

How do (AI) chatbots shape consumer behavior throughout the entire customer journey? A systematic literature review

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Abstract

The modern business landscape has been highly influenced by the aftermath of COVID-19 and the influences that digital transformation has on society. Driven by the recent development of technology and specifically, of artificial intelligence (AI) solutions, this transition towards digital also demands a paradigm shift in brand-consumer interactions, prompting businesses to respond quickly and effectively. In this context, our study explores how chatbots, particularly AI-enabled ones, influence consumers' behavior and the customer journey. Our aim is to establish a better understanding of the subject matter and identify the knowledge gaps that require additional research. Through a systematic literature review following the PRISMA guidelines, we have identified 79 peer-reviewed publications touching on AI chatbots' influence on consumers. We have considered two of the most renowned databases: the Web of Sciences and Elsevier Scopus digital libraries, covering the period between January 2019 and April 2024, marked as the peak of this technology's development. Following a rigorous screening process, our study included those publications that address the impact of chatbots on perceptions, attitudes, emotions, purchase intentions, purchase behavior, customer retention, or brand loyalty. Finally, through citation analysis, alongside qualitative synthesis, our paper proposes a framework and offers theoretical and practical insights into how AI chatbots could shape brand-consumer interactions throughout the entire customer journey. In doing so, we pave the way for future research and inform organizational strategic approaches to leverage this technology for their marketing, customer service, and sales initiatives.

Keywords

AI chatbots, customer journey, consumer behavior, brand-consumer interactions, marketing strategies

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Introduction

The contemporary discourse surrounding the enhancement of the customer journey often encompasses concepts such as "autonomous shopping," "the store of the future", and "personal intelligent shopping assistants". Yet, while the implementation of smart grocery carts may have already become a reality for large-scale multinational conglomerates such as the case of Amazon (Palmer, 2024), we consider that the competitive economic landscape requires cost-effective and adaptable marketing strategies that should start with the understanding and the adoption of simpler technological solutions, especially when it comes to small and medium-sized enterprises (SMEs). Generative artificial intelligence (GenAI) solutions represent a promising catalyst for action and future business success (Hoyer et al., 2020; Paliwal et al., 2020). Among these GenAI solutions, text-based AI chatbots are initiating business restructuring worldwide, being recognized as a valuable marketing tool due to their diverse array of features and functions. Even so, AI chatbots present ongoing challenges for both their developers and the organizations willing to adopt them.

The existing research landscape lacks a comprehensive assessment of AI chatbots' influence on consumer behavior and the customer journey, with existing studies predominantly focusing on chatbot-human interaction, design considerations, and their short-term effects. In contrast, the implications of AI chatbot adoption extend beyond technological boundaries, affecting individual, environmental, societal, and organizational dimensions (Kraus et al., 2021). Acknowledging this, we followed a systematic literature review, having the main objective of exploring how chatbots, particularly AI-enabled ones, can shape the customer journey (Xiao and Watson, 2019). A literature review typically fulfills one of two purposes: (1) defining the current knowledge frontier to establish a robust foundation for the empirical studies to be conducted and novel knowledge to be generated (Sylvester et al., 2013), or (2) as a standalone work, aiming to push the knowledge frontier further by synthesizing the existing body of knowledge within the selected research question and identifying its advancements, gaps, and limitations (Paré et al., 2015; Paré and Kitsiou, 2017). Therefore, our study's objective is to explore the individual-level implications associated with adopting AI chatbots in the customer journey, within the context of human behavior.

1. Review of the scientific literature

Chatbots, also often referred to as “conversational agents” or “virtual assistants”, are computer programs, in the form of software or web applications, that can reproduce human conversation and interact with their users, through text or voice commands (Pérez et al., 2019). We will adopt Sidlauskiene et al. (2023) definition of chatbots as “software-based systems designed to interact with humans using natural language”. Yet, our focus will be limited to text-based chatbots, omitting voice-enabled or robotics applications. The inclusion of artificial intelligence into chatbots has been extensively deliberated upon, with applications ranging from addressing basic customer questions (Dwivedi et al., 2021) to assisting medical education, diagnosis, and treatment, and even supporting research and development (R&D) efforts (Ray, 2023). While there is no collectively accepted definition of “artificial intelligence”, there is a consensus that the concept has not yet evolved into artificial general intelligence (AGI) – that is an AI capable of replicating the full range of cognitive human-specific capabilities (Fjelland, 2020). Throughout this paper, we embrace AI's broad definition, characterized by “intelligent behavior” which is integrated into information systems or computer programs. Within this notion, “intelligent” refers to a spectrum of capabilities, such as “perception, reasoning, learning, communicating and acting in complex environments” (Nilsson, 1998) acknowledging that “[...] for a given set of human-defined objectives”, artificial intelligence solutions can “[...] generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with” (European Commission et al., 2021).

Chatbots that possess (to a certain extent) the capability to automatically respond to customer inquiries in writing without human intervention have been a common feature on multiple online retail platforms (Elsholz et al., 2019) and early proposals of semi-supervised AI chatbots exist (Paul et al., 2019). Even so, until recently, chatbots' architecture involved pre-defined rules or selection options, bringing constraints to the natural flow of conversation (Adamopoulou and Moussiades, 2020). The development of large language models (LLMs) holding advanced natural language processing (NLP) capabilities allowed for the advancement of intelligent chatbots that can conduct textual conversations across various contexts and topics while replicating human language and communication styles. These LLMs facilitated chatbots to execute various NLP tasks – such as text classification and summarization, sentiment analysis, question answering, mathematical problem solving, natural language generation, etc. – often performing close to or above human performance (Gilson et al., 2023). The AI-powered chatbot, ChatGPT (GPT-3), launched on November 30, 2022, has amplified public discourse on the subject. More recent models like GPT-3.5, and GPT-4 from OpenAI, Google's Bard, or Microsoft's Copilot, have sparked even more interest, while causing unsettling feelings, especially for the labor market (Zarifhonarvar, 2023). Nonetheless, most academic literature has focused on chatbots' applications within the medical field (Gilson et al., 2023; Goodman et al., 2023; Májovský et al., 2023; Chiesa-Estomba et al., 2024). In contrast, a limited number of studies explore AI chatbots' potential to improve marketing strategies and the daily lives of consumers.

2. Research Methodology

Understanding human responses to recent technological advancements such as AI chatbots is essential for brands, as throughout the customer journey, consumer behavior is one of the drivers of market dynamics and brand loyalty. A literature review can be the most suitable methodological approach for addressing

various research questions, including evaluating existing evidence (Snyder, 2019). While not adopting a model-agnostic approach¹, our study employs a systematic approach to gain a deeper understanding of our research question “How do (AI) chatbots shape consumer behavior throughout the entire customer journey?” and address the gaps in the literature.

2.1 Data Collection Process

The initial phase of our data collection involved identifying suitable databases and keywords to address our research question. Two of the most reliable and large databases were chosen: the Web of Science (WoS) and the Elsevier Scopus (Scopus) digital libraries (Carrera-Rivera et al., 2022). Initially, we searched for any document containing in its abstract, keyword, or title, one of the selected keywords relating to chatbots, alongside compound terms that relate to the customer journey. To account for possible variations in terminology, the terms “consumer,” “customer” and “buyer” were used interchangeably. The full list of keywords together with the logic used is described in table 1.

Table no. 1. The search query for the targeted manuscripts

Keywords	Search Terms
AI chatbot, artificial intelligence chatbot, conversational agent, virtual assistant	-
consumer customer buyer	action, attitude, behavior, cognition, decision, decision-making, emotion, engagement, experience, habit, insight, interaction, feeling, feedback, journey, loyalty, perception, preference, psychology, response, retention, satisfaction, sentiment, trust, trend
buying shopping purchase	behavior, intention, experience
Combined Logic	(Keywords related to chatbots) AND ((Consumer search terms) OR (Customer search terms) OR (Buyer search terms) OR (Buying search terms) OR (Shopping search terms) OR (Purchase search terms))

Note: (1) To include both singular and plural nouns, we searched for both “chatbot” and “chatbots”, “agent” and “agents”, etc. (2) We restricted the publication date to fall within the period from January 2019, to April 2024, utilizing the “Publication Date” field found in the WoS and Scopus search interfaces; (3) Similarly, criteria for excluding languages other than English and document types other than peer-reviewed journal articles or conference proceedings were set utilizing the available filters within the WoS and Scopus search interfaces.

Source: Author’s contribution

2.2 Identification of studies

To include relevant literature, we have followed the 2020 updated “Preferred Reporting Items for Systematic Reviews and Meta-Analyses” (PRISMA) guidelines as outlined in figure 1 (Page et al., 2021).

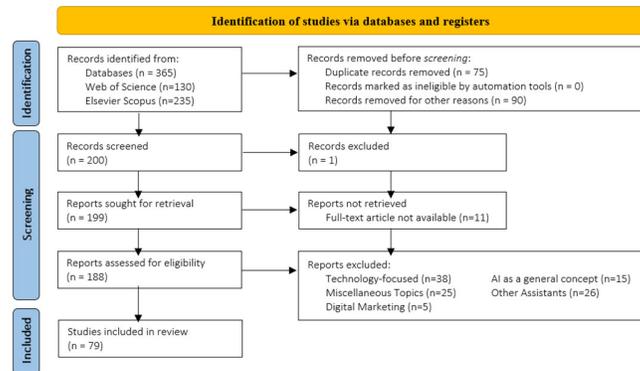


Figure no. 1. PRISMA 2020 Flow diagram of included studies

Source: Adapted based on Page et al. (2021)

2.2.1 Identification

Our initial search uncovered 130 documents from the WoS and 235 documents from the Scopus database. To cover the peak development time of AI chatbots, we specified that the records must be published between January 2019 and April 2024. We deliberately excluded any early-access papers, book chapters, or documents published in languages other than English (n=90), retaining only the final peer-reviewed articles published in renowned journals or conference proceedings. The lists of all titles, citation details,

and abstracts were downloaded as Excel-compatible files (WoS, n = 115; Scopus, n = 160). Before the screening phase, 75 titles were excluded due to duplication across both databases.

2.2.2 Screening

The remaining records were assessed by screening their titles and abstracts. One duplicate record, omitted during the identification phase, was excluded. Eleven reports could not be retrieved as full text within our access capabilities (institutional profiles in WoS and Scopus). The eligibility criteria involved assessing whether the remaining reports address at least one of two aspects: chatbots' role in the customer journey; or behavior emerging from customer-chatbot interactions. As a result, we have excluded reports addressing: (1) technology development (n=38); (2) AI as a general concept (n=15); (3) miscellaneous topics² (n=25); (4) behavior in the context of intelligent assistants operable through other means than textual ones, such as navigation or voice virtual assistants (n=26); (5) digital advertising and marketing (n=5).

2.2.3 Inclusion

79 papers were included in the final literature review. The inherent link between “human behavior”, “user behavior” and “consumer behavior” is well recognized in the behavioral-centered disciplines (Griskevicius and Kenrick, 2013), thus, we included records tangentially referencing “consumer” within their full text, while focusing on the influence of chatbots on users' cognitive processes, emotional states, and decision-making mechanisms. Similarly, studies that were touching AI but employed survey-based research on users' perceptions and behaviors concerning the chatbot technology were included.

3. A brief overview of the selected studies

The total number of publications touching on the effects of chatbot technology on consumer behavior follows an increasing trend year over year. For instance, considering only the first quarter of 2024, the number of published articles (n=6) matched the total number of articles published during the entire year of 2019, emphasizing the importance of this topic for the coming years.

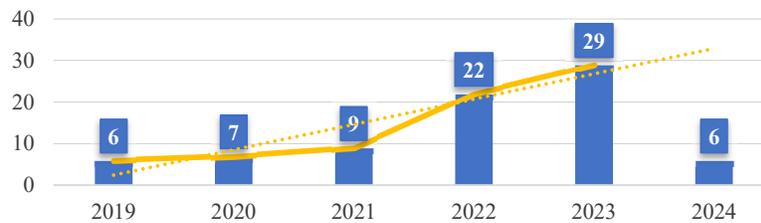


Figure no. 2. Papers discussing AI chatbots' influence on consumer behavior published over time
Source: Author's contribution

3.1 Citations analysis

Citation analysis is a valuable tool in review assessments, despite potential bias with recent publications³, as it allows for evaluating the perceived importance of academic literature (Sarli et al., 2010) and identifying the most influential papers on given subjects (Caon et al., 2020; Urlings et al., 2021). Table 2 presents a synthesis of the most cited quantitative studies in our selection, together with their main findings, arranged in descending order based on the number of citations they have received in Scopus.

Table no. 2. Synthesis of the six most cited quantitative studies and their main findings

Source	Main Findings	Citations
(Ashfaq et al., 2020)	Information and service quality positively influence user satisfaction. Continuance intention is influenced by perceived enjoyment, usefulness, and ease of use.	331
(Crolc et al., 2022)	For angry customers, the chatbot's anthropomorphism negatively influences satisfaction, company evaluation, and purchase intention, as they lead to raised expectations of chatbot efficacy. These are not observed for not-angry customers.	181
(Chen, Le, and Florence, 2021)	Usability positively influences extrinsic customer experience values. Responsiveness positively affects intrinsic customer experience values.	105
(Yen and Chiang, 2021)	EEG records show that interactions between chatbots and customers lead to increased trust and purchase intentions, facilitating positive customer relationships.	102

Source	Main Findings	Citations
(Toader et al., 2020)	Interactions with a female chatbot resulted in higher patronage, greater willingness to share personal information, socialness, forgiveness, and higher satisfaction with service encounters.	93
(Pizzi et al., 2021)	Reactance is lower for anthropomorphic chatbots (vs. non-anthropomorphic ones). User-initiated interactions (vs. computer-initiated) show the lowest reactance, especially when paired with anthropomorphic chatbots. Higher reactance leads to increased choice difficulty, in turn, leading to increased choice confidence in choices made. Higher confidence enhances perceptions of individual performance, leading to greater choice satisfaction. Anthropomorphic chatbots and user-initiated interactions result in increased choice satisfaction compared to their counterparts.	84

Source: Author's synthesis based on the selected sources

4. Redefining the customer journey: AI chatbots' influence on behavior

The customer journey encompasses all interactions and experiences consumers face when considering the acquisition of goods and services, from initial brand awareness to the establishment of loyalty relationships. According to Pelău and Barbul (2021), delivering fitting products, based on profiling, and aligning with customer preferences is crucial for enhancing the customer experience. Often, consumers show skepticism towards services delivered by chatbots, instead of human agents (Mozafari et al., 2022), but the conversational attributes of AI chatbots together with anthropomorphic cues and social presence, contribute to increased customer satisfaction and positive customer experiences, leading to faster inquiry resolutions, customer retention, and solid consumer-brand relationships (Ng et. al, 2020; Lee and Park, 2022; Kronemann et al., 2022). Hoyer et al. (2020) stated that AI chatbots enable better decision-making by “making intelligence tangible”, thus, allowing for integrating technology into people’s social lives. Supporting these observations, we argue that AI chatbots represent a feasible solution to be integrated into each stage of the customer journey and propose a framework – figure 4.

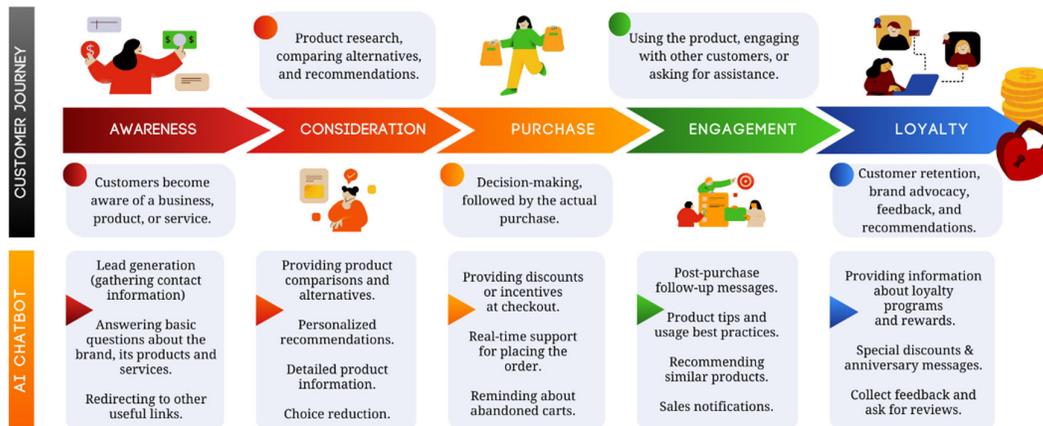


Figure no. 3 Framework illustrating AI chatbots' adoption across the customer journey

Source: Author's contribution

4.1 Awareness

In the first stage of the customer journey, individuals become aware of the existence of a business, product, or service, upon their acknowledgment of a need or desire. In this stage, organizations can leverage AI chatbots for activities such as lead capturing and profiling customers. The COVID-19 pandemic alongside the rapid transition of preferences towards digital caused people worldwide to spend more of their time online (Pandya and Lodha, 2021), thus, leaving their digital footprints across numerous brand touchpoints. Traditional lead capture and nurturing are long and tedious processes, typically involving collecting contact information through website forms. This is usually done after providing consumers with a free piece of content. After the lead's information is captured, the contact goes through marketing campaigns, being progressed through the sales funnel (Illescas-Manzano et al., 2021). Often, individuals fail to fill out online forms due to a range of factors, such as privacy and security concerns, the form's length, or the duration required to fill it (Delgado, 2018). AI chatbots may be a valuable tool for lead capture, as they enable proactive engagement and interaction at the outset of the customer journey (Sujata et al., 2019; Mah et al.,

2022). Even though perceived risks may negatively impact consumers' trust in AI chatbots (Alagarsamy and Mehroliya, 2023), evidence shows that anthropomorphism together with social presence and chatbots' customization positively contribute to users' trust, therefore, mediating chatbot's usage intentions (Nistoreanu and Ene, 2019; Cai et al., 2022; Nguyen et al., 2023) and encouraging information share. Although user-initiated interactions with chatbots have shown higher choice satisfaction compared to computer-initiated interactions (Pizzi et al., 2021), Lekaviciute et al. (2023) found that including humor in chatbot's greeting positively impacts conversion rates even when the interaction is initiated automatically. In their study, the humorous chatbot greeting message (vs. a message with a neutral tone) resulted in increased conversion-to-lead and emotional attachment. Nevertheless, Shin et al. (2022) found that only socially appropriate (affiliative) humor leads to enhanced service satisfaction, while inappropriate (aggressive) humor does not. Elsholz et al. (2019) show that user satisfaction is higher when using conversational modern English (vs. a Shakespearean dialect), thus, emphasizing the importance of chatbot language style, as it can shape customers' experience from the first few online interactions with the brand. Research on evaluating the business outcomes of AI chatbots on consumer behavior in the awareness stage of the customer journey is scarce, but promising results have already been quantified for trigger-based chatbots. For instance, Illescas-Manzano et al., 2021, found that replacing a traditional Facebook form, previously registering an abandonment rate of over 80%, with a Facebook Messenger chatbot, resulted in a 25% increase in lead achievement, with 98% of individuals who accessed the Facebook page opting to provide their data after the chatbot's implementation.

4.2 Consideration

Consumers often actively seek information about brands, products, or services but in e-commerce, information is disseminated across multiple channels. By integrating AI chatbots within the consideration stage, brands ensure a unified point of contact where customers can leave their inquiries. The AI chatbot will provide customers with relevant recommendations to support their product search and evaluation efforts. In this stage, AI chatbots' effectiveness could be boosted through anthropomorphic cues, as chatbots' human-like characteristics positively impact consumer attitudes and continuance intention, particularly in businesses that prioritize hedonic experiences over cognitive ones (Sidlauskiene et al., 2023; Fan et al., 2023). AI chatbots enable organizations to engage customers as according to Pizzi et al. (2021), emerging technologies also lead to technological service exchange, creating additional value for both the brand and the customer. For instance, in Pérez et al. (2019), over six weeks, the usage of ChatPY, a machine-learning (ML) chatbot, led to a significant increase in customer satisfaction, a result primarily attributed to the convenience of being able to request information without the need to physically visit the warehouse. This convenience translates into both time and cost savings for customers while contributing to an easier view of all the available product alternatives. As in both marketing and sales, a personalized approach can bring significant competitive advantages, during the consideration stage, AI chatbots can also aid consumers with the selection, visualization, and customization of their offerings (Hoyer et al., 2020). By leveraging visual analytics, behavioral data, and location data, AI chatbots provide a hyper-realistic personalized interactive experience (Zvarikova et al., 2022), in which negative outcomes of immature personalization during the chatbot-human interaction can be diminished through the addition of other emerging technologies – such as augmented reality and real-time visual information (Whang et al., 2022). Reis et al., (2022) have proposed that organizations can improve their marketing and sales strategies by leveraging chatbots to offer optimized services. This customized approach allows for less intrusive interactions and ensures better identification, representation, and segmentation of customers. According to Kostis et al. (2023), AI chatbots improve product recall, reduce browsing and checkout times, and facilitate smoother website navigation during online shopping. By facilitating website navigation and reducing the time spent on product and category webpages through timely assistance, chatbots enhance the online shopping experience in the consideration stage, while reducing the total session duration until final purchase. Although consumers may not demand technical soundness from an AI chatbot, especially in the consideration stage, organizations should ensure an anthropomorphic design, integrating both utilitarian and hedonic elements into their chatbot and ensuring quality information (Magno and Dossena, 2022).

4.3 Purchase

When customers are confronted with multiple choices and complex decision-making, the abundance of information can have a detrimental impact on their cognitive abilities. In an e-commerce store, this abundance frequently leads to confusion, a decrease in the effectiveness of the decision-making process, and often an abandoned cart (Ocón Palma et al., 2020). Both in the consideration and purchase stages of the customer journey, organizations should aim to reduce customers' uncertainty – an objective that can be

achieved by employing AI chatbots (De Bellis and Johar, 2020). Chatbots specifically designed to assist users with their purchasing are leading to increased customer convenience (Mostafa and Kasamani, 2021) and changed behavior (Chen and Chen, 2021). According to Mostafa and Kasamani, (2021), consumers are more inclined to trust AI chatbots when they perceive them as being “consistent with their current needs and values and compatible with their lifestyle and the way they desire to purchase products/services”. In addition, Konya-Baumbach et al., (2023) highlighted that the degree to which chatbots resemble humans influences customer trust and purchase intention. Besides, certain brain regions, such as the dorsolateral prefrontal cortex and the superior temporal gyrus, are connected to trust formation towards chatbots, subsequently influencing behavior (Yen and Chiang, 2021). Using electroencephalography data, Yen, and Chiang (2021) show that consumers view chatbot interactions as “functional tasks rather than opportunities for rich communication or playful engagement”, therefore chatbots’ credibility, competence, social presence, and informativeness, enhance consumers’ trust. In turn, in an e-commerce setting, trust weighs more than attitude as it helps customers make a choice and has a positive impact on purchase intentions (Rana et al., 2024). Jiang et al. (2022) surveyed 965 U.S. customers who had utilized any chatbot services. Their study revealed that the responsiveness and the tone of the chatbot significantly influenced customer satisfaction, and positively influenced perceptions of the price premium and the overall purchase intention. When customers evaluate the human-chatbot interaction as positive, it leads to improving the chatbot’s perceived service efficiency and helpfulness, thus increasing customers’ willingness to make purchases, showing that the “the service and sales roles of these chatbots are not conflicting, but rather interdependent and complementary” (Fan et al., 2022). Similarly, the chatbot’s warmth and competence were found to alleviate both cognitive and emotional overload, leading to a more positive evaluation and increased purchase intentions (Li et al., 2023). This suggests that customer’s intention to purchase may be influenced by their evaluation of the chatbot’s service, resulting in further purchase behavior. Besides, utilizing AI chatbots for specific tasks, such as vacation planning, tends to elicit rational and functional decisions from consumers rather than emotional ones, influencing purchase behavior (Rafiq et al., 2022). Nevertheless, there remains a need for further research into AI chatbots’ influence on purchase behavior, especially since other studies have found contradictory results (Soares et al., 2022).

4.4 Engagement

The engagement stage follows the initial purchase. During the pre-purchase stage, AI chatbots assist customers in selecting suitable products or services, help them search for information, and facilitate comparisons of different options. In the post-purchase stage, the main goal of any organization is to strengthen the relationships with customers who have already purchased in the past, by keeping them engaged with the brand. AI chatbots play an essential role in the achievement of this objective as they guarantee real-time support and assistance, answer product return and warranty questions, or even engage customers in social media initiatives and events (Moura et al., 2021). Conventionally, chatbots have been used for automating customer service, which is why this remains one of the most researched fields of application in the customer journey (De Bellis and Johar, 2020). They offer 24/7 customer service support, reduce the reliance on human resources, and diminish customers’ inconvenience of having to wait for a few business days until inquiry resolution (Sujata et al., 2019). Consumer attitudes towards AI customer service indicate a high willingness to embrace it (or at least they manifest a neutral attitude towards it), due to its round-the-clock availability (Li et al., 2020). Some resistance to AI customer service may arise particularly because of perceived shortcomings in service quality. While consumers are indifferent to whether AI or human agents handle their inquiries, they exhibit a low tolerance for AI that attempts to disguise itself as a human agent. Such implementation can evoke negative emotions and diminish consumers’ willingness to interact with the brand in the future. Similarly, customer demand types, particularly complaints, and inquiries, play a moderating role in shaping customer’s attitudes toward engaging with AI chatbots (Meng et al., 2023), with AI shown to lower the resolution time and improve resolution accuracy when compared to human customer service support (Al-Mekhlal et al., 2023).

4.5 Loyalty expansion

As shown in the previous paragraphs, AI chatbots contribute to improving the quality of customer service, by guaranteeing higher levels of customer satisfaction, and trust, finally ensuring customers’ loyalty. The “personalized care” and real-time interaction mirror the flow of common human conversations, while the technological aspects enable conversations’ customization, problem-solving, and entertainment functionalities. As a result of interacting with AI chatbots, customers may develop positive perceptions of the brand’s marketing efforts, leading to increased credibility and customer loyalty. (Naqvi et al., 2024). For instance, in the context of mobile banking, Upadhyay and Kamble (2023) highlighted that engaging

with anthropomorphic conversational AI chatbots has positively contributed to brand love, being strongly associated with “positive affect, intrinsic rewards, emotional bonding, and frequent use”. Research also shows that AI chatbots with high usability contribute to a personalized customer experience, effectively addressing customer concerns, and fostering feelings of security and respect among consumers (Rafiq et al., 2022). In addition, Lee, and Park (2022) have found that characteristics such as “high social presence” paired with an “anthropomorphic profile design” enhance users’ perceptions of their parasocial interactions with the chatbot. As a result, engagement and satisfaction are positively influenced, which encourages a positive attitude towards the brand. Kronemann et al. (2022) have shown that customer loyalty and intention to engage in electronic word-of-mouth (e-WOM) are strongly influenced by the chatbot’s perceived social presence, whereas Butt and Ahmad, (2023) demonstrated that AI chatbots enhance e-commerce users’ satisfaction, resulting in sustained usage and positive electronic e-WOM, thus perpetuating brand advocacy. Similarly, Kang and Choi (2023) have found that favorable customer experiences with AI chatbots affected brand loyalty, which in turn influenced purchase loyalty.

Conclusions

The use of GenAI technologies in chatbots represents a promising avenue for improving existing organizational processes already proven to work, or for replacing older ones that have become depreciated. Most of the peer-reviewed publications concerning AI chatbots’ role in shaping consumer behavior focus on aspects such as technological acceptance, and the influence of specific design features (anthropomorphism, gender cues, or attribution of job titles) on customers’ trust, perceptions, and satisfaction. Our proposed framework shows how AI chatbots can be integrated throughout the entire customer journey, assuming distinct roles and requiring diverse design considerations at each stage. During the awareness stage, these chatbots fulfill functions such as lead generation, providing brand information, or addressing customers’ simple questions regarding the organization’s offerings and product availability. As the customer progresses toward the consideration stage, chatbots provide in-depth information about the desired product or service. At this stage, the chatbot’s capacity to properly profile customers and offer hyper-personalized suggestions becomes vital, as it augments customers’ experience. By enabling smoother website navigation on category and product pages, chatbots can also contribute to a decrease in the time required for decision-making processes, leading to cost savings. In the purchase stage of the customer journey, AI chatbots help guide customers through the checkout process, providing real-time support, and presenting offers to prevent abandoned carts. Similarly, AI chatbots contribute to the post-purchase stage by offering 24/7 support, and efficient customer service, finally leading to customer retention. Additionally, chatbots can prompt customers to share their feedback, provide loyalty incentives, and facilitate electronic word-of-mouth, thereby fostering brand advocacy.

In conducting our literature review, we have come across a few limitations. Firstly, our search strategy may not have captured all the relevant literature discussing the influence of AI chatbot technology on the customer journey and consumer behavior as we have considered only two of the most extensive academic databases available, namely the WoS and Scopus libraries. The exclusion of non-peer-reviewed sources and materials that were not indexed in these databases or that were not selected during the writing process might potentially result in source selection bias. Secondly, we exclusively consider English-language publications, thereby potentially overlooking valuable insights presented in studies published in other reputable country-level journals or other languages. Lastly, the selection of specific keywords and search terms may have unintentionally restricted the scope of our review by excluding studies using alternative terminology to describe the technology or aspects related to consumer behavior. There are areas within the understanding of how AI chatbots shape consumer behavior that require further research. First of all, there is a need for more comprehensive studies that delve into the long-term effects of AI chatbots’ interactions on consumers. Similarly, we have found that there is a limited volume of academic publications available on the effects of AI chatbots on business outcomes – most of the available ones present an impact on purchase intentions. This emphasizes the need for forthcoming research to focus on quantifying aspects such as the influence of AI chatbots on the cost of single purchase sales, the overall volume of business sales before and after implementation, and the impact on actual customer purchases. Despite publications mentioning differences in perceptions based on age or level of education, we failed to identify any extensive study exploring the cultural and demographic differences in attitudes and responses toward AI chatbots. Finally, there is a need for research focusing on the ethical considerations regarding the use of AI-enabled chatbots to affect consumer behavior and the potential adverse effects if this technology is perpetuating misconceptions or wrongly attributed stereotypes.

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Endnotes

¹ In the research methodology of this study, we noted that our literature review encompassed all publications that referred to AI chatbots concerning behavior, without explicitly mentioning the architecture or model upon which the chatbot should be developed, thus, being “model-agnostic”.

² In this context, we use “miscellaneous topics” to refer to those records that were allegedly referencing AI chatbots within their full text but delved into aspects related to other AI technologies. These papers mostly focus on consumer perceptions, mentioning several emerging concepts in e-commerce, such as Augmented Reality, Video Consultations, Autonomous Shopping Systems, and even Autonomous Word-of-Mouth.

³ The potential bias associated with using citation analysis for recently published papers stems from the fact that these newly published papers have a lower probability of being referenced by other publications in comparison to papers that were published years ago.