THE ROLE OF CHATGPT AND ARTIFICIAL INTELLIGENCE IN CUSTOMER MANAGEMENT STRATEGY TRANSFORMATION: A SYSTEMATIC LITERATURE REVIEW

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Abstract

This paper thoroughly analyzes the various roles of ChatGPT as a virtual assistant, social robot, virtual employee, and business instrument, with the specific goal of enhancing customer support, optimizing customer experience (CX), and developing customer relationships (Rane, 2023). The research problem addressed is the need to understand and optimize ChatGPT's application within customer management (CM) and business strategy frameworks. The purpose of the research is to explore how ChatGPT can improve business operations, particularly in customer interactions and service delivery, to improve CX and relationships. This study conducts a systematic literature review (SLR) analysis of 40 influential articles that explore ChatGPT's impact on CM and further its impact on business performance. The main findings, supported by (Huang, Ozturk, et al., 2024; Huang, Markovitch, et al., 2024; Malik et al., 2023; Rane, 2023), reveal that ChatGPT significantly enhances customer support, increases CX, especially in less complex service encounters, provides a more personalized experience, and finally enhances customer relationship management (CRM) actions' effectiveness that boosts customer loyalty. This review study provides valuable insights into the changing dynamics of artificial intelligence (AI)-driven CM and concludes that integrating ChatGPT into business processes can lead to substantial improvements in business objectives through more efficient CM.

Keywords: ChatGPT, AI, Customer Management, Customer Experience, Customer Support, Marketing-Technology Integration

Authors' individual contribution: Conceptualization — K.S., A.N.G., and D.K.; Methodology — K.S. and A.N.G.; Formal Analysis — K.S. and D.K.; Data Curation — K.S. and D.K.; Writing — Original Draft — K.S. and A.N.G.; Visualization — K.S. and D.K.; Supervision — A.N.G.; Project Administration — K.S.

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1. INTRODUCTION

Artificial intelligence (AI) has made substantial progress in recent years, particularly with the development of AI-powered chatbots such as

ChatGPT. These chatbots employ natural language processing (NLP) to achieve interactions that resemble those between humans (Galitsky, 2020; Suhaili et al., 2021). Chatbots have the potential to transform customer service by providing instant,



customized, and interactive experiences (Niu et al., 2024; Casheekar et al., 2024; Heidari et al., 2024). ChatGPT has experienced rapid growth since its launch in November 2022, with over 180.5 million active users by August 2024 (Zhou et al., 2023; Singh, 2024). AI-powered chatbots, such as ChatGPT, offer the opportunity for businesses to enhance productivity and streamline routine duties and provide distinctive functionalities such as voicebased support, virtual staff positions, communication capabilities, writing assistance, integration with search engines, and personalized data (George et al., 2023; Casheekar et al., 2024). Rane (2023) asserts that AI technologies such as ChatGPT have a substantial influence on customer behavior and business performance. These technologies have the potential to revolutionize conventional practices, improve interpersonal skills, and elevate customized customer experiences (CXs).

Despite the growing adoption of ChatGPT in various customer management (CM) roles, there remains a notable gap in the literature regarding its comprehensive impact on CM strategy transformation. Previous studies (Suhaili et al., 2021; Chen et al., 2023) have predominantly focused on isolated aspects of AI applications in business, such as improving customer service efficiency or enhancing customer engagement. However, there is a limited understanding of how ChatGPT influences CM holistically, including the potential challenges and opportunities it presents for businesses aiming to improve CX and loyalty. Camilleri and Troise (2023) performed a structured literature review on AIpowered chatbots' utilization in human-computer interactions, but their findings are mostly related to customer support, and they suggest further research in other aspects of CM strategy, related to how online customers describe their experiences with chatbots and how these enhance their satisfaction and loyalty.

The objective of this research is to address these gaps by systematically reviewing the literature to examine the role of ChatGPT in CM strategy transformation. This study seeks to answer key research questions:

RQ1: How does ChatGPT enhance customer support and experience?

RQ2: In what ways does it contribute to relationship management and customer loyalty?

RQ3: What are the implications for business strategy when integrating ChatGPT as a core component of customer management?

RQ4: How do social and legal environmental factors affect the use of these technologies in a world where customers want to protect their personal lives?

To explore these questions, this paper applies a theoretical framework that combines customer relationship management (CRM) theories with AI-driven innovation models, offering a novel perspective on the integration of AI in business processes (Rane, 2023; Yao, 2023; Raj et al., 2023; Casheekar et al., 2024). In order to fill the abovementioned gaps, the present paper aims to analyze the impact of ChatGPT on 1) customer support, 2) experience, and 3) relationships, i.e., assess the effectiveness of ChatGPT in delivering personalized customer support and enhancing the overall CX and influences customer relationships, brand preference and loyalty in the presence of restriction posed by certain ethical and legal factors.

By employing a systematic literature review (SLR) methodology, this study analyzes 40 influential articles investigating ChatGPT's impact on CM and business performance. The SLR approach allows for a comprehensive synthesis of existing research, identifying prevailing trends, key findings, and research gaps. The main findings suggest that ChatGPT significantly enhances customer support by offering more personalized experiences and increasing the efficiency of CRM actions, ultimately boosting customer loyalty (Huang, Markovitch, et al., 2024; Malik et al., 2023; Rane, 2023).

This study's contributions are twofold: it provides valuable insights into the evolving dynamics of AI-driven CM, and it highlights the transformative potential of integrating ChatGPT into relevant business strategies. The findings underscore the relevance and significance of utilizing AI tools like ChatGPT not only to improve customer interactions but also to achieve broader business objectives through more effective CM solutions. By filling the existing literature gaps, this paper aims to guide future research and inform practitioners about the strategic benefits of AI integration in CM.

The structure of this paper is as follows. Section 2 deals with the theoretical background concerning the main aspects of CM that are affected by ChatGPT/AI implementation. Section 3 outlines the methodology employed to investigate how ChatGPT operates as a virtual assistant and its impact on CM strategies. Section 4 presents an in-depth analysis of the findings, discussing the role of AI in enhancing customer interactions and its implications for business performance. Section 5 provides a conclusion, that summarizes the study's findings, addresses the study's limitations, and makes recommendations for future research.

2. THEORETICAL BACKGROUND

Customer management refers to all the strategies, processes, and tools that a company uses to acquire and engage customers in order to build long-lasting relationships that can benefit both the customer and the company (Kumar & Reinartz, 2018). The current study addresses the role of ChatGPT and AI in transforming three aspects of CM related to customer support and experience throughout their journey with a company, as well as the establishment and development of favorable relationships with them. Recently, Rizomyliotis et al. (2022) investigated the combination of chatbot features to better support customer interactions during various steps of the service process, which in turn enhances their experience and strengthens their relationships with the service provider.

Customer support is crucial for strategic marketing performance, as it builds trust, enhances satisfaction, and shapes positive perceptions of the company (Agarwal et al., 2023; Camilleri & Troise, 2023). It involves addressing customer issues through multiple channels, including phone, email, LiveChat, and self-service portals, with the aim of resolving customer concerns effectively (Buhalis & Moldavska, 2022). Excellent support fosters customer loyalty, generates referrals, and drives business growth. Advanced technologies, such as chatbots using generative artificial intelligence (GAI) (e.g., ChatGPT), further enhance support by optimizing resources and improving CXs, showcasing

innovation, and appealing to tech-savvy customers (Pekovic & Rolland, 2020). ChatGPT transforms customer support with scalable, AI-driven interactions that personalize responses, and ensure consistent high-quality service (Yao, 2023; Ooi et al., 2023).

CX refers to how a company engages with its customers at every one of its provided contact points (i.e., marketing, sales, service, throughout its buying journey. Current literature on CX argues that the effects of certain combinations of CX dimensions (i.e., cognitive, social, emotional, sensorial, behavioral, and technological) affect consumer behavior (Pekovic & Rolland, 2020). The incorporation of AI-powered chatbots into CX strategies (Brakus et al., 2009; Palmer, 2010; Bagdare & Jain, 2013; Homburg et al., 2017; Lemon & Verhoef, 2016) has transformed the way services are provided by enhancing effectiveness, customization, and personalized customer service (Singh, 2023; Rane, 2023; Fan et al., 2024; Yao, 2023). Chatbots such as ChatGPT employ sophisticated techniques to interact with customers in real-time, improving satisfaction and engagement (Fan et al., 2023; Fan et al., 2024). This technology effectively resolves typical challenges by providing instant and accurate answers, thereby enhancing operational efficiency (Damaševičius & Zailskaitė-Jakštė, 2024; Yao, 2023). The learning capabilities of AI contribute to the ongoing improvement of services (Damaševičius Zailskaitė-Jakštė, 2024; Ooi et al., 2023). Nevertheless, successful incorporation necessitates human supervision to address intricate matters and guarantee a comprehensive CX (Rane, 2023). AI chatbots play a crucial role in contemporary customer service by combining speed, accuracy, and personalization to meet changing consumer demands (Fan et al., 2023; Rane, 2023).

Establishing solid customer relationships is essential for upholding trust, loyalty, satisfaction (Kumar & Reinartz, 2018; Choudhury & Shamszare, 2023). This process entails continuous interactions between a company and its customers, incorporating concepts from relationship marketing, social exchange theory, and CRM (Garima & Bansal, 2024). To achieve effective CRM, it is necessary to implement strategies such as customer segmentation, personalized communication, feedback systems, and post-purchase support (Kumar & Reinartz, 2018; Kumar et al., 2024). In order to attain long-term growth and gain a competitive edge, businesses should prioritize comprehending and fostering customer relationships by utilizing technology and digital tools (Pekovic & Rolland, 2020).

This study aims to critically review the recent literature in order to analyze the interaction of customer support and customer engagement through the integration of ChatGPT into the companies' CM systems to further increase the efficiency of their CRM strategy in the context of certain ethical and legal issues.

3. RESEARCH METHODOLOGY

The research method followed in this study included two steps. In the first step, the paper selection process is described and in the second step, the way that papers were analyzed is explained.

3.1. Papers selection

This section details the methods employed to collect and analyze published papers on ChatGPT technologies and their application in CM automation. The study adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol (Moher et al., 2010), which is widely regarded for its systematic approach to conducting comprehensive literature reviews. PRISMA's strengths lie in its ability to facilitate thorough database analyses, provide a structured framework for research inquiries, and clearly define inclusion and exclusion criteria, enhancing the review process's and thoroughness. Based on this methodology, presented in Figure 1, the following three steps were followed:

1) Identification: Two prominent databases, Scopus and Science Direct, were utilized to gather relevant papers published during 2023 and 2024. The search strategy, provided in Table 1, involved the use of specific keywords and boolean operators to ensure comprehensive and precise results. Accordingly, four keywords, which were identified during the scoping search, were used ("ChatGPT", "customer services", "business support", and "business automation", and the boolean operators "and" and "or" were employed to refine the search results. The implementation of this step retrieved 820 papers, 44 of which were not considered duplicates, resulting in 776 papers for the next stage.

	,
Database	Keywords related to AI and ChatGPT used
Science Direct	ChatGPT <i>and</i> customer <i>and</i> experience, <i>and</i> support, <i>and</i> relationship
Scopus	ChatGPT and customer and experience and support and relationship and PUBYEAR > 2022 and PUBYEAR < 2025 and (LIMIT-TO (DOCTYPE, "ar")) and (LIMIT-TO (LANGUAGE, "English")) and (LIMIT-TO (SUBJAREA, "BUSI") or LIMIT-TO (SUBJAREA, "SOCI") or LIMIT-TO (SUBJAREA, "PSYC") or LIMIT-TO (SUBJAREA, "COMP") or LIMIT-TO (SUBJAREA, "DECI") or LIMIT-TO (SUBJAREA, "ECON"))

Table 1. Keywords used as search strings for paper collection

2) Screening: Four criteria were used for the record screening process: 1) journal papers; 2) English language; 3) inclusion of specific search keywords in title/abstracts/keywords; and 4) focus on CM with the use of ChatGPT-powered chatbots.

Based on Figure 1, of the initial 776 papers, 736 were excluded based on the above-mentioned four criteria.

3) *Inclusion*: A total of 40 papers remained for further analysis.

Identification of studies via databases and registers Identification **Papers identified:** n = 820Databases: Papers removed before screening: n = 441. Scopus (n = 327) Excluded records identified manually as duplicates 2. Science Direct (n = 493) Papers excluded: n = 236Papers screened: Reason: Book chapters, encyclopedias, conference n = 776abstracts discussion, editorial, and mini reviews, etc. Papers excluded: n = 282Papers assessed for eligibility: Reason 1: Considered irrelevant after abstract screening (n = 278)n = 540Reason 2: Non-English language (n = 4) Papers assessed for eligibility: Papers excluded after a last paper assessment due to its non-related topic and subject (n = 218) Included Papers of included studies:

Figure 1. PRISMA flow chart

3.2. Paper analysis

The main objectives of this study were the presentation of all research efforts concerning the role of ChatGPT in customer support, experience, and relationship development. The study descriptive statistics, leveraging quantitative data, formulate a comprehensive overview the literature review outcomes and content analysis to present valuable insights concerning the use of ChatGPT in the CM context. As such, 40 papers in the sample have thoroughly read and coded in the Microsoft Excel sheet for the purpose of evaluation, organization, preparation, and extraction of the analysis findings.

Table A.1 (see Appendix), prepared to fulfill the above purposes, includes the following columns: author's name, publication year, citations, journal name, geographical area, and service context.

4. RESEARCH RESULTS AND DISCUSSION

4.1. Quantitative analysis

The 40 articles included in our sample were published, as shown in Figure 2, in 25 journals. The highest concentration of papers is located in the *International Journal of Hospitality Management*, and *Journal of Retailing and Consumer Services*, (5 papers), followed by the *Journal of Business Research*, *Technological Forecasting and Social Change, and Technology in Society* (3 papers each). There is no significant concentration of papers in the other journals.

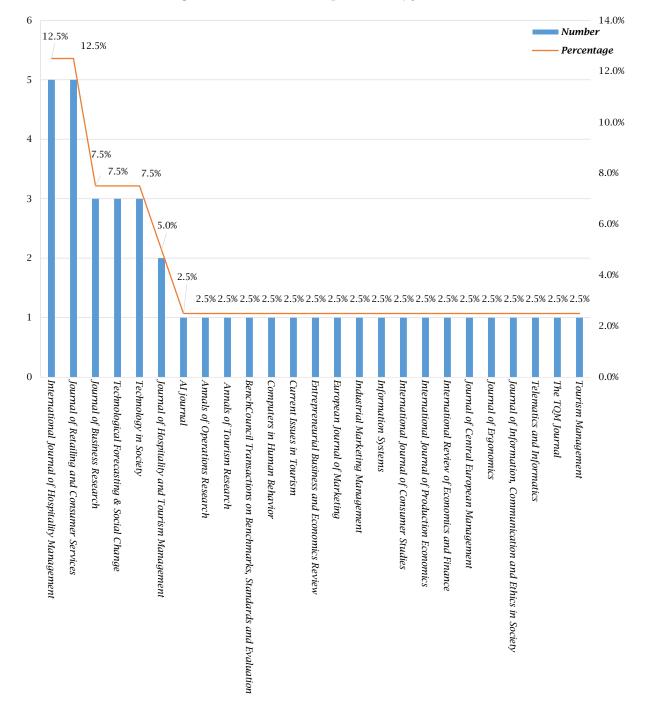


Figure 2. Distribution of sample articles by journal title

Figure 3 illustrates that the majority of our sample papers have been published in the areas under consideration. As such, the fields of business, management, and accounting have the highest interaction and publication rates (43%), followed by social science (28%) and computer science (12%).

Engineering and psychology have 5% and 8% of publications respectively. The fields with the least number of studies related to the role of ChatGPT and AI in the business industry are decision sciences and economics, econometrics, and finance, each having around 2% of the related studies.

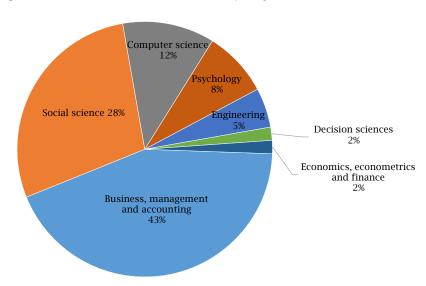


Figure 3. Distribution of selected articles by subject area

Furthermore, the selected articles were also according the distribution examined to the countries where the journals are published. The publication in journals located in the UK, as shown in Figure 4, surpasses other nations by distributing 60% of the total papers, with an emphasis on spreading the discussion regarding ChatGPT and its implementation in business environments. The USA $\bar{\text{h}}$ as the next most significant contribution at 27.5% followed by the Netherlands at 5%. Additionally, countries such as China and Poland, with contributions of 2.5% and 5% respectively, were among the countries engaged in research investigations on ChatGPT, AI, and chatbots in settings. Nevertheless, the context emphasizes that authors from various countries

have highlighted and emphasized the global recognition of ChatGPT, an AI system focused on commercial alteration. This indicates that ChatGPT has garnered attention and interest from researchers worldwide. It is clear that the UK and USA lead in journal distribution. This suggests a significant presence of publications related to ChatGPT and its application in business settings within the UK and USA academic landscape. The presence of papers from various other countries signifies a wide array of research contributions and potentially reflects the international scope of the research community. When assessing global research trends and developing strategies for collaboration and resource allocation, it is important for researchers and scholars to take into account this specific distribution.

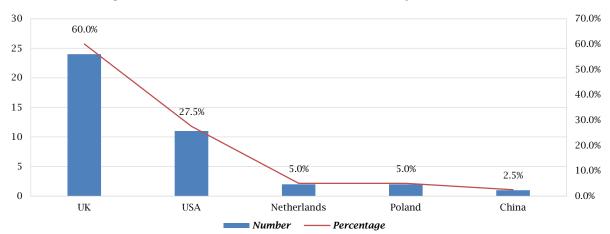


Figure 4. Distribution of selected articles based on the journal's location

The distribution of the selected papers based on the country of origin of the corresponding author is given in Figure 5. With respect to geographical distribution, the data reveals a diverse spread of corresponding authors contributing to the selected articles. Notably, authors from China, the UK, and the USA emerged as the top contributors, each accounting for approximately 20%, 17.5% and 15% of the total selected articles, followed by those from India at 7.5%, and the Netherlands, France, Australia, and Poland at 5.0% each. Moreover, researchers from

various countries including France, Australia, and Sweden indicate a wide-ranging international presence in the selected sample of studies. This indicates that the research field being discussed has worldwide significance and garners contributions from diverse places. Authors with lower representation come from Bulgaria, Finland, New Zealand, Portugal, South Africa, Spain, Sweden, Taiwan, and Vietnam, each accounting for only 2.5% of the total selected articles. This signifies disparities in research productivity and engagement among various

geographical areas. Another issue that deserves attention is collaborative patterns. The presence of numerous nations in the analysis indicates the possibility of scholars from different regions working together. Collaborative research endeavors have the potential to facilitate the sharing of ideas, knowledge, and resources, leading to improvements in the standard and diversity of research output. The distribution of selected articles, categorized by

the origin of associated authors, has significant implications for research funding, establishing policies, and intellectual interactions. Obtaining insight into the worldwide scope of academic efforts may help participants recognize developing patterns, determine locations to allocate resources, and cultivate international collaborations to address complex scientific challenges.

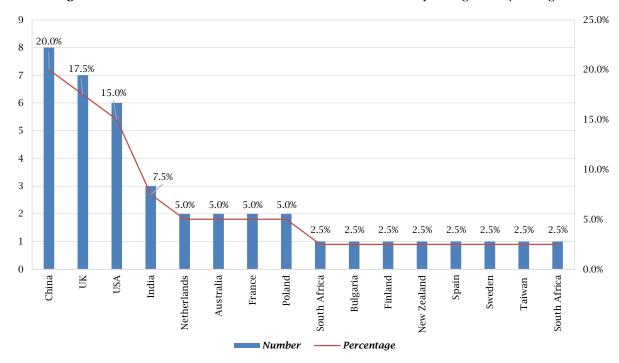


Figure 5. Distribution of selected articles based on authors' corresponding country of origin

With respect to the distribution of publication years, there were 22 papers published during 2023, accounting for approximately 50.04% of the total yearly publications, while there were 18 published papers in 2024, representing approximately 49.94% of the total yearly publications. The difference in the number of publications between the two years is relatively small. This suggests that research interest in the thematic area remained consistent between 2023 and 2024, as evidenced by the comparable proportions of publications in each year. Despite a slight decrease in the number of papers published in 2024, the overall distribution indicates ongoing scholarly activity and interest in the research topic throughout both years.

4.2. Content analysis

The second step of the study concerns the content analysis of papers under investigation concerning the role of ChatGPT in CM in terms of customer support, CX optimization, and customer relationship development to systemize our knowledge in this area of business. Finally, the way that certain ethical and legal issues affect CM strategies that integrate AI/ChatGPT is presented.

4.2.1. Customer support and ChatGPT

The utilization of AI within ChatGPT has transformed conventional customer support and service models. It provides 24/7 assistance, prompt

replies, and consistent service quality. It efficiently addresses various inquiries, ranging from basic troubleshooting to intricate problems. Consequently, it reduces response times and lightens the workload on human support agents. The progressive learning and enhancement capabilities of ChatGPT guarantee more effective and gratifying customer interactions (Camilleri & Troise, 2023).

In this context, the study conducted by Koc et al. (2023) explores the utility of ChatGPT-4's use in dealing with service failure recovery. It was found that the management responses to customers' complaints generated by ChatGPT-4 received significantly higher scores in six service recovery and three justice dimensions compared to the actual management responses provided by hotel employees. More specifically, the ChatGPT-4 responses were judged as being more efficient (immediate response) and effective (high quality) than the human ones, leading to better service recovery results. The study conducted by Flavián et al. (2024) examines the influence of automated social presence in AI on consumer perceptions and intentions to use robots. The findings indicate that a greater perception of automated social presence results in emotions of comprehension, empowerment, and connection, rather than confusion, substitution, or isolation. This improves both the perception of usefulness and the perception of social value, which, in turn, affects the intention to use AI as a supporting tool in the future. Furthermore, the impact of automated social presence on social experience is more

pronounced for consumers who have a higher inclination toward social interaction. Meng et al. (2023) investigate how double-sided messages improve the acceptance of chatbots. Based on the research outcome, it is shown that AI features and their availability 24/7 affect customer attitudes, demand type (compliment-inquiry), interaction, acceptance, via perceived authenticity, impacting willingness to continue with AI. Likewise, Ali et al. (2023) determined that relevance, credibility, usefulness, and intelligence significantly influence customer trust in personalized travel recommendations provided by ChatGPT, subsequently impacting behavioral intentions.

Wamba et al. (2023) use the organizational learning theory to investigate the differences between GAI/ChatGPT adopters and nonadopters in terms of benefits, threats, and trends in the supply chain management framework. They find that GAI/ChatGPT provides a lot of benefits related to service improvement, employee productivity, etc., but also offers various challenges and threats in terms of data privacy, ethical use, human-machine collaboration, etc.

Wong et al. (2023) investigate the role of ChatGPT in the tourist decision-making process during three different stages (i.e., pre-trip, en-route, and post-trip). Their findings suggest that ChatGPT greatly enhances the role of the customer in accessing highly relevant information through a question-and-answer (Q&A) mode. The results revealed how ChatGPT improved tourists' experience in these three travel stages in terms of trip planning efficiency, customized recommendations, personal assistance, AI-mediated communication fluency, autonomous guided tours, enriched sharing experience, and AI-induced prolonged satisfaction. Kirshner (2024) compares the customers' recommendations provided by human and GPT samples and finds considerable differences depending on construal formations. More specifically, ChatGPT, while servicing customers, weighs more the goalfocused than the means-focused features. Additionally, Ren et al. (2023) found that ChatGPT holds considerable promise in the financial sector by providing quick and convenient consulting services without the need for human involvement, thereby improving customer support. The extensive automation of financial institutions allows for the optimization of customer service, loans, transactions, and other operations, resulting in enhanced efficiency and decreased expenses. Moreover, ChatGPT has the capability to examine users' past interactions to offer customized financial services, thereby improving the overall CX. Although ChatGPT has certain limitations and risks, such as potential biases in training data and the possibility of providing incorrect information, its influence on the financial industry is significant. It enhances efficiency, reduces costs, and improves customer satisfaction. Therefore, despite encountering difficulties, ChatGPT has the capacity to enhance the competitiveness and profitability of financial institutions. Finally, Gürsoy et al. (2023) state that incorporating OpenAI's ChatGPT into the hospitality and tourism sector offers notable advantages, such as improved personalization and ease of use. However, achieving successful implementation necessitates extensive research to tackle related obstacles and guarantee efficacy in meeting the requirements of tourists and enhancing the overall quality of service within the industry.

4.2.2. Customer experience with ChatGPT

Customer experience with ChatGPT varies depending on factors such as the quality of the AI model, the purpose of the interaction, and the level of customization. Overall, users may find ChatGPT interactions convenient, efficient, and responsive, especially in tasks like customer support or generating personalized recommendations. However, there may also be instances of frustration due to limitations in understanding complex queries or generating inaccurate responses. Ivanov and Webster (2024) examine the relationship between automated decisionmaking and its effects on CX in accommodation facilities. The paper emphasizes the crucial significance emotional intelligence in decision-making domains, such as managing customer complaints choosing employees who interact customers. This indicates a direct impact of emotional intelligence on the overall satisfaction and experience of customers. Conversely, Malik et al. (2023) determined the ethical concerns surrounding AI-based social bots, highlighting the need for transparency, fairness, and accountability in their deployment. The research identifies various fairness parameters and their impact on the user experience, advocating for unbiased treatment, transparency in processes, and efficiency in work operations. Furthermore, the study underscores the importance of human monitoring, historical grounding, and the continuous adaptation of social bots to mitigate biases and ensure fairness. By addressing these factors, social bots can enhance the user experience, build trust, and contribute to positive outcomes such as customer loyalty and increased company profitability. Furthermore, Zhu et al. (2024) demonstrate that customers' experiences enhanced due to the advantages of robot-advisor design. The robot-advisor design, along with customers' features and service encounters. positively affects robot acceptance and further enhances their satisfaction and loyalty. In terms of robot design, the main drivers are anthropomorphism, explainable AI, customer autonomy, and personalized most treatment. The important customer characteristics include demographics, perceived risk, and technology readiness. Finally, service encounter characteristics relate to the human replacement or complement role of the robot, the level of involvement, the type of interaction (functional or social), the service type, outcome, and transparency. Additionally, laws, ethics, and regulations have an overall effect on the experience and behavior of customers.

Celik (2023) investigates the characteristics of AI/ChatGPT users necessary for a favorable usage experience. He suggests that the digital divide, computational thinking, and cognitive absorption are the most significant drivers of AI literacy, which is considered a crucial factor for AI usage. The findings demonstrate that AI positively affects cognitive absorption and computational thinking, while the digital divide also positively influences AI literacy. However, cognitive absorption, contrary to expectations, was found not to significantly affect both AI literacy and computational thinking.

Zhang et al. (2024) investigate the emotional expressions of AI chatbots to improve customer satisfaction in the tourism service setting. The findings discovered that emotional expressions of concern by chatbots lead to a significant reduction in expectancy violations and a consequent

increase in customer satisfaction. This suggests that when chatbots express emotions such as worry or concern, customers perceive them as more attentive to their needs and emotions, resulting in a more satisfying interaction. The study also revealed the moderating effects of goal orientation in the relationships between emotional expressions and expectancy violation and between emotional expressions and customer satisfaction, emotional expressions having a more pronounced impact on reducing expectancy violation and enhancing satisfaction for customers who prioritize the process of interaction over the outcome. Similarly, customers who focus less on the outcome also exhibit a stronger positive response to emotional expressions by chatbots. Overall, these findings highlight the importance of emotional expressions in improving customer satisfaction during human-chatbot interactions, particularly for individuals with specific goal orientations. Moreover, Ku and Chen (2024) found that the implementation of AI technology in tourism businesses has a substantial impact on improving practical advantages for travelers. This, in turn, results in higher levels of satisfaction and a greater likelihood of continued utilization of AI services. Nevertheless, the study emphasizes the necessity of enhancing AI innovation services provided by tourism businesses to fully exploit their potential advantages and guarantee consistent consumer usage intentions. Additionally, the combination of user experience and perceived anthropomorphism in sociotechnical systems enhances the intention to use AI services and overall satisfaction.

The research conducted by Cao et al. (2024) sheds light on the significant role that AI plays in reshaping customer service organizations and, ultimately, improving the overall CX. AI enables organizations to effectively adapt to changing dynamics by facilitating shifts in ambidexterity modes. This, in turn, leads to improved process performance and, consequently, enhanced customer service. The full potential of AI can be harnessed by organizations through the strategic deployment of AI technologies and the adoption of practices to overcome barriers. This approach allows organizations to deliver personalized, efficient, and proactive customer interactions, ultimately resulting in an increase in overall CX and satisfaction.

Kecht et al. (2023) discuss the development of a technique for assessing chatbots' ability to adhere to organizational business processes. The findings show deviation detection and improvement in chatbot training, as well as insights into how to improve the efficiency and effectiveness of customer service departments. According to McCloskey et al. (2024), small businesses have the ability to utilize NLP techniques, such as topic modeling and large language models (LLM), on limited customer review data in order to acquire actionable insights and thereby effectively compete in the market.

Korzyński et al. (2023) discovered that GAI, such as ChatGPT, has the capacity to significantly improve various business functions, including the operational aspects of customer service in companies. The conversational nature of this technology is well-suited to meet the fundamental interaction requirements of organizational units. It provides opportunities to enhance CX and relationships by seamlessly integrating human and AI services, thereby offering new capabilities that

result in higher levels of customer engagement. Ultimately, these improved engagement levels have a positive impact on customer loyalty.

The research conducted by Alabed et al. (2024) examines the associations between consumers and conversational AI agents, as well as their potential effects on their well-being. They categorize users based on varying degrees of self-congruence and self-AI integration, resulting in four distinct relationship types: functional, aspiring, committed, and replacement. These relationships are influenced by factors such as individualized interactions, emotional bonds, and the nature of the tasks involved. While certain users derive advantages from emotional support and enhanced confidence in their interactions with AI agents, others encounter apprehensions regarding intimacy, diminished autonomy, and societal disapproval. In general, the study emphasizes the intricate interaction between consumers and conversational AI agents, revealing both favorable and potentially worrisome consequences for consumer welfare and relationship dynamics. Furthermore, Gürsoy et al. (2023) identified that, utilization of OpenAI's ChatGPT in the hospitality and tourism industry. This includes highlighting the benefits, pitfalls, and potential challenges of integrating ChatGPT into various stages of travel, as well as emphasizing the importance of conducting research to ensure its effectiveness and impact on this service sector.

4.2.3. Customer relationship management and ChatGPT

Several research efforts acknowledge the importance of AI in establishing and maintaining relationships between a company and its customers. Abadie et al. (2024) examined several factors that significantly influence consumers' behavioral responses (i.e., repurchase intention, positive wordof-mouth (WOM), more usage, etc.) because of ChatGPT usage, as well as their intention for service co-creation. Specifically, efficiency, excellence, esteem, ethics, and spirituality are positively associated with intention, while status, play, and aesthetics do not significantly affect intention. Additionally, intention positively impacts co-creation. These results suggest that factors related to efficiency, excellence, esteem, ethics, and spirituality play a significant role in shaping favorable behavioral responses and, subsequently, co-creation behavior. Van Doorn et al. (2023) utilized a qualitative study to examine technology-worker consumer-autonomous the model, investigating interactions among consumers, employees, and autonomous technology (AT). They define AT as a knowledge-based system utilized either by consumers, such as service robots supporting customer service or by employees to aid in decision-making processes. Their findings suggest that while AT will not replace the role of employees, it is expected to strengthen consumer-employee relationships when AT is integrated, particularly in cases where human intergroup differences (such as race or religion) are not significant. On the other hand, they also suggest that consumer-employee relationships may weaken due to employees' dehumanization. In any case, human leadership remains significant for AT usage, both for consumers and workers. However, the presence of employees in the customer service process reduces the importance of AT humanization. Moreover,

Kelly et al. (2023) identified trust and social obligation as strong drivers of individuals' willingness to share their data for AI through participatory data stewardship. This highlights the crucial role of societal advantages in influencing attitudes towards AI data sharing. Wang (2024) discovered that AI can be used to persuade customers to behave in a certain way, improve customer satisfaction, and strengthen relationships with customers. Niu and Mvondo (2024) investigated the factors influence user loyalty and ethical concerns about ChatGPT. The results revealed that users' ethical perceptions and beliefs have a negative moderating effect on the relationship between satisfaction and loyalty. Based on these results, the authors suggest that marketers should regularly assess the performance of chatbots to ensure that the provided services are relevant, trustworthy, and timely delivered. Furthermore, the results reveal the significance of the quality of information relevance, reliability, conciseness, quickness) provided by ChatGPT in affecting user satisfaction, ethical perception, belief, loyalty, and WOM communication. Additionally, the research conducted by Raj et al. (2023) extensively examines the potential benefits of integrating ChatGPT into business operations. One significant finding underscores the pivotal role of ChatGPT in enhancing customer engagement by providing rapid, informative, and natural responses. This capability not only fosters a more positive experience for customers but also contributes to increased customer satisfaction and loyalty. By promptly addressing client inquiries or concerns with personalized interactions, ChatGPT facilitates stronger connections between businesses and customers, ultimately driving revenue growth through improved retention rates and positive WOM referrals. Furthermore, Zhou and Chang (2024) conducted a comprehensive investigation into the effectiveness of chatbots' self-recovery strategies on customer satisfaction, exploring both informational and emotional approaches. Through a series of three experiments, they aimed to bolster the reliability and validity of their findings. Experiment 1 focused on assessing the primary and mediating impacts of chatbots' self-recovery strategies on consumer satisfaction, while Experiment 2 delved the moderating effect of anthropomorphic levels. Both experiments simulated service process failure scenarios. Experiment 3, to fortify the robustness of the findings, simulated service outcome failure. The results illuminated that informational selfrecovery significantly influenced service quality perception, whereas emotional self-recovery played a pivotal role in shaping consumer attitude satisfaction. Moreover, the anthropomorphic level of chatbots' self-recovery positively moderated these relationships. Mechanistically, perceived competence mediated the link between informational self-recovery and service quality perception, while perceived warmth mediated the relationship between emotional self-recovery and consumer attitude satisfaction. The study suggests that informational self-recovery strategies are apt for addressing service process failures, while emotional self-recovery strategies are more suitable for mitigating service outcome failures.

Pham et al. (2024) investigated the factors influencing tourists' continued intention to use ChatGPT for travel services. They discovered that anthropomorphic stimuli, such as perceived warmth, communication speed, and perceived competence,

have a significant impact on tourists' trust and attitude towards ChatGPT. These then influence tourists' behavioral responses. specifically their satisfaction and future use intentions for ChatGPT usage. Notably, the study found that technology anxiety had a negative moderating effect on the relationship between satisfaction and continued usage intentions. These findings add the understanding of how anthropomorphic cues influence tourists' perceptions and behaviors towards AI-powered chatbots. Furthermore, the study had practical implications for the tourism hospitality industries. It emphasized the significance of optimizing anthropomorphic cues in AI chatbots to improve customer interactions. To foster trust and positive attitudes towards ChatGPT, strategies increasing communication speed, exuding warmth, and conveying competence were recommended. Furthermore, the study emphasized the importance of satisfaction in driving continued usage intentions. Companies were advised to use ChatGPT to continuously monitor and improve customer satisfaction, taking advantage of its ability to anticipate and meet tourist needs in real-time. Finally, addressing technology anxiety through user-friendly interfaces and human assistance options was suggested to increase users' comfort and confidence in using ChatGPT, thereby redefining CXs in the digital age and solidifying brand loyalty within the ChatGPT field. Moreover, Huang, Markovitch, et al. (2024) provide useful insights into AI adoption in tourism and hospitality services, emphasizing the importance of perceived enjoyment in shaping consumers' continued intention to engage with various AI applications across different service settings. Their research includes AI search engines, virtual agents, chatbots, robots, self-driving cars, virtual reality (VR), and augmented reality (AR), providing a comprehensive picture of the causes of continued usage intentions. Significantly, the study identifies perceived enjoyment as a key factor influencing consumer satisfaction and future usage intentions of AI offerings, emphasizing the importance of developing AI experiences that exceed customers' expectations. By expanding the traditional expectation-confirmation models to include hedonic dimensions, the study highlights the importance of considering both the utilitarian and hedonic elements of technology. Moreover, the findings affirm the positive correlation between expectation confirmation, perceived enjoyment, satisfaction, and future usage intentions across various online contexts, technology adoption underscoring the pivotal role of user enjoyment in successful sustained technology usage. The study's contributions extend to verifying the importance of positive AI hedonic experiences alongside perceived performance in delivering tourism and hospitality services, emphasizing the significance of pleasing interactions, usability, and appealing design aesthetics in supporting the long-term adoption of AI technologies in these sectors.

Paul et al. (2023) review the benefits as well as the pitfalls of ChatGPT with respect to relationship management strategies' efficiency, and they offer several recommendations for a better understanding of ChatGPT's efficiency, especially in different contexts (i.e., e-commerce, online marketplaces, social media platforms, customer service departments, and digital marketing). They suggest that ChatGPT's benefits include higher levels of consumer engagement, customer service, personalization and

shopping, social interaction and communication practice, cost-effectiveness, insights into consumer behavior, and improved marketing campaigns. On the other hand, concerns about consumers' well-being, bias and misinformation, lack of context, privacy concerns, ethical considerations, security are among the pitfalls of ChatGPT's usage. In the study conducted by Huang, Markovitch, et al. (2024), the role of three different aspects of trust (i.e., dispositional trust in service technologies, generalized learned trust in chatbots, particularized situational trust in one's chatbot service-giver) was found to affect customer outcomes related to satisfaction with service experience, recommendation acceptance, and repurchase intention. In particular, the minimum human intervention has been determined to be the most efficient in attaining outcomes comparable to those of human service. Chen et al. (2023) proposed a service evaluation model assessing the role of several dimensions of AI chatbot service quality on service perceived value, customer satisfaction, trust, and loyalty. The empirical study confirmed the indirect effects of chatbot service quality on loyalty based on the value of and satisfaction with the delivered service and the customer's trust in the AI agent's capability and assurance. Finally, the study conducted by Korzyński et al. (2023) found that generative AI, such as ChatGPT, has a significant impact on managerial work by improving decision-making, knowledge management, customer service, and human resources management (HRM). In terms of relationship management, ChatGPT offers several benefits that formulate customer satisfaction, including, among others, automated customer service interactions, 24/7 customer service, real-time, and reduced-time responses to customer inquiries. In particular, they examined the impact of a chatbot's conversational design on social, behavioral, and affective outcomes.

4.2.4. Ethical and legal challenges

Kumar and Suthar (2024) discovered that the ethical and legal challenges of using AI in marketing underscore the need for transparency, responsibility, and accountability in AI-powered marketing practices. Businesses should develop ethical standards and best practices that prioritize openness and fairness, and they should establish clear data collection and use policies to protect consumer privacy. Additionally, efforts should be made to address concerns related to intellectual property rights, consumer security, responsibility, liability, and competition law. The absence of clear legal frameworks highlights the importance of industryled initiatives to create ethical guidelines and regulatory standards for the responsible use of AI in marketing. Overall, ensuring a positive CX requires businesses to navigate these challenges while prioritizing transparency, fairness, and ethical conduct in their AI-powered marketing endeavors. In addition, research has found that there are ethical concerns associated with AI, including discrimination, bias, manipulation, job displacement, lack of social interaction, cybersecurity, unintended consequences, environmental impact, privacy, and legal issues such as consumer security, responsibility, liability, brand protection, competition law, agreements, protection, consumer protection, and intellectual property rights. To address these concerns, businesses can adopt a hybrid strategy that combines AI-

powered technologies with human engagement. This approach aims to provide customers with a personalized experience and empathy. The article highlights the inherent duality of transformative AI tools such as ChatGPT. Furthermore, it acknowledges their capacity to improve productivity in different industries while also acknowledging the ethical, legal, and practical obstacles that come with their utilization (Dwivedi et al., 2024; Wamba et al., 2023). On the other hand, Xie et al. (2023) provide suggestions on the anthropomorphic design of AI chatbots in order to prevent the unethical behavior of employees in cases where a company fails to implement the planned corporate social responsibility (CSR) activities.

Rivas and Zhao (2023) conducted a study on marketing with ChatGPT, revealing that the assessment of ChatGPT's ethics emphasizes the significance of transparency, accountability, and ongoing monitoring during its creation and deployment. ChatGPT has the capacity to transform marketing through task automation and enhanced customer engagement. However, it is crucial to address concerns regarding its ethical and societal implications. These concerns encompass potential privacy hazards arising from data collection, the likelihood of biases in the outputs, and the prospect of job displacement. To address these risks, companies must prioritize ensuring transparency, mitigating bias, protecting privacy, conducting risk assessments, and making ethical decisions in their marketing efforts using ChatGPT. Human supervision is crucial to guaranteeing that ChatGPT adheres to ethical guidelines and legal obligations. Companies can optimize the advantages of ChatGPT while mitigating potential negative consequences for stakeholders by implementing effective strategies and engaging data science professionals. In summary, although ChatGPT shows potential for revolutionizing marketing, it is essential to prioritize its ethical implementation to prevent any negative repercussions.

Furthermore, Wach et al. (2023) highlight seven primary risks linked to the utilization of GAI, specifically ChatGPT. These risks encompass the absence of regulation, inadequate quality control, employment displacement, breaches of privacy, manipulation of social dynamics, socioeconomic disparities, and AI-induced technostress. Effective governance of the AI market, with a focus on ethical considerations, and the promotion of education and retraining are essential for tackling the challenges and maximizing the advantages of GAI technology, such as ChatGPT, in business settings. Akter et al. (2023) underscores the critical need for robust and inclusive ethical frameworks to guide AI-powered service innovation. The authors highlight the importance of ethical principles and advocate for incorporating diverse cultural, social, and geographical perspectives. Ethical leadership and responsible AI management are essential to mitigate risks, foster trust, and drive sustainable

Ultimately, Pasca and Arcese (2024) conducted a comprehensive empirical study shedding light on the transformative potential of ChatGPT and similar AI technologies. Their findings underscore how these tools are poised to revolutionize various sectors, particularly those handling routine tasks, customer service, creativity, and content generation. While ChatGPT presents opportunities for companionship and support, especially evident in healthcare applications, concerns regarding

confidentiality, accuracy, and data security loom large. In addition, it offers personalized assistance but falls short of providing human interaction and empathy, a sentiment echoed by respondents who emphasized the importance of these qualities. Urgent calls were made for enhanced data reliability, transparency, and safeguarding of personal information to ensure the integrity of AI-driven interactions. Despite these challenges, ChatGPT was recognized for its potential to streamline activities and reduce human errors, albeit with identified risks such as information reliability and privacy concerns. Moreover, the study highlighted the broader societal benefits of AI tools, including their ability to support sustainable strategies, reduce waste, and enhance community well-being by disseminating knowledge and supporting workers. Overall, the study underscores the need for continued efforts to optimize the efficiency, reliability, and ethical considerations surrounding AI technologies for their full realization of societal benefits (Pasca & Arcese, 2024).

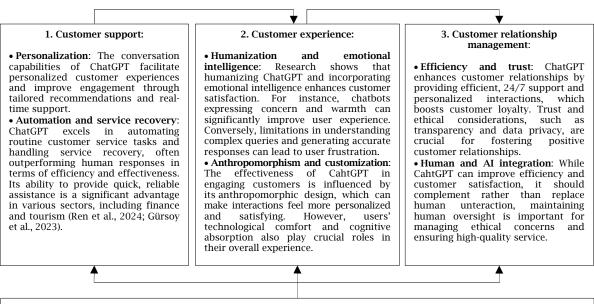
4.3. Summary of findings

In summary, the comprehensive literature examined emphasizes the substantial influence of ChatGPT on different facets of customer support, experience, and relationships. ChatGPT plays a significant role in improving CX in various industries such as hospitality, tourism, manufacturing, and finance. Research suggests that users generally have a positive perception of ChatGPT interactions, as they offer convenience, efficiency, and personalized

assistance. Furthermore, the incorporation of ChatGPT into customer service frameworks has demonstrated enhancements in response durations, service excellence, and overall customer contentment. However, along with its benefits, ethical and legal challenges associated with ChatGPT deployment are also identified. These encompass concerns regarding security, biases, employment displacement, and the possibility of unethical conduct. Businesses must prioritize transparency, fairness, and accountability when developing and deploying AI technologies such as ChatGPT to effectively address these challenges. Additionally, the study emphasizes the importance of human supervision and ethical guidelines in ensuring that ChatGPT meets ethical standards and legal obligations. Moreover, research emphasizes the importance of continuous monitoring, training, and adaptation to maintain precision and avoid misconceptions in ChatGPT interactions. Overall, ChatGPT has enormous potential for transforming customer support and experience, businesses must approach its implementation with careful consideration of ethical, legal, and societal implications to maximize benefits and mitigate potential risks. As a result, ChatGPT has the potential to reshape customer relationships and drive business success in the digital age.

Integration of the findings concerning the impact of ChatGPT utilization in optimizing CM deliverables in terms of customer support, customer engagement, and customer relationships within the existence of certain ethical and legal challenges is presented in Figure 6.

Figure 6. Summary of ChatGPT effects on customer management

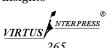


4. Ethical and legal challenges:

- Transparency and accountability: The deployment of ChatGPT raises ethical and legal issues related to data privacy, bias, and accountability. Addressing these concerns requires transparent practices, regular monitoring, and adherence to ethical standards.
- **Regulation and human oversight:** Effective governance and industry-led ethical guidelines are essential to mitigate risks associated with AI, such as privacy breaches and job displacement.

5. CONCLUSION

The theoretical implications drawn from this study on ChatGPT's impact on customer support, experience, and relationships offer valuable insights into several domains. With respect to customer support, the importance of customer personalized treatment through the use of real-time ChatGPT's conversational capabilities (Meng et al., 2023; Ali et al., 2023) and their outperformance in routine



tasks and service recovery (Ren et al., 2023; Gürsoy et al., 2023) were revealed. With respect to CX, the results indicate that incorporating ChatGPT into customer service models can greatly improve the overall CX by providing humanizing treatment, in which emotional intelligence is the most expected feature (Ivanov & Webster, 2024; Zhang et al., 2024). On the other hand, the increase in the complexity of customers' requests still restricts the effectiveness of ChatGPT's responses (Celik, 2023). Additionally, the anthropomorphic design of ChatGPT-powered chatbots seems to further enhance customer engagement as customers' interactions are perceived as more personalized and satisfying (Zhu et al., 2024; Pham et al., 2024). However, both of the above two issues greatly depend on customers' technological readiness in terms of comfort and cognitive absorption (Celik, 2023). As per the effects of ChatGPT on CRM effectiveness, the study illustrates the intricacies of human-AI interaction and its impact on customer satisfaction and trust, which are major ingredients of high-quality customer relationships that boost customer commitment and loyalty (Rizomyliotis et al., 2022; Korzyński et al., 2023; Raj et al., 2023). Additionally, the findings highlight the complementarity role of ChatGPT in customer service optimization, as the presence of customer interactions with employees is perceived as very important in managing ethical concerns and issues of higher complexity (van Doorn et al., 2023; Abadie et al., 2024). Finally, as far as the ethical and legal difficulties linked to the deployment and utilization of ChatGPT in CM are concerned, the results emphasize the significance of formulating ethical principles and regulatory benchmarks for AI technologies (Kumar & Suthar, 2024; Rivas & Zhao, 2023; Heidari et al., 2024), as well as the presence of human oversight in the whole customer service process (Wach et al., 2023; Pasca & Arcese, 2024).

practical implications drawn from the research on ChatGPT's impact on customer support, experience, and relationships provide actionable insights for businesses across various industries. First, the results indicate that ChatGPT contributes to the enhancement and improvement of customer service. Including ChatGPT in customer service models can result in more efficient, effective, and supportive interactions. Businesses can use ChatGPT to provide 24-hour assistance, quick responses to inquiries, and personalized recommendations, thereby improving overall service quality. By utilizing ChatGPT's capabilities for personalized assistance and efficient problem-solving, businesses can improve the overall CX. This can lead to higher customer satisfaction, trust, loyalty, and positive WOM, resulting in business growth. To successfully integrate ChatGPT into their operations, organizations must invest in training programs and develop AI governance frameworks. This could restructuring processes, roles, and responsibilities to maximize the use of AI technologies while mitigating potential risks. ChatGPT can also be used to improve personalized marketing and customer engagement, which in turn will positively affect the CX. Businesses can use ChatGPT to make targeted recommendations, anticipate customer needs, and create memorable brand experiences, increasing marketing effectiveness and customer

On the other hand, businesses must continuously monitor and evaluate ChatGPT interactions to ensure accuracy, relevance, and effectiveness. This

could include gathering user feedback, conducting performance assessments, and making necessary changes to improve ChatGPT's capabilities. Businesses must, however, prioritize ethical considerations when developing and deploying ChatGPT. This includes ensuring transparency, fairness, and accountability in AI-powered interactions, as well as addressing concerns about privacy, bias, and job displacement. Overall, the research's practical implications emphasize the importance of ethical deployment, organizational adaptation, and strategic use of ChatGPT to improve customer support, experience, and relationships. By following these guidelines, businesses can use ChatGPT as a valuable tool for driving customer satisfaction, loyalty, and business success in the digital age.

A few limitations are associated with this SLR about ChatGPT's role in CM. Firstly, despite the increasing interest in AI and ChatGPT applications, there is a paucity of scholarly literature explicitly dedicated to their specific role in customer support. This scarcity could constrain the depth and breadth of the review, potentially limiting the insights garnered from the synthesis of the existing research. Moreover, published studies often tend to highlight successful implementations or positive outcomes, potentially overlooking the complexities and challenges inherent in integrating ChatGPT into diverse business ecosystems. Consequently, there is a risk of a biased portrayal of ChatGPT's effectiveness and impact, as failures or setbacks may not be adequately documented or analyzed. Furthermore, given the rapid pace of technological advancement in the field of AI, the studies included in the review may quickly become outdated, failing to capture new developments or emerging trends in ChatGPT implementation and its evolving impact on customer support and CM transformation efforts. Consequently, while this SLR endeavors to provide a comprehensive understanding of ChatGPT's role in business transformation, it is essential to acknowledge and address these inherent limitations to the robustness and validity of its findings.

There are several potential areas for future research involving ChatGPT in the online CM context. Each of these domains offers promising prospects for further investigating the potential of AI in enhancing different facets of business operations and decision-making. First, it would be crucial to examine the efficacy of voice-enabled ChatGPT in delivering customer support in diverse industries and contexts to better understand the efficacy of voice-enabled ChatGPT with respect to conventional customer service channels, such as phone calls or LiveChats, in terms of response time, accuracy, and customer satisfaction. Second, an emerging area for future research lies in exploring the integration of ChatGPT across multiple customer touchpoints to create a seamless Omnichannel experience. Investigating how ChatGPT can effectively collaborate with existing communication channels like email, social media, and in-person interactions could provide insights into optimizing customer engagement strategies. Research in this area could delve into the challenges and opportunities of integrating ChatGPT into diverse platforms while ensuring consistency, personalization, and efficiency across all channels. Third, the ethical implications of deploying ChatGPT in the CM context and its impact on building trust with consumers is an interesting avenue for future inquiry. Research could focus on

exploring issues such as privacy concerns, data security, transparency in AI decision-making, and the potential for algorithmic bias. Understanding how businesses can tackle these ethical challenges while leveraging ChatGPT to enhance CX and relationships is essential for fostering long-term trust and sustainability in the CM context. Finally, a promising avenue for future research involves investigating the capabilities of ChatGPT as a voiceenabled assistant in understanding and adapting to diverse contextual cues in multimodal environments. This research could delve into how ChatGPT integrates voice input with visual, textual, and other sensory information to provide more accurate and contextually relevant responses. Exploring the challenges and opportunities of enabling ChatGPT to interpret non-verbal cues, such as gestures or facial expressions, alongside voice commands could lead to advancements in natural and intuitive human-AI interaction. Additionally, studying the effectiveness of ChatGPT in dynamically adjusting its responses based on changing environmental factors and user preferences could contribute to enhancing the overall user experience and satisfaction in various application domains.

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APPENDIX

Table A.1. Selected articles information (Part 1)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
Pham et al. (2024)	3	Journal of Retailing and Consumer Services	Vietnam	Systematic sampling method	Travel and tourism sector	The impact of anthropomorphic stimuli (perceived warmth, communication speed, and perceived competence) on tourists' cognitive organisms (trust in ChatGPT and attitude towards ChatGPT), which, in turn, influence their behavioral responses (satisfaction and continuance usage intentions of ChatGPT for travel services). Simultaneously, it also reveals the negative moderating effect of technology anxiety on the satisfaction-continuance usage intentions relationship.
Abadie et al. (2024)	0	Technological Forecasting and Social Change	France	195 business managers	Online retailing	The efficiency, excellence, meaningfulness of recommendations, and conversational ability of ChatGPT will influence the behavioral intention to use it during the priori acceptance stage. Based on these findings, we suggest that organizations should thoughtfully consider and strategize the deployment of ChatGPT applications to ensure their acceptance, eventual adoption, and subsequent collaboration between ChatGPT and managers for content creation or problem-solving.
Akter et al. (2023)	2	Technovation	USA	33 papers (SLR)	Robotics	The study underscores the critical need for robust and inclusive ethical frameworks to guide AI-powered service innovation, addressing challenges such as vagueness, sectoral disparities, and malevolent applications.
Alabed et al. (2024)	0	European Journal of Marketing	UK	20 consumers	Human-computer interaction	Consumers develop distinct relationships with conversational AI agents across four dimensions: replacement, committed, functional, and aspiring relationships. These relationships vary in terms of self-congruence and integration with the AI, which, in turn, impact mental well-being.
Ali et al. (2023)	0	International Journal of Hospitality Management	UK	344 respondents	Tourism	Relevance, credibility, and usefulness significantly influence trust in personalized travel recommendations offered by ChatGPT, which, in turn, impacts behavioral intentions.
Cao et al. (2024)	0	International Journal of Information Management	USA	35 executive managers	Online retailing	The study underscores the adaptive nature of contact centers, which shifted between exploitation and exploration modes to address evolving challenges. This dynamic adjustment, guided by the integration of AI technologies, highlights the strategic importance of ambidexterity in optimizing operational performance and fostering innovation within customer service organizations.
Celik (2023)	26	Telematics and Informatics	Finland	926 students	Technology	The digital divide positively affects cognitive absorption and computational thinking, with the digital divide also positively associated with AI literacy. However, contrary to expectations, cognitive absorption was not significantly linked to AI literacy or computational thinking.
Chen et al. (2023)	2	Internet Research	China	459 patients	Medical services	Empirical evaluation of the effects of several dimensions of AI chatbot service quality on service perceived value, customer satisfaction, trust, and loyalty. The empirical study confirmed the indirect effects of chatbot service quality on loyalty based on the value of and the satisfaction from the delivered service and the customer's trust in the AI agent's capability and assurance.

 Table A.1. Selected articles information (Part 2)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
van Doorn et al. (2023)	1	Journal of Business Research	USA	Interview	Online retailing	ChatGPT demonstrates superior accuracy and professionalism compared to humans in solving financial problems, rendering it a valuable asset within the financial services industry. However, it's crucial to strike a balance between leveraging ChatGPT and human services, as ChatGPT cannot fully replace human cognition. Despite its strengths, ChatGPT encounters challenges such as the absence of real-time interaction, information asymmetry in financial innovation, and the absence of human emotions and subjectivity.
Dwivedi et al. (2024)	1042	International Journal of Information Management	UK	43 respondents	AI technology	The article emphasizes the dual nature of transformative AI tools like ChatGPT, recognizing their potential to enhance productivity across various industries while also addressing ethical, legal, and practical challenges associated with their use.
Flavián et al. (2024)	0	Journal of Business Research	Spain	331 respondents	Marketing management	The study investigates how automated social presence in AI impacts consumer perceptions and intentions to use robots. Results show that higher perceived automated social presence leads to feelings of being understood, empowered, and connected, rather than misunderstood, replaced, or alienated. This enhances both functional and social value perceptions, influencing future use intentions. Additionally, the effect of automated social presence on social experience is stronger for consumers with a greater need for social interaction.
Gürsoy et al. (2023)	89	Journal of Hospitality Marketing & Management	South Africa	Literature review and theories	Tourism	Integrating OpenAI's ChatGPT in the hospitality and tourism industry presents significant benefits, including enhanced personalization and accessibility. However, successful implementation requires thorough research to address associated challenges and ensure effectiveness in meeting individual tourist needs and improving overall service quality within the industry.
Huang, Markovitch, et al. (2024)	1	Journal of Retailing and Consumer Services	USA	732 respondents	Online retailing and technology	The study explores consumer preferences for human versus chatbot customer service, finding higher satisfaction with human agents. It proposes two configurations to enhance trust in chatbot service, with the second approach, involving limited human intervention, proving most effective in matching human service outcomes.
Huang, Ozturk, et al. (2024)	3	International Journal of Hospitality Management	USA	Quantitative methodology	Tourism sector	The results indicated that confirmation of expectations, perceived enjoyment, and perceived performance were significant predictors of satisfaction with AI and future use intentions. Further, confirmation of expectations and perceived performance were also found to be antecedents of perceived enjoyment. The results highlighted the importance of leveraging the hedonic dimensions and expectation formation to support the adoption of AI.
Ivanov and Webster (2024)	11	Technology in Society	Bulgaria	130 respondents	Hotel industry	Managers prefer human oversight in AI decisions. Emotional intelligence inversely affects AI involvement.
Kecht et al. (2023)	14	Information Systems	USA	500,000 customer service Twitter conversations	Online retailing	The main finding is the development of an approach to quantify chatbots' ability to learn and adhere to organizational business processes, facilitating their integration into customer-centric process improvement initiatives.
Kelly et al. (2023)	4	Ergonomics	Australia	322 respondents	AI/technology	Trust and social duty significantly predict individuals' willingness to provide their data for AI via participatory data stewardship, underscoring the importance of societal benefit in shaping attitudes towards AI data sharing.

 Table A.1. Selected articles information (Part 3)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
Kirshner (2024)	4	Journal of Retailing and Consumer Services	Australia	100 respondents	Technology	High-level construal features (e.g., desirability) over low-level construal features (e.g., feasibility) in consumer evaluation scenarios. Thus, ChatGPT recommendations differ significantly from traditional results based on human decision-making.
Koc et al. (2023)	23	Technology in Society	UK	30 online users	Tourism and hospitality industry	ChatGPT-4 generated management responses received significantly higher scores across all six dimensions compared to actual management responses provided by hotels, indicating a high level of satisfaction. Additionally, experts found ChatGPT-4 responses to perform extremely well in terms of justice dimensions, though slightly lower than in other dimensions.
Korzyński et al. (2023)	124	Central European Management Journal	Poland	Literature review/viewpoint	Online retailing	Generative AI, like ChatGPT, impacts managerial work by enhancing decision-making, knowledge management, customer service, and HRM. However, further research is necessary to understand its full potential and integration into organizational processes.
Ku and Chen (2024)	0	International Journal of Information Management	Taiwan	200 companies	Tourism and hospitality industry	AI innovation and new product advantage significantly enhance functional benefits, strengthening tourist satisfaction and continued AI service usage intention. However, the moderating effects of positive user experience and perceived anthropomorphism are not supported.
Kumar and Suthar (2024)	2	Journal of Information, Communication and Ethics in Society	India	Qualitative analysis/case study	Online retailing	AI in marketing raises ethical and legal issues: bias, privacy, liability, and solutions discussed.
Malik et al. (2023)	1	Technological Forecasting and Social Change	India	32 professionals' respondents	Online retailing	The study presents a framework for fairness in social bots, linking fair treatment to positive user experience. It extends emotional competence theory to social bots and suggests strategies for addressing ethical concerns in bot development.
McCloskey et al. (2024)	0	Annals of Operations Research	Netherland	644 respondents	Online retailing	Small businesses can leverage NLP, including topic modeling and LLM, on limited customer review data to gain actionable insights and compete effectively in the market.
Meng et al. (2023)	1	Annals of Tourism Research	India	Total 1344 calls and 845 valid calls	Online retailing	A double-sided message strategy enhances customers' willingness to interact with AI chatbots via the mediating role of perceived authenticity. Customers' attitudes toward interacting with AI chatbots are moderated by customer demand types — complaints and inquiries.
Niu and Mvondo (2024)	9	Journal of Retailing and Consumer Services	China	456 actual ChatGPT users	Retailing and consumer services	Information quality significantly and positively affects users' satisfaction, perceived usefulness, and coolness. Second, perceived usefulness, coolness, technology affinity, and post-human ability also have a positive impact on users' satisfaction, which subsequently influences their loyalty to the AI chatbot. Furthermore, the findings demonstrate that user ethical perceptions and beliefs negatively moderate the relationship between satisfaction and loyalty. The main implication of this research is that brand managers and programmers should regularly assess the chatbot's performance to ensure that the information provided is relevant, reliable, concise, and delivered promptly.

 Table A.1. Selected articles information (Part 4)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
Pasca and Arcese (2024)	0	The TQM Journal	UK	Qualitative approach- 34 in-depth consumer interviews	Healthcare	The interviewees perceive ChatGPT as a helpful tool that simplifies activities and reduces time and human errors. However, risks associated with using this tool have been identified, such as the reliability of the information provided, the need for more privacy for the requested personal data, and the lack of empathy and human interaction. AI tools can support businesses and governments in creating and promoting sustainable strategies and reducing waste. Furthermore, the study shows how these tools can improve the community's well-being by disseminating knowledge and information, supporting workers, and generating less stress.
Paul et al. (2023)	123	International Journal of Consumer Studies	UK	Paper review	Online retailing	ChatGPT's effectiveness can be compared with other customer service or recommendation systems across various contexts such as e-commerce, online marketplaces, social media platforms, customer service departments, and digital marketing, with potential comparisons focusing on accuracy, efficiency, response time, engagement, and user satisfaction.
Raj et al. (2023)	44	Bench Council Transactions on Benchmarks, Standards and Evaluations	China	Quantitative methodology	Technology context	The study identifies areas of deployment of ChatGPT's possible benefits in enterprises by drawing on the literature that is currently accessible on ChatGPT, massive language models, and AI. Then, using the preference selection index (PSI) and complex proportional assessment (COPRAS) approaches, potential advantages are taken into account and prioritized. By highlighting current trends and possible advantages in the industry, this editorial seeks to provide insight into the present state of employing ChatGPT in enterprises and research. ChatGPT may also learn biases from training data and create replies that reinforce those biases. As a result, enterprises must train and fine-tune ChatGPT to specific operations, set explicit boundaries and limitations for its use, and implement appropriate security measures to avoid malicious input.
Ren et al. (2023)	5	Computers in Human Behavior: Artificial Humans	China	7165 financial questions	Financial industry	ChatGPT exhibits higher levels of professionalism and accuracy compared to manual services, leading to improved efficiency, cost reduction, and enhanced customer satisfaction, thereby boosting the competitiveness and profitability of financial institutions. However, challenges such as a lack of emotional value in its responses, potential bias from one-sided training data, information errors, and the risk of job displacement need to be addressed.
Rivas and Zhao (2023)	70	AI	Netherland	Case study ChatGPT	Online retailing	ChatGPT has the potential to revolutionize marketing by automating tasks, improving insights, and enhancing customer engagement, but its implementation requires careful consideration of ethical, societal, and transparency concerns.
Wach et al. (2023)	86	Entrepreneurial Business and Economics Review	Poland	literature review	Technology	The study identifies seven main threats associated with the use of GAI, particularly ChatGPT, including lack of regulation, poor quality control, job losses, privacy violations, social manipulation, socio-economic inequalities, and AI technostress. Regulation of the AI market, prioritizing ethical considerations, and promoting education and retraining is crucial for addressing the challenges and maximizing the benefits of GAI technology like ChatGPT in business contexts.

 Table A.1. Selected articles information (Part 5)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
Wamba et al. (2023)	31	International Journal of Production Economics	France	UK 154 and the USA 161	Online retailing	The integration of GAI/ChatGPT in operations and supply chain management (O&SCM) leads to increased efficiency and overall performance enhancement. The adopters express satisfaction with post-implementation benefits, including reduced challenges and greater optimism about future utilization, compared to non-adopters.
Wang (2024)	4	Current Issues in Tourism	New Zealand	2 group managers	Hotel industry	Generative AI presents opportunities for efficiency and cost savings in the New Zealand hotel industry but raises concerns about compatibility with cultural values like Kiwi hospitality and data security. Future research should focus on aligning AI development with local cultural norms, addressing legislative and privacy issues, and bridging the gap between technology and traditional cultural values in hospitality.
Wang and Shao (2024)	2	International Review of Economics and Finance	China	1049 manufacturing	Manufacturing enterprises	Digital transformation plays a significant role in promoting the production efficiency of manufacturing enterprises, and the promotion effect is more obvious for high-tech enterprises and non-state-owned enterprises than for non-high-tech enterprises and state-owned enterprises; digital transformation has a greater promotional effect on the production efficiency of manufacturing enterprises with formal institutions or informal institutions switching from low-value intervals to high-value intervals.
Wong et al. (2023)	16	Journal of Hospitality and Tourism Management	China	24 companies	Hospitality and tourism	ChatGPT enhances tourist decision-making pre-, en-route, and post-trip. It empowers tourists to actively seek relevant information. It differs from traditional methods by engaging in Q&A mode. It improves trip planning efficiency. It offers personalized recommendations. It acts as a 24/7 personal assistant. It facilitates fluent Al-mediated communication. It provides autonomous guided tours. It enriches sharing experiences. It ensures prolonged satisfaction. These autonomous services are cost-effective. They offer customized travel solutions for ease.
Xie et al. (2023)	1	Technological Forecasting and Social Change	China	95 respondents	Online retailing and AI	The study highlights that imagining CSR behaviors could have occurred can lead to moral licensing, causing unethical behavior among employees. Findings across multiple studies indicate that counterfactual thinking about CSR, especially focusing on controllability, correlates with unethical behavior. This suggests that both counterfactual and prefectural thinking can prompt unethical behavior that could be resolved by the AI chatbot's anthropomorphic design.
Zhang et al. (2024)	10	Tourism Management	China	185 respondents	Online retailing	Emotional expressions of concern from chatbots can enhance customer satisfaction by mitigating expectancy violations, especially when considering customer goal orientation, chatbot avatar human likeness, and relationship type.

 Table A.1. Selected articles information (Part 6)

Source	No. of citations	Journal name	Country	Sample	Context	Key finding
Zhou and Chang (2024)	1	Journal of Retailing and Consumer Services	China	Quantitative research	Tourism sector	Three scenario-based experiments reveal that informational self-recovery has a more substantial effect on consumer quality satisfaction than emotional self-recovery, while emotional self-recovery has a greater effect on consumer attitude satisfaction than informational self-recovery. Further, the anthropomorphic level of chatbots' self-recovery also positively moderates the relative relationship. The underlying mechanisms suggest that perceived competence partially mediates the relationship between informational self-recovery and consumer quality satisfaction and that perceived warmth partially mediates the relationship between emotional self-recovery and consumer attitude satisfaction. In addition, this study implies that an informational self-recovery strategy is well-suited to the context of a service process failure, whereas an emotional self-recovery strategy is better adopted in the service outcome failure context.
Zhu et al. (2024)	1	Journal of Business Research	Sweden	literature review	Financial advisory services	Robot-advisor design, customer features, service encounter characteristics, and the encompassing ethical, regulatory, and legal frameworks that provide the institutional context for robot-advisor services. Service implementation, as depicted in the circle in the middle, necessitates a certain degree of alignment among these constituent elements. The findings section presents each element in comparison to the original framework.