent service quality, and high operational costs associated with maintaining large customer service teams. AI chatbots address these challenges by automating repetitive and routine inquiries, allowing human employees to focus on complex or emotionally sensitive issues that require empathy and critical thinking. This human AI collaboration improves resource utilization while ensuring that customers receive prompt and accurate responses. Consequently, organizations achieve greater efficiency, reduced operational expenses and improved service consistency.

Another strategic benefits of AI chatbots are their role in enhancing customer engagement throughout the customer journey. From the awareness stage to post purchase support, chatbots facilitates continuous interaction between organizations and customers. During the pre-purchase stage, chatbots assist customers by answering product related questions, comparing alternatives, and providing personalized recommendations. During the purchase process, they guide customers through payment procedures, resolve technical issues. In the post purchase phase, AI chatbots support customer through order tracking feedback collections and complaint resolution. Such end to end support contributes to strong customer relationships and improved customer lifetime value.

The integration of AI chatbots with emerging technologies such as cloud computing, predictive analytics, the internet of Things (IoT), augmented reality (AR), virtual reality (VR) and voice assistants is expected to further redefine customer experience management. Future chatbot

systems will likely become more proactive, predictive, multilingual and emotionally intelligent, customer needs before they are explicitly expressed. Such advancements will strengthen customer engagement while creating highly personalized and immersive service experiences across digital ecosystems.

AI chatbots have emerged as powerful strategic tools that are transforming customer experience management across industries. Their ability to provide personalized interactions, instant support, operational efficiency, and data driven insights enables organizations to meet rising customer expectations while achieving sustainable competitive advantage. However, successful implementation requires balancing technological innovation with ethical responsibility, privacy protection, transparency and human centered service design. AI technologies continue to evolve, AI chatbots will play an increasingly central role in shaping the future of customer experience management.

1.1 Definition of Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the capacity of computer systems to perform tasks that typically require human intelligence, such as learning from data, understanding language, recognising patterns, solving problems, making decisions, and adapting to new situations. Kelly et al. (2023) described AI as a transformative technology whose acceptance depends on trust, perceived usefulness, and user confidence. AI combine technologies such as machine learning, natural language processing (NLP), and deep learning to automate complex processes and enhance decision making. In customer service, AI enables organization to deliver faster, more personalized, and efficient interactions by analyzing customer data and responding intelligently to customer needs. As AI continues to evolve, it has become a strategic tool for improving customer engagement and creating value across industries.

1.2 Development from Rule Based Chatbots to Intelligent Conversational Agents

The evolution of chatbots has transformed customer service from simple automated responses to sophisticated conversational experiences. Early chatbots were rule based systems that operated using predefined scripts and decision trees. These chatbots could only answers specific questions programmed into their databases and struggled with complex or unexpected

queries. While they were effective for handling routine tasks such and answering frequently asked question (FAQs), they lacked flexibility and contextual understanding.

With advancement in artificial intelligence, chatbots have evolved into intelligent conversational agents capable of understanding natural language, learning from previous interactions, and adapting their responses over time. Modern AI powered chatbots leverage machine learning algorithms and natural language processing to recognize user intent, and provide personalized responses. More recently, the emergence of generative AI large language models (LLM's) has significantly enhanced chatbot capabilities enabling them to generate human like conversations, manage complex customer inquiries, and provide contact aware recommendations. This evolution has transformed chatbots from simple customer support tools into strategic assets that enhance customer experiences and strengthen customer relationships.

1.3 AI Technologies Enabling Modern Chatbots

Modern AI chatbots are powered by several advanced technologies that enables them to communicate naturally and efficiently with users.

1.3.1 Natural Language processing (NLP) allows chatbots to understand interpret, and generate human language. It enables the systems to identify customer intent, extract relevant information's, and provide meaningful responses in a conversational manner.

1.3.2 Machine learning (ML) Machine learning enables chatbots to learn from historical interactions and continuously improve their performance without being explicitly reprogrammed. By analyzing their performance without being reprogrammed. By analyzing customer conversations chatbots become more accurate and effective over time.

1.3.3 Deep learning employs artificial neural networks to process large volumes of structured and unstructured data. It helps chatbots recognize complex language patterns, improve contextual understanding and generate more natural responses.

1.3.4 Large language model (LLM) such as those based on transformer architecture, allow chatbots to engage in highly coherent, context aware, and human like conversations. They significantly improve the chatbots ability to answer complex questionnaire humanize information, and maintain conversational flow.

AI technologies have transformed chatbots into intelligent conversational agent capable of delivering personalized, real time and seamless customer experience across multiple digital

platforms. Their integration into customer experience management (CXM) help organization improve operational efficiency, increase customer satisfaction and build long term customer loyalty.

1.4 Understanding AI Chatbots

Chatbots can be broadly classified into rule based chatbots, AI powered chatbots, and hybrid chatbots, depending on the underlying technology and their level of intelligence. Each type differs in terms of functionality, and the complexity of customer interaction it can manage. Understanding these categories help organization select the most appropriate chatbot solution based on their business objectives and customer experience strategies.

1.4.1 Types of chatbots

Rule based chatbots known as decision tree or scripted chatbots are the earliest form of conversational agents. They operate based on predefined rules, keywords, and structured conversation flows that are programmed by developers. These chatbots respond only to specific command or questions that match their predefined database, making them suitable for handling repetitive and predictable customer queries such as frequently asked question. Since rule based chatbots cannot understand context, learn from interaction or interpret variation in user language, their ability to manage complex or unexpected conversation is limited. Although they offer advantage such as low implementation costs, quick deployment and consistent responses. Consequently, rule based chatbots are more effective in organizations where customer interactions follow standardized processes and require minimal decision making.

1.4.2 AI Powered chatbots

AI powered chatbots represent the next generation of conversational systems by incorporating artificial intelligence (AI), natural language processing, machine learning and increasingly large language model to simulate human like conversations. Unlike rule-based systems, AI powered chatbots can understand customer intent, interpret context, recognize natural language variation, and continuously improve their responses through learning from previous interactions. These capabilities enable them to manage complex customer inquiries, provide personalized recommendations, perform sentiment analysis, and engage in dynamic conversations across multiple communication channels. AI powered chatbots are widely adopted in industries such as banking, healthcare, tourism, retail and e commerce because they enhance customer engagement, reduce response time and provide 24/7 intelligent support. The

ability to analyze large volumes of customer data also enables organizations to gain valuable insights into customer preference and behaviour, making them strategic tools for customer experience management. However, their implementation requires substantial investments in data, computing resources, and ongoing model training to ensure accuracy and fairness.

1.4.3 Hybrid chatbots

Hybrid chatbots combine the structured decision-making capabilities of rule-based systems with the adaptability and learning capabilities of AI powered technologies. In a hybrid model, routine and repetitive customer queries are efficiently handled through predefined rules, while more complex or ambiguous requests are processed using AI technologies such as NLP and machine learning. If the chatbot cannot confidently resolve a customer issues, it can seamlessly transfer the conversation to a human customer services representatives, ensuring continuity and maintain service quality. This integrated approach enables organizations to balance operational efficiency with personalized customer engagement. Hybrid chatbots are increasingly preferred by organization because they offer greater flexibility, improved accuracy, reduced operational costs, and enhanced customer satisfaction compared with purely rule based systems. This scalability and ability to deliver consistent yet context aware interaction make them an effective solution for organization pursuing digital transformation and customer centric service strategies.

1.5 AI Chatbots as Strategic Tools in Customer Experience Management

Artificial intelligence (AI) chatbots have evolved from simple customer support application into strategic tools that play a vital role in customer experience management (CXM). Customer experience management focuses on designing monitoring, and enhancing every interaction between an organization and its customers throughout the customer journey. In todays highly competitive digital marketplace, customer expect instant, personalized and seamless services across multiple communication channels. AI chatbots help organization s meets these expectations by providing real time assistance, personalized recommendations and consistent support, thereby improving customer satisfaction and fostering long term customer relationship.

One of the most significant strategic advantages of AI chatbots is their ability to deliver 24/7 customer service without geographical or time constraints. Powered by technologies such as natural language processing, machine learning and large language model, modern chatbots can understand customer internet, interpret contextual information's, and generate human like

responses. This enables organizations to resolve customer queries efficiently reduce response times, and handle large volume of interactions simultaneously while maintaining service quality.

Beyond operational efficiency, AI chatbot contributes significantly to personalization, a key dimension of customer experience management. By analyzing customer profile, purchase histories, browsing behaviour, and previous interactions. AI chatbots can recommend relevant products, provide customized solutions and anticipate customer needs. Such personalized interaction enhances customer engagement, increase perceived values, and strengthen customer trust and loyalty.

AI chatbots also support omnichannel customer engagement by integrating seamlessly across websites, mobile applications, social media platforms, messaging application and voice assistants. This integration ensures a consistent customer experience regardless of the communication channel chosen by the customer. In addition, chatbots automate repetitive service tasks, allowing human employees to focus on ore complex and emotionally sensitive customer interactions. As a result, organizations benefit from reduced operational costs, increased employee productivity, and enhanced service quality while maintaining high levels of customer satisfactions.

Despite these advantages, organizations must strategically implement AI chatbots by addressing challenges related to data privacy, algorithmic bias, transparency, and customer trust. Customers are more likely to accept chatbots interactions when organizations ensure data security, explain AI decision making processes, and provide seamless escalation to human agents, whenever necessary. Therefore, AI chatbots should not be viewed merly as cost saving automation tools but as strategic assets that enables organizations to build meaningful customer relationships, improve service quality, and achieve sustainable competitive advantages through superior customer experience management.

1.6 Strategic Benefits of AI chatbots for Organizations

Artificial Intelligence (AI) chatbots have become an important strategic resource for organisation by enhancing operational efficiency, improving customer engagement. Unlike traditional customer support systems, AI chatbots use technologies such as natural language processing (NLP) , Machine learning (ML), and generative AI to understand customer queries,

provide personalized response, and continuously improve through interactions. Their ability to operate 24/7 enables organizations to offer uninterrupted customer support while reducing dependence on human agents for routine inquiries. This improves service consistency, shorten response time, and enhances customer satisfaction, ultimately strengthening an organizations competitive advantage.

From strategic perspective, AI chatbots contributes significantly to cost optimization and business scalability. Organizations can automate repetitive customer service tasks, allowing employees to focus on complex and value-added activities. AI chatbots also collect valuable customer interaction data that can be analysed to identify customer preferences, purchasing behaviour, and emerging market trends. These insights support strategic decision making in areas such as product development, marketing personalization, and customer relationship management. Further, AI chatbot facilitate omnichannel communication by integrating with websites, mobile application, and social media platforms, ensuring a seamless customer experience across multiple touchpoints. As organization continue their digital transformation journey, AI chatbots have evolved from simple communication tools into strategic assets that enhance organizational performance, customer loyalty, and long-term business sustainability.

2.Literature Review

Dwivedi et al. (2023) proposed a strategic framework explaining how artificial intelligence creates value in marketing and customer service. The authors argued that AI chatbots have evolved from simple automation tools into intelligent strategic resources capable of enhancing customer interactions across multiple touchpoints. Their framework highlights AI's ability to improve operational efficiency, personalization and customer engagement. AI chatbots reduce waiting time by providing instant responses. The study further emphasized that organizations adopting AI strategically can improve customer satisfaction and strengthen long term customer relationships. Rather than replacing employees entirely, AI chatbots complement human agents by handling routine tasks, enabling employees to focus on complex customer issues. The research concluded that successful AI implementation depends on integrating technological capabilities with human expertise and organizational strategy. The study provides one of the strongest theoretical foundations for understanding AI chatbots as strategic assets in customer experience management.

Mariani et al. (2023) examined the opportunities and challenges associated with generative conversational AI technological such as ChatGPT. The authors suggested that AI powered

chatbots significantly transform customer experience by providing personalized recommendations, natural conversations, multilingual supports and continuous service availability. The study highlighted that conversational AI improves customer engagement while reducing operational costs and increasing organizational productivity. However, it also emphasized concerns regarding transparency, privacy, bias, ethical governance and trust. The researcher argued that organizations should adopt responsible AI practices to maximize customer satisfaction while ensuring fairness and accountability.

Adam et al. (2020) introduced the concept of automated social presence, explaining how AI technologies such as chatbots create human like interactions during service encounters. The author found the anthropomorphic chatbot characteristic positively influence customer engagement, trust, and perceived service quality. Customer are more willing to interact with chatbots that communicate naturally and demonstrate empathy. The study concluded that organizations should design conversational agents capable of delivering personalized and emotionally engaging experience to improve customer satisfaction and loyalty.

Alharbi et al. (2025) examined the relationship between chatbot quality and customer loyalty. The review found that service quality, and system quality are the primary determinants of successful chatbots implementation. AI chatbots capable of delivering accurate, reliable and timely responses significantly improves customer satisfaction and encourage repeat purchases. The authors emphasized the importance of personalization and seamless interaction in enhancing customer loyalty.

Arpita et al. (1024) examined the effectiveness of AI chatbots in service recovery situations. The study found that trustworthy chatbot interaction positively influences customer forgiveness following service failures. When AI chatbots communicate transparently, empathetically, efficiently, customer is less likely to spread negative word of mouth and more likely to continue their relationship with the organization. The authors argued that trust serves as a critical mediator between chatbots performance and customer retentions. Their findings reinforce the strategic role of AI chatbots in protecting customer relationship during service failure.

Koo et al. (2024) demonstrated that AI integration reshapes customer experience by enabling predictive personalization, real time assistance and omnichannel engagement. Their research demonstrated that conversational AI improves customer satisfaction by delivering faster responses and consistent service across digital platforms. The author stressed that AI should

augment rather than replace human service employees to create balanced and meaningful customer experiences.

Mariani et al. (2023) reviewed AI chatbot technologies, focusing on natural language processing and machine learning. The authors found that improvement in language understanding, contextual awareness, and adaptive learning have significantly enhanced chatbot performance across industries. They also identified several challenges, including emotional intelligence, contextual reasoning, multilingual communications, and ethical concerns. The study concluded that future chatbot development should prioritize human centered design to maximize customer experience outcomes.

Kelly et al. (2023) systematically reviewed natural language processing applications in customer service. The study revealed that AI chatbots are widely deployed in e commerce, banking, healthcare and tourism to automate customer interactions. NLP enables chatbots to understand customer intent, recognize emotions, and deliver context aware responses. The authors concluded that future research should focus on improving emotional intelligence and multilingual capabilities to further enhance customer satisfaction and conversational quality.

Hamed et al. (2023) conducted a bibliometric analysis of chatbot and ChatGPT research using the Scopus and Web of Science database. The study showed rapid growth in chatbot research, particularly in customer service, education, healthcare and e commerce. The authors identified personalization's, conversational intelligence, human AI collaboration and ethical AI as the dominant research themes. They concluded that conversational AI is becoming a strategic organizational capability supporting digital transformation and customer experience management.

Alharbi et al. (2025) synthesized peer reviewed studies from the Scopus database on AI powered chatbots in customer experience. The review conducted that chatbots personalization's, anthropomorphic design, trust, perceived usefulness, and perceived ease of use are the strongest determinants of customer satisfactions and loyalty. It further reported that organization adopting AI chatbots strategically benefit from reduced operational costs, improved service consistency, and enhanced customer engagement across digital channels. The authors identified future research opportunities in ethical AI, explainable AI, emotion recognition and human AI collaboration for customer experience management.

3.Methodology

This chapter adopts a systematic literature review (SLR) methodology to examine the strategic role of AI chatbots in customer experience management (CXM). Relevant scholarly articles were identified from Scopus indexed database, including journal published in Elsevier, Springer, Emerald, Wiley, Talyor and Francis and SAGE. Studies published between 204 to 2026 were considered to capture recent advancement in conversational AI. Keywords such as artificial intelligence, AI Chatbots, Conversational agents, Customer experience management, customer engagement, personalization, service quality and digital customer service were used to retrieve relevant studies. Articles were screened based in relevance, quality, peer review status, and their contribution to AI enabled customer experiences. The selected literature was analysed based on its relevance to the research objectives, methodological quality, theoretical contribution, and practical implications. This systematic screening process ensured that only studies directly addressing the strategic application of AI chatbots in customer experience management were included in the final review.

Following the initial search, all retrieved articles underwent a systematic screening process. Duplicate publications were removed, after which the titles and abstracts were reviewed to assess their relevance to the research objectives. The full texts of the remaining articles were then examined in detail to determine their methodological quality, theoretical contribution, and practical relevance. Only studies that directly examined the strategic application of AI chatbots in enhancing customer experience were retained for the final analysis.

The findings of the systematic review were synthesized into major thematic categories to provide a comprehensive understanding of how AI chatbots contribute to customer experience management. This methodological approach ensures the credibility, transparency, and reliability of the review while offering valuable insights for researchers, practitioners, and policymakers seeking to understand the strategic implications of AI-powered conversational technologies in contemporary customer experience management.

1.9 Analysis



Figure 1: Authors in AI

Figure 1. Presents the co-authorship network generated using VOS viewer. In this network, each nodes represents an author while the connecting lines indicate co authorship relationship among researchers. The close connections between authors demonstrate collaborative research activities in the selected domain. Since all authors are displayed in a single colour (Red) the visualization suggests that they belong to one collaboration cluster, indicating a relatively cohesive research group rather than multiple independent research communities.

Among the authors, Córdoba-Calle, Eliana Anacely appears to occupy the most central position within the network. This author maintains collaborative links with almost every other researcher, indicating a high degree of collaboration and acting as a bridge connecting different authors. Similarity, Alamo-Lara, Katty and Navarro-Cabada, Jorge Raúl also demonstrate strong collaborative relationships contributing significantly to the connectivity of research group. Their central locations imply that these authors have played an influential role in producing collaborative research within the field.

On the left side of the network, Flores-Flores, Rony is connected with several authors, particularly Córdoba-Calle and Arévalo-Pinchao, suggesting active participation in joint publications. Likewise, Arévalo-Pinchao, Jonathan Lee, positioned at the lower part of the map,

is linked to multiple researchers, indicating that although the author is not the central hub, they contribute to maintaining collaboration across the network. Rodríguez-Sánchez, Jesús also shares collaborative links with Córdoba-Calle and Navarro-Cabada, reinforcing the interconnected nature of this author group.

The absence of isolated nodes suggests that every author has collaborated with at least one other researcher within the selected publications. Furthermore, the network does not exhibit multiple distinct clusters, indicating that the literature on this topic is characterized by a small but highly interconnected group of researchers rather than fragmented research communities. Such a pattern is often observed in emerging research areas where collaboration is concentrated among a limited number of scholars.

The co authorship analysis highlights that the intellectual development of the research field has largely been driven through collaborative efforts. The strong interconnections among the authors facilitate knowledge sharing, interdisciplinary research, and the development of comprehensive studies. However, the relatively small number of authors and the single cluster structure also suggest opportunities for expanding collaboration across institution and countries to diversity perspectives and strengthen the field global research impacts.

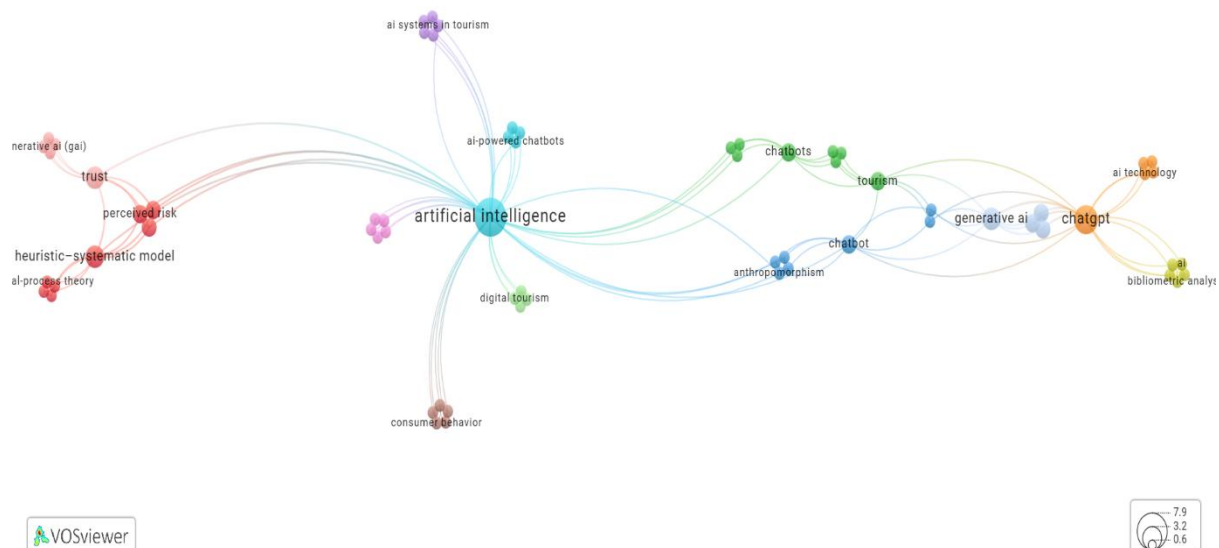


Figure 2: Keyword in AI Chatbots

The keyword co occurrence network generated using VOS viewer, illustrating the conceptual structure of the literature on artificial intelligence (AI), chatbots, and customer experience management in tourism. The visualization identifies the most frequently occurring keywords and their interrelationship, thereby revealing the major research themes and emerging directions in the field. In the network, the size of each node represents the frequency of keywords occurrence, while the links indicates the strength of co occurrence between keywords. Different colours represent thematic cluster, each reflecting a distinct area of research focus.

The analysis reveals that artificial intelligence is the largest and most central keywords, indicating that it serves as the primary research domain connecting multiple emerging concepts. The keywords demonstrated strong linkage with AI powered chatbot, digital tourism, consumer behaviour, and AI systems in tourism, suggesting that AI has evolved from a supporting technology to the core enabler of intelligent tourism services and customer experience management.

One prominent thematic cluster focuses on AI powered conversational technologies. Keywords such as chatbots, chatbot, AI powered chatbot, generative AI, and ChatGPT exhibit strong interconnections, reflecting the rapid evolution of conversational AI technologies in recent years. Earlier studies primarily concentrated on conventional chatbot applications for customer service and information delivery, whereas more recent research interest in advanced conversational agents capable of enhancing customer engagement decision making, and service personalization.

Another significant cluster is associated with tourism applications of AI. Keywords including tourism, digital tourism, and AI systems in tourism indicate increasing scholarly attention toward the integration of artificial intelligence into tourism ecosystems. The literature suggests that AI technologies are being employed to improve destination management, travel planning, recommendation systems, virtual assistance, and smart tourism services. The strong relationships among these keywords demonstrate that AI has become an essential component of digital transformation withing the tourism industry.

The network also highlights an emerging behavioural research stream represented by keyword such as trust, perceived risk, heuristic systematic model, dual process theory, and generative AI (GAI). These concepts emphasize the psychological mechanisms influence user acceptance and adoption of AI enabled technologies. Researchers increasingly investigate how tourists

evaluate the credibility, transparency, and reliability of AI systems before engaging with chatbot based services. The close association between trust and perceived risk suggests that these constructs remain fundamental determinants of user's behavioural intentions, particularly when interacting with generative AI applications.

Furthermore, the keyword anthropomorphism acts as a connecting concept between artificial intelligence and chatbot related studies. The presence of anthropomorphism reflects a shift from technology centred research toward more human centred approaches that examine how chatbot personality, social presence and communication styles influence customer experiences.

On the right side of the network, the appearance of keywords such as AI technology and bibliometric analysis indicates that the research field is expanding beyond application-oriented studies towards methodological investigations. The inclusion of bibliometric analysis suggests that researcher is increasingly examining publication trends, intellectual structures, and knowledge development within the AI and tourism literature, reflecting the growing maturity of the research domain.

The keyword co-occurrence analysis demonstrates that the literature has evolved from broad discussion on artificial intelligence to more specialized theme involving AI powered chatbots, ChatGPT, generative AI, trust, perceived risk, anthropomorphism, and customer behaviour. The network also illustrated a gradual shift from technology adoption studies towards investigation of user psychology and customer experience. These findings indicate that future research is likely to focus on ethical AI, explainable AI, emotional intelligence, privacy protection, human AI collaboration, and sustainable customer experience management, particularly within tourism and service industries.

Findings

- AI chatbots significantly improve customer satisfaction by providing instant, accurate and consistent responses.
- Personalized recommendation generated through AI increase customer engagement and strengthen customer loyalty.
- Organizations adopting AI chatbots experience improved operational efficiency by reducing responses time, minimizing human workload, and lowering customer service costs.
- AI chatbots enhance omnichannel customer experiences by integrating communication across website, mobile application and social media platforms.

- Customer trust remains a critical determinant of chatbot adoptions, particularly when sensitive personal information is involved.
- Ethical AI practices, transparency and robust data privacy mechanisms positively influence customer acceptance.
- Human intervention continues to be necessary for complex, emotionally sensitive or high value customer interactions.

Suggestions

Researchers recommend investigating chatbots anthropomorphism across different industries, customer groups and interaction context rather than focusing on a single retail setting.

Additionally anthropomorphic cues such as emotional expressions, anthropomorphic cue such as emotional expressions, conversational styles, facial expressions, gestures and behavioural intelligence to better understand customer perceptions, Designers should carefully balance human like characteristics because excessive anthropomorphism can trigger the uncanny valley effect and negatively influence customer experiences.

The review recommends conducting field experiments in hotels, airlines and online travel agencies to validate chatbot performance under real operating conditions. Future studies should examine privacy preserving personalization, human AI collaboration, chatbot transparency, explanation mechanism, accessibility features, multimodal conversational AI, and responsible AI governance. The author recommends expanding research beyond English language Scopus publications and increasing studies in underrepresented regions such as Africa and Latin America. Finally, they encourage integrating psychological technological and ethical theories to develop a comprehensive theoretical framework for conversational AI research.

Conclusion

The study concludes that anthropomorphic chatbots design positively influences brand attitude primarily through social presence, while uncanniness weakens these positive effects when chatbots become excessively human like. The research extends the CACS framework by showing that anthropomorphism consists of visual, auditory and behavioural dimensions rather than being a single construct. The findings highlight the importance of designing chatbots that achieve an optimal balance between human likeness and user comfort, thereby maximizing customer engagement, trust, and positive brand perceptions.

The chapter concludes that AI powered chatbots can significantly improve smart tourism by providing real time information on accommodations, transportation, healthcare, tourist attractions, pilgrimage centres and city services. Such systems enhance tourist convenience while promoting collaboration among multiple stakeholders within a smart city ecosystem. Although CNN based chatbots perform well, further improvements in deep learning architecture can enhance conversational accuracy and user experience.

The review concludes that conversational AI has become a critical technology across the tourism customer journey from travel planning and booking to service recovery and post trip engagement. Chatbot effectiveness depends on several design factors including respond speed, empathy, anthropomorphism, personalization, transparency and privacy protection. Trust, perceived competence, social presence and perceive control mediate customer response, while contextual factors such as task complexity, digital literacy, and culture moderate these relationships. The authors emphasize that successful chatbots implementation requires responsible AI practices combined with appropriate human intervention in complex or emotionally sensitive situations.

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