ROLE OF AI IN CUSTOMER SERVICE AND EXPERIENCE MANAGEMENT

Dr. Rupesh Natthusing Pawar
Assistant professor & HOD, Commerce, Arts, Commerce College Ralegaon Dist. Yavatmal

Abstract
Artificial intelligence (AI) in customer service refers to the use of technologies like AI and automation to streamline support, quickly assist customers and personalize interactions while minimizing the need for human involvement. AI-powered tools make service faster, more personalized and more efficient. AI assistants, chatbots, virtual agents and smart routing systems use natural language processing (NLP) and machine learning (ML) to understand what customers need. These tools work together to provide smoother, more responsive customer service experiences by responding in real time and continuously improving by learning from every interaction. Effective use of AI in customer service requires maintaining a level of humanity. Customers can tell when interactions feel robotic or overly scripted. Rather than replacing human customer service agents and reps, many businesses choose to use AI assist tools to support them and augment their capabilities. The best results come from combining the speed and data insights of AI with the empathy and critical thinking people can provide. It's also important for organizations to be open. Letting customers know when AI is being used, and being clear about how their data is handled, helps build trust and keeps the experience respectful and responsible. AI customer service is getting more clever. Features such as real-time and more advanced generative models are making it possible to handle issues faster and more intuitively. These innovations are helping companies shift from reacting to problems to building long-term loyalty through thoughtful, effective support. Today's customers expect real time, personalized support across digital channels and are less tolerant of delays or disjointed experiences. Traditional support models, which rely heavily on human agents, often struggle to deliver on these expectations. This deficiency results in long wait times and inconsistent service.

***Keyword**: consumer interaction, consistent service, consumer management, smart routine system.*

Introduction

AI revolutionizes customer service and experience management through personalization, efficiency, and 24/7 support, but challenges like data privacy and the need for human oversight remain. AI-powered tools handle routine queries, analyze customer data to predict needs and personalize interactions, and provide self-service options, freeing human agents for complex issues and improving overall satisfaction. However, a hybrid approach combining AI with human agents is crucial to address potential issues like depersonalization and ensure a balanced customer experience. AI automates repetitive tasks and handles routine customer inquiries through chatbots and virtual assistants. This frees up human agents to address more complex issues. AI analyzes customer data to offer tailored recommendations and support, creating a more personalized experience throughout the customer's journey. AI-powered self-service tools can provide customers with instant support at any time, reducing wait times and enhancing satisfaction. By automating tasks and providing instant answers, AI significantly speeds up response times for customer queries. AI uses predictive analytics to anticipate customer needs and potential issues before they arise, allowing businesses to offer proactive support. AI can analyze vast amounts of customer data, including unstructured information, to provide actionable insights into customer behavior, sentiment, and service performance. AI tools can act as an assistant for human agents, providing them with the information and insights they need to resolve issues more quickly and effectively.

Customer experience a valuable use case for as customers continue to expect more from businesses. AI technology deployed with this approach can include machine learning, natural language processing (NLP), Robotic Process Automation, and more. Incorporating AI is a major component of any modern journey. AI enhances by analyzing and sorting through vast amounts of customer data. The data analysis results in a highly personalized customer experience that addresses customer needs at all touch points and ramps up operational efficiency. The capacity for data and in-depth analysis is what sets AI customer experience apart from other approaches. Its ability to detect patterns, review purchase history and monitor social media behavior enables businesses to tailor customer preferences and interactions, increasing customer satisfaction at the onset. Customers today have high expectations for companies to provide an end-to-end experience. Companies need to figure out how to meet those customers' needs. Business leaders should consider a strategy that keeps them ahead of the curve on implementing new technology and keeping consumers happy. With AI tools, companies can take large amounts of data and analyze customer behavior Separately, AI solutions and tools can

build AI-powered to manage customer support and provide virtual assistants to customers. AI tech deployment can be risky, but it can have high rewards if implemented well. This includes listening, testing and then capitalizing on the innovation. By implementing AI, a business can capitalize on customer feedback and user experience to personalize interactions with customers and gain trust and reliability.

Literature review

Bawack, Wamba and Carillo

An observable trend within the existing literature pertains to a greater volume of papers examining the use of viceroys within corporate environments compared to those focused on their utilization in domestic settings. The motivation behind the use of "domestic" viceroys in online shopping is discovering that consumers of Amazon voice assistant, Alexa, are driven by utilitarian, symbolic, and social benefits. Personalization is also crucial for voice assistant adoption.

Abdo and Yusof

On corporate deployments, the focus is on streamline operations, reduce costs, and augment human labor. From an organizational viewpoint, this technology presents reduced expenses and enhanced customer support, virtual assistants can be integrated with VoIP technology to handle thousands of calls per day with optimal performance, creating a customer service that quickly reaches many users and helps companies reduce operator costs through automated calls For the conversational agents not only save cost and time for business organizations, but also, through the utilization of voice inputs and sentiment analysis, enhance the Customer Experience by providing efficiency and convenience.

Artificial Intelligence (AI) has emerged as a disruptive force, transforming industries, reshaping our lives and work, and significantly impacting businesses, institutions, and societies. Driven by advancements in machine learning and deep learning, as well as the exponential growth of available data, AI technologies have enabled machines to handle complex tasks such as natural language processing, image recognition, and decision-making (Brynjolfsson & Mcafee, 2014; Jordan & Mitchell, 2015; Shollo et al., 2022). AI's rapid evolution has led to its widespread adoption, with applications ranging from automating mundane tasks to enhancing productivity and enabling new forms of human-computer collaboration across various sectors, including healthcare, finance, manufacturing, and education. The technology offers significant potential for businesses and society by improving efficiency, reducing costs, and providing better decision-making capabilities. Combined with big data, AI has the potential to surpass human decision-making and abilities across industries (Liu & Zeng, 2021).

Recent developments in large language models, such as OpenAI's GPT-3, GPT-4, and ChatGPT, have expanded AI's capabilities and accessibility. These models use deep learning techniques to understand and generate human-like responses in natural language, with applications in virtual assistants, content generation, and sentiment analysis. However, the impact of AI on organizations and societies can be both positive and negative. Organizational concerns include job displacement, increased dependency on technology, and potential biases in decision-making due to flawed algorithms. Societal risks involve privacy invasion, manipulation of public opinion, and widening socio-economic disparities due to unequal access to AI technologies (Caliskan et al., 2017; Dwivedi et al., 2023).

Given the transformative impact of AI and its nuanced implications for organizations and societies there is a critical need to conduct a comprehensive review of AI in business and management research. This review is important for tracking the evolution of ideas, assessing the current state of knowledge, and identifying opportunities for future research. As AI continues to evolve and reshape traditional business and management practices, it becomes crucial to understand how researchers respond to these changes, what topics they are exploring, and the key research outputs. This deeper understanding of the opportunities and challenges posed by AI fosters more informed decision-making within organizations and policy-making bodies. (Antons et al., 2023; Mortenson & Vidgen, 2016).

To conduct the review, we adopt a computational literature review (CLR) approach, using machine learning algorithms to analyze large volumes of literature Specifically, we use structural topic modelling to analyze articles published in journals between 2010 and 2023 that reference "artificial intelligence". Our study further showcases the effectiveness of enrolling ChatGPT to support crucial aspects of the CLR process. Lastly, we identify impactful articles for each AI research topic to provide a bridge to traditional literature reviews, where a substantive analysis of the content of research articles is needed. Roberts et al., 2013).

Research work

AI enables faster responses, cleverer support and more personalized experiences. In fact, mature AI adopters (organizations operating or optimizing AI

into their customer service functions) reported a 17% higher customer satisfaction percentage. When you ask a question on a website and get an answer right away that's usually a chatbot. AI-powered chatbots provide immediate answers to common customer queries, walk users through steps or help troubleshoot problems any time of day. Mature AI adopters reported a 38% lower average inbound call handling time. Chatbots are built by using natural language processing (NLP)—which allows them to understand and respond to human language—and machine learning (ML). The NLP helps them learn from past customer interactions and improve over time without manual updates. AI can automatically sort customer inquiries and route them to the best person or team. Machine learning analyzes past behaviors and outcomes while predictive analytics uses data patterns to forecast the urgency or topic of a message and immediately send it to the right destination.

AI can spot when something is off—like unusual account activity or a service that's about to lapse—and step in with help customers before they realize it. Predictive analytics looks at your past behavior and compares it to real-time patterns to figure out what you might need next, such as a subscription renewal reminder or help with a product. Instead of a customer digging through endless help pages or FAQs, AI can suggest the exact guide, video or solution they need based on what they searched for, viewed or purchased. These systems rely on recommendation engines, which are algorithms trained to recognize preferences and suggest relevant resources. AI reviews support conversations in real time to flag potential issues, such as policy violations or dissatisfied customers. Using real-time analytics and machine learning, these systems help managers coach agents and fix problems as they happen.

Conclusion

Effective AI depends on clean, accurate and representative customer data. Poor data can lead to irrelevant responses or biased outputs, so regular auditing and updates are important. AI models should learn not just from historical data, but also from real-time customer feedback and agent input to refine their performance over time. AI should use available customer data to personalize interactions. Customers appreciate feeling recognized and receiving relevant responses rather than generic answers. Consider ethical implications like privacy, transparency and bias. AI should respect data privacy laws (like GDPR) and avoid reinforcing harmful assumptions or stereotypes. Even advanced AI can make mistakes or generate biased responses. Regular testing, human oversight and built-in review mechanisms help reduce these risks. Employees need to understand how AI tools work and how to collaborate with them. Training should focus on when to step in, how to interpret AI recommendations and how to manage hybrid workflows. AI systems should be able to grow with the business and adapt to changing needs, customer volumes and service strategies without needing constant reengineering.

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