

Exploring customer stickiness during “smart” experiences: a study on AI chatbot affinity in online customer services

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141

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Abstract

Purpose – Drawing on the technology affordance and affinity theories, this study proposes a framework explaining the antecedents and consequences of customers’ smart experiences (CSEs) in the artificial intelligence (AI) chatbot context.

Design/methodology/approach – The quantitative approach employing an online survey was adopted to obtain data from chatbot users ($N = 761$) and analyzed using structural equation modeling.

Findings – Results from a survey study show that chatbot affordances, including interactivity (two-way communication, active control and synchronicity), selectivity (customization and localization), information (argument quality and source credibility), association (connectivity and sense of safety) and navigation positively affect CSEs (hedonic and cognitive), leading to customer chatbot stickiness through affinity.

Originality/value – Our study provides evidence that supports and extends the affordances and affinity lens by highlighting the roles of specific chatbot affordances that contribute to a positive-smart experience and subsequently enhances customer chatbot stickiness through affinity.

Keywords Artificial intelligence, Chatbots, Chatbot affordances, Smart experience, Affinity, Stickiness

Paper type Research paper

1. Introduction

Artificial intelligence (AI) chatbots have recently witnessed exponential growth in interactive marketing, particularly in online customer service (Chung *et al.*, 2020; Wei *et al.*, 2024; Xie *et al.*, 2023). The development of new technologies, such as chatbots, has made interactive marketing one of the fastest-growing fields (Wang, 2022). Particularly, chatbots have significantly transformed the communication landscape, providing customers with superior shopping experiences and direct contact with brands (Wang, 2024). They are designed to mimic human conversations and enhance customers’ experiences by providing them round-

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the-clock services (Shahzad *et al.*, 2024b; Zhu *et al.*, 2022). Companies are heavily investing in developing AI programs to provide more personalized content and convenience, allowing customers to enjoy a seamless interactive experience (Ferreira *et al.*, 2023; Wang, 2023). The global conversational AI market size is projected to increase from \$13.2bn in 2024 to \$49.9bn by 2029 (Research-and-Markets, 2024). However, chatbot-related studies often underline that chatbots generally struggle to handle complex and unusual customer queries, resulting in frustration and poor customer experiences (Gnewuch *et al.*, 2023; Schuetzler *et al.*, 2021).

Past research has highlighted that optimal customer experiences can be achieved when AI-based technologies (e.g. chatbots) provide customers with their requested information while offering support anytime and from anywhere (Japutra *et al.*, 2021; Leung *et al.*, 2022; Li *et al.*, 2023). Service providers now largely use chatbots to deliver smart experiences to enhance sales performance and customer loyalty (Fan *et al.*, 2023). While several studies have investigated what we call customers' smart experiences (CSEs) in different contexts, such as AI technology (Gao *et al.*, 2022), retailer mobile application (Japutra *et al.*, 2021), smart services (Roy *et al.*, 2019) and AR/VR services (Fan *et al.*, 2020), limited studies have paid attention to investigating CSEs in chatbots setting (Fan *et al.*, 2022, 2023; Upadhyay and Kamble, 2023). Fan *et al.* (2023) call for further research on "smart experiences" (representing cognitive and hedonic customer responses to chatbots) during online service encounters. A positive experience when using customer service chatbots can lead to an association with and perception of the importance of chatbots (chatbot affinity) as well as customer stickiness (continual use of chatbots) with them. Therefore, it is vital to examine factors that could influence CSEs, which subsequently lead to enhanced affinity and customer stickiness in this setting.

When it comes to studying factors that can influence CSEs in extant technology literature, some scholars discovered certain AI characteristics; for example, AI technology stimuli influence smart experiences (Gao *et al.*, 2022) and chatbot anthropomorphism inspires smart experiences (Upadhyay and Kamble, 2023), while others unveiled that chatbot ambidexterity, such as service efficiency and flexibility (Fan *et al.*, 2023) or chatbots sales/service ambidexterity (Fan *et al.*, 2022) can augment smart experiences. Although past studies recognized that AI technologies (e.g. chatbots) can enhance CSEs (Fan *et al.*, 2023; Gao *et al.*, 2022; Upadhyay and Kamble, 2023) the literature has not acknowledged chatbot affordances, including interactivity (two-way communication; active control; synchronicity), selectivity (customization; localization), information (argument quality; source credibility), association (connectivity; sense of safety) and navigation as the potential antecedents of CSEs (hedonic; cognitive).

Furthermore, past research focused on the service quality or characteristic aspects of chatbots when it comes to customer satisfaction/loyalty or stickiness. For instance, Ashfaq *et al.* (2020) examined information/service quality to explain user satisfaction and usage intentions. Li and Zhang (2023) explored customers' switching behaviors from human-mediated services to AI in frontline services (e.g. AI chatbots). Li *et al.* (2024) based their study on arousal and social response theories to examine the impact of AI stimuli on customer stickiness and the mediating effects of social presence. While these studies contribute to chatbot literature, research investigating the impact of CSEs on customer stickiness through perceived chatbot importance (chatbot affinity) remains lacking. This study develops a framework to better understand not only the antecedents (chatbot affordances) of CSEs but also its consequences (affinity and stickiness) in the AI chatbot context.

To achieve our study objectives, this research set to solve three research questions: RQ1. Do chatbot affordances enhance CSEs? RQ2. What is the impact of CSEs on perceived chatbot importance (chatbot affinity)? RQ3. What is the impact of affinity on customer stickiness to chatbots? Our study is based on the technology affordance lens (Gibson, 1979) and affinity theory (Perse, 1986; Rubin, 1981) to understand how chatbot affordances facilitate customer behaviors, such as customer stickiness with the chatbot. The research empirically tests the proposed model by conducting an online survey with 761 chatbot users. We extend the lens of affordances and affinity theory by highlighting the roles of chatbot affordance factors in

enhancing CSEs with chatbots, leading to customer stickiness through chatbot affinity. As a result, we provide insights and recommendations to enhance CSEs when using chatbots—a crucial factor in retaining customers with the technology and the brand more generally.

2. Literature review and theoretical foundation

2.1 AI-based chatbots

Conversational agents are often considered excellent illustrations of AI technologies that can be text- or voice-based, determined by the mode of communication (Li *et al.*, 2023). Chatbots are text-based conversational agents that simulate human interactions mainly through text, while voice-based conversational agents are called AI voice assistants that interact with users via voice (Jan *et al.*, 2023; Li *et al.*, 2023). Recently, the use of chatbots is considered essential in improving customer service (Jan *et al.*, 2023; Li and Zhang, 2023). They also enhance customer experiences by providing personalized content and enjoyable interaction (Aslam, 2023; Zhu *et al.*, 2022) and guarantee efficiency by providing 24/7 support, thereby improving customer experiences (Loureiro *et al.*, 2021; Shahzad *et al.*, 2024b). Chatbots can also assist users with information seeking, booking and reservations and ordering food (Ashfaq *et al.*, 2020; Jan *et al.*, 2023).

Recent research has explored the multifaceted applications of chatbots across diverse domains, shedding light on their transformative potential in enhancing customer experiences, satisfaction, loyalty or usage intention (see Table 1). For example, Li *et al.* (2023) stressed that chatbot affordances are critical in enhancing customer experiences and continuance intention. Chung *et al.* (2020) explored the effectiveness of chatbot-based services in improving customer satisfaction. Ashfaq *et al.* (2020) reported that information and service quality, along with ease of use, are crucial predictors of satisfaction and chatbot usage intentions. Xie *et al.* (2023) studied the psychological dimensions of chatbot engagement, revealing the potential for psychological dependence during intense relationships formed with social chatbots.

The above studies provide a comprehensive view of different chatbot applications, demonstrating their potential to enhance customer experiences and usage intention across diverse sectors. Although numerous studies on chatbots have been conducted recently, we are yet to understand how and whether chatbot affordances affect CSE and lead to stickiness through chatbot affinity. We extend the chatbot literature by proposing a model drawing on affordance and affinity theories to explain the antecedents and consequences of CSE in the present context.

2.2 Customer smart experiences

Smart experiences can be defined as the emotional and cognitive reactions displayed by consumers toward smart and innovative technologies, such as chatbots (Fan *et al.*, 2023). Scholars have used different taxonomies to measure smart experiences in several domains (Fan *et al.*, 2023; Gao *et al.*, 2022). Roy *et al.* (2019) proposed an analytical framework explaining smart experiences and recommended six first-order/sub-dimensions, including cognitive, hedonic, social, personal, economic and pragmatic. Previous studies have mainly investigated smart experiences as unidimensional perspectives focusing only on hedonic (Ameen *et al.*, 2021; Shahzad *et al.*, 2024b) or cognitive dimensions (Fan *et al.*, 2020; Zhu *et al.*, 2022). However, scholars acknowledging the hedonic and cognitive key dimensions of smart experience (Fan *et al.*, 2023; Molinillo *et al.*, 2020) describe such experiences as mental processes where hedonic experiences encompass emotions/mood (Molinillo *et al.*, 2020) and cognitive experiences capture perception and problem-solving (Ameen *et al.*, 2021). Chatbots can generate both experiences by providing flexible and tailored services (Fan *et al.*, 2022) and offering quick, accurate and complete information (Gao *et al.*, 2022).

2.3 Affordance theory

Affordance theory—originating from ecological psychology—explains how individuals perform certain actions/behaviors when observing the opportunities that the environment

Table 1. Literature review on AI-based chatbots

Article	Theory	Method	Research question/ objective	Finding
Chung et al. (2020)	Five-dimension model	Survey-based	Analyze the effects of chatbots in luxury brands on customer perceptions based on interaction, trendiness, entertainment, problem-solving capabilities and customization	Chatbots in luxury fashion retail brands offer interactive and engaging brand/customer service encounters
Ashfaq et al. (2020)	ECM, ISS model and TAM	Survey-based	Understand the factors driving users' satisfaction and their intention to continue using chatbot-based customer services	Information quality, service quality, enjoyment, ease of use and usefulness affect continuance intention directly or indirectly via satisfaction
Lee and Li (2023)	Affordance actualization and social identity	Survey-based	Examine how chatbot affordances in the banking sector influence customer-brand identification and loyalty	Chatbot affordances significantly impact customer-brand identification and loyalty in the banking sector
Li and Zhang (2023)	Push-pull-mooring framework	Interview/survey	Explore factors influencing consumers' decision to switch from human agents to AI-based conversational agents in customer service	Factors like low empathy and adaptability of human agents influence consumers' switching behavior to AI-based conversational agents
Fan et al. (2023)	AI chatbot ambidexterity	Survey-based	Investigate the effects of different types of chatbot ambidexterity (service-sales, efficiency-flexibility and existing-new product selling) on smart experiences and customer patronage	Different types of chatbot ambidexterity yield varying outcomes in terms of hedonic and cognitive smart experiences and customer patronage
Upadhyay and Kamble (2023)	Anthropomorphism and smart experience	Survey-based	Investigate the relationship between consumers and conversational chatbots in mobile banking	Explore factors influencing consumers' brand love for conversational AI chatbots in mobile banking
Xie et al. (2023)	Loneliness, trust and personification	Mixed-methods approach	Investigate the development of relationships between users and social chatbots	Intense relationships with chatbots can result in psychological dependence, characterized by salience, tolerance and withdrawal

Source(s): Authors' own work

provides (Gibson, 1979). In the information systems (IS) setting, affordance is defined as “the possibility of guiding the user to the target action through the interaction of a technological object with the user” (Zhou et al., 2023, p. 2). The theory, particularly in the technology setting, provides a robust framework for exploring the interaction between

users and technology, offering a nuanced understanding of how technology attributes facilitate specific user actions and behavior (Fang, 2019; Liu, 2003; Ou *et al.*, 2014; Shao *et al.*, 2020). It has extensively been applied in several domains, predominantly in the IS/technology field. For example, Dong and Wang (2018) applied this theory to understand social tie formation in online social commerce. Specifically, interactivity in online social commerce between buyers and sellers fosters the formation of both strong and weak social ties (Dong and Wang, 2018). Similarly, Lee and Li (2023) highlighted how chatbot interactivity in the banking sector impact brand loyalty.

Furthermore, Fang (2019) emphasized how branded apps leverage selectivity affordance to enhance brand loyalty, while Shao *et al.* (2020) investigated information affordance in social networking sites (SNS), revealing how information quality, along with navigation affordances, influence user satisfaction, leading to SNS stickiness. Additionally, Lee and Li (2023) showed how association affordance enhances customer loyalty in the context of chatbots. In contrast, Zhu and Zhang (2007) research on web portals underscored the importance of navigation affordance (navigability), introducing metrics and guidelines for effective navigation design to enhance user experience, ensuring that users can efficiently find the information or features they need, which is crucial for user satisfaction and retention. Previous research highlighted that the features/characteristics of affordances vary depending on different research contexts (Lee and Li, 2023; Zhou *et al.*, 2023). For example, several affordances can be associated with a single technology because of differences in users' perceptions and usage intentions; consequently, identifying affordances from a multidimensional perspective is highly crucial (Fang, 2019; Lee and Li, 2023). Thus, we analyzed the extant technological affordances literature and proposed five affordance constructs that are specific to AI-based chatbots: interactivity, selectivity, information, association and navigation (Table 2).

2.4 Media affinity theory

Media affinity theory (Perse, 1986; Rubin, 1981) suggesting "the importance of the medium in the lives of individuals" (Aldás-Manzano *et al.*, 2009, p. 741) has applied in technology/IS literature, highlighting the significant role of technology in diverse aspects of individuals' activities, enhancing their attachment to and association with technology (Aldás-Manzano *et al.*, 2009; Niu and Mvondo, 2024; Xu and Du, 2018). Particularly, Niu and Mvondo (2024) define affinity in the AI chatbot setting as the perceived importance of chatbots in users' lives. It is underlined that when a technology/system promptly offers users accurate and personalized information, it improves their affinity with them (Xu and Du, 2018). Technology researchers have examined how affinity influences various factors, such as customers' satisfaction and usage intentions (Aldás-Manzano *et al.*, 2009; Niu and Mvondo, 2024).

2.5 Behavioral reasoning theory

Behavioral reasoning theory (BRT; Westaby, 2005) is more suitable for studying adoption behaviors toward innovations (Ashfaq *et al.*, 2021) because it incorporates reasoning factors that can influence customers' choices to either adopt or avoid using a particular technology (Shahzad *et al.*, 2024a), such as augmented reality (Nadeem *et al.*, 2024), chatbots (Pillai *et al.*, 2023) or AI-powered conversational agents (Jan *et al.*, 2023). Specifically, it enables scholars to explore positive (facilitators) and negative (inhibitors) factors that affect customer decision-making (Westaby, 2005). In technology settings, positive and motivational factors such as interactivity and personalization (Pillai *et al.*, 2023), customization and augmentation quality (Nadeem *et al.*, 2024) and informativeness and usefulness (Jan *et al.*, 2023) are often considered important factors that inspire customers' technology adoption intentions. Accordingly, BRT offers a deeper understanding of the influence of chatbot affordances (i.e. interactivity, selectivity and information) on customer stickiness to chatbots through CSEs and affinity.

Table 2. Affordances for AI chatbots, definition and sources

Affordance	Subcomponent/ dimension	Definition	Exemplar studies
Interactivity affordance	Two-way communication	AI chatbot facilitates two-way communication between the AI chatbot and the user	Fang (2019), Liu (2003), Ou <i>et al.</i> (2014), Shao <i>et al.</i> (2020)
	Active control	AI chatbot allows users to control their experience with it freely	Fang (2019), Liu (2003), Ou <i>et al.</i> (2014), Shao <i>et al.</i> (2020)
	Synchronicity	AI chatbot supports users’ instant access to requested information during communication	Fang (2019), Liu (2003), Ou <i>et al.</i> (2014), Shao <i>et al.</i> (2020)
Selectivity affordance	Customization	AI chatbot can provide customized information to better meet users’ preferences and needs	Fang (2019), Shen <i>et al.</i> (2013)
	Localization	AI chatbot can provide location-specific information to users (e.g. nearby stores)	Fang (2019), Shen <i>et al.</i> (2013)
Information affordance	Argument quality	AI chatbot can offer complete and correct information	Shao <i>et al.</i> (2020), Sussman and Siegal (2003)
	Source credibility	AI chatbot can offer reliable and trustworthy information	Shao <i>et al.</i> (2020), Sussman and Siegal (2003)
Association affordance	Connectivity	AI chatbot allows users to use it anytime, anywhere	Fang (2019), Lee and Li (2023)
	Sense of safety	AI chatbot can calm users by helping them with specific information (e.g. the nearest store location)	Fang (2019)
Navigation affordance		AI chatbot can provide a clear navigation bar/menu (e.g. links/hyperlinks) to find relevant information	Zhu and Zhang (2007), Shao <i>et al.</i> (2020)

Source(s): Authors’ own work

2.6 Customer stickiness

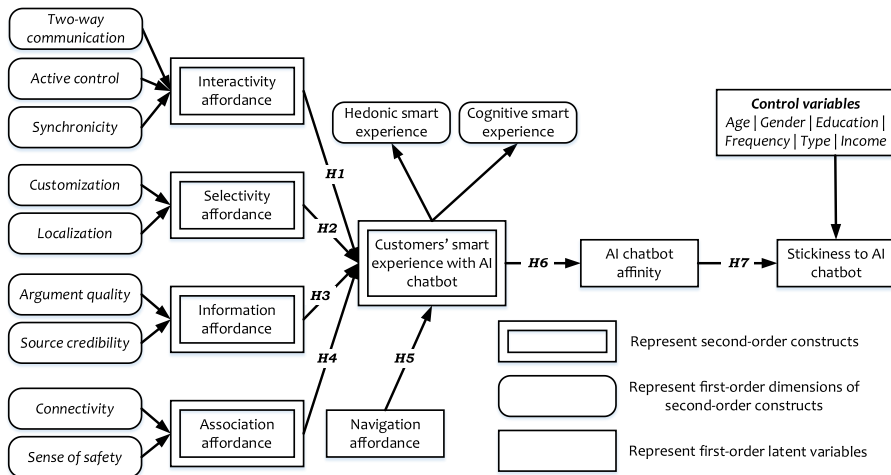
Demers and Lev (2001) proposed the concept of “stickiness” to websites. They defined it as the ability of a site to retain a user once they have arrived there. It also represents how long a user uses a particular technology and the likeliness/willingness or frequent use intention of the technology (Lin, 2007; Thakur and AlSaleh, 2018). In our case, stickiness refers to the degree to which customers repeatedly use chatbots to perform certain activities. Scholars have studied customer stickiness in different domains and settings, such as social commerce (Zhou *et al.*, 2024), SNS (Shao *et al.*, 2020) and brand love (Mostafa and Temerak, 2024).

3. Research model and hypotheses

Building upon the affordance and affinity lens, we propose a model in the chatbot context (see Figure 1). In this study, we examine five chatbot affordances as antecedents of CSE. Next, we investigate the impact of CSE on chatbot affinity, which is expected to influence customers’ chatbot stickiness.

3.1 Interactivity affordance

Interactivity—underlining the significance of online interaction/communication (Shao *et al.*, 2020)—is a multidimensional factor consisting of three dimensions: two-way communication, active control and synchronicity (Fang, 2019; Ou *et al.*, 2014). Two-way communication refers to the bi-directional information flow between users and the technology (Leung *et al.*, 2022). Chatbots can efficiently communicate with customers in real-time and provide accurate



Source(s): Authors' own work

Figure 1. Proposed framework

responses by appropriately understanding their queries, thus enhancing real-time information for meaningful conversations (Lee and Li, 2023; Li et al., 2023). Active control indicates customers' perceptions of having control over objects, while synchronicity involves customers' beliefs that the technology will respond quickly to their needs (Liu, 2003). Chatbots allow customers to ask questions by providing input and starting conversations in their desired direction (Ashfaq et al., 2020; Jan et al., 2023). Prior literature highlighted that customers often use chatbots for their interactivity (Lee and Li, 2023), and a chatbot with high levels of interactivity can develop strong relationships with customers, enhancing their satisfaction and positive experiences (Fang, 2019; Li et al., 2023). Therefore, chatbot interactivity can be crucial in creating an effective and smart experience. Interactive attributes enable chatbots to communicate with customers at any time and from anywhere (Lee and Li, 2023; Li and Zhang, 2023), allowing them to control their interactions by asking a set of questions and assisting them by providing relevant information to their queries in real-time, thus contributing to enhancing a smart experience. This leads us to propose the following hypothesis:

H1. Interactivity affordance is positively related to smart experiences.

3.2 Selectivity affordance

Selectivity affordance includes two key dimensions: customization and localization (Fang, 2019; Shen et al., 2013). Customization indicates that customers believe the system provides information according to their preferences, whereas localization specifies belief that the system provides information based on their location (Fang, 2019). Chatbots can offer customized/personalized information to customers by asking about their preferences, analyzing input and behavior and remembering past interactions (Chung et al., 2020; Li and Zhang, 2023; Zhu et al., 2022). Selectivity affordances can better meet customers' needs, improving relationships and customer experiences (Fang, 2019). Chatbots can suggest to customers nearby points (e.g. restaurants and services), locally relevant news and events and current weather updates (Ashfaq et al., 2020; Chung et al., 2020). Moreover, they are frequently being used by customers to get updates about local information, and a high selectivity chatbot can provide customers with optimal information and services tailored to

their specific locations and preferences (Fang, 2019; Shen *et al.*, 2013). Selectivity can also be an important factor in forming a positive experience with the chatbot, leading us to propose the following hypothesis:

H2. Selectivity affordance is positively related to smart experiences.

3.3 Information affordance

Based on adoption theories, Sussman and Siegal (2003) categorized information affordance into two distinct dimensions: argument quality and source credibility, where the first category involves customers' perceptions that the obtained information is accurate and complete, while the second indicates perceptions of trustworthiness and reliability of sources of information (Shao *et al.*, 2020; Sussman and Siegal, 2003). People mostly use the internet and communication technologies to get valuable information in real-time. Like other communication technologies, one of the key motives for customers to utilize chatbots is obtaining valuable real-time information (Li *et al.*, 2023; Loureiro *et al.*, 2021). Accordingly, when individuals perceive that the information offered by the chatbot is complete and reliable, they are more likely to perceive them as valuable (Ashfaq *et al.*, 2020). Previous research pointed out that customer experience can be enhanced by providing high-quality and trustworthy information in chatbot settings (Kushwaha *et al.*, 2021). Therefore, we propose:

H3. Information affordance is positively related to smart experiences.

3.4 Association affordance

Wagner *et al.* (2014) defined association as relationships between individuals or between people and content/information. Association affordance has two dimensions: connectivity and sense of safety (Fang, 2019). Connectivity "denotes a physical association between users and technology that allows users to access services anytime and anywhere" (Fang, 2019, p. 380). One of the key attributes of chatbots is their always availability on websites and apps, and customers can use them anytime and from any location to get immediate information or support (Lee and Li, 2023; Li *et al.*, 2023). Sense of safety "represents a psychological aspect of association wherein users feel safe, easiness, and calmness when using technology in an unfamiliar place" (Fang, 2019, p. 380). For example, a branded app has a great ability to calm customers by offering information about the nearest store location or brand information (Fang, 2019). Using specific technology also creates an association in the form of conversations on social media platforms (Li and Zhang, 2023). In the chatbot context, associations occur as relationships between users and information such that they utilize chatbots to connect with content/information and pertinent products/services in real-time (Lee and Li, 2023). The timely response to inquiries contributes to the formation of a positive customer experience, and when customers receive answers from the chatbot at any moment and from anywhere, their positive experience may be enhanced (Fang, 2019; Li *et al.*, 2023). Therefore, we propose:

H4. Association affordance is positively related to smart experiences.

3.5 Navigation affordance

Navigation in the context of a website refers to the process by which users achieve their objectives, such as finding relevant information to perform certain tasks (Zhu and Zhang, 2007). Similarly, navigation in chatbots can refer to the process by which customers using the chatbot's functionalities attain their goals (e.g. getting pertinent information). Navigation has been considered one of the most effective ways to assist users in addressing their inquiries (Zhang and Von Dran, 2001). Thus, navigation affordance can play a crucial role in enhancing CSE with chatbots. For example, chatbots, through conversation, can enhance CSE by suggesting clear options and links/hyperlinks, thus enabling customers to find relevant information quickly to complete tasks. The more customers believe the chatbot can provide

pertinent information to complete tasks by suggesting understandable paths/links, the more positive their experience will be. Therefore, we propose:

H5. Navigation affordance is positively related to smart experiences.

3.6 Smart experiences and affinity

As defined previously, smart experiences are related to consumers' emotional and cognitive reactions toward chatbots (Fan *et al.*, 2023). Researchers agree that chatbots can generate smart experiences by providing comprehensive information and tailored services (Fan *et al.*, 2022). Service providers offering chatbot-based services put considerable effort into developing perceived importance (affinity) of chatbots (Niu and Mvondo, 2024) by enhancing customers' hedonic and cognitive experiences through high-quality service delivery (Fang, 2019). Consequently, CSEs with chatbots might develop chatbots' affinity (perceived chatbot importance). For example, when interacting with a chatbot, customers with favorable hedonic and cognitive experiences will likely consider them more important to perform their activities. Thus, smart experiences can contribute to enhancing customers' perceptions of the importance of chatbots. Moreover, there is evidence in previous studies that demonstrates customer experience influences affinity in different settings (e.g. Wolf *et al.*, 2023). Aligning to prior research, we propose the following hypothesis in the present context:

H6. Smart experiences are positively related to affinity.

3.7 Affinity and stickiness

As discussed earlier, chatbot affinity refers to customers' perceived importance of chatbots in their lives (Niu and Mvondo, 2024). Several scholars have investigated how affinity affects users' attitudes, satisfaction and intentions toward using specific technology (Aldás-Manzano *et al.*, 2009; Niu and Mvondo, 2024; Xu and Du, 2018). Although affinity has been widely studied in several domains and has significantly influenced customer satisfaction and intention toward the technology (Aldás-Manzano *et al.*, 2009; Niu and Mvondo, 2024), no research has been conducted to identify its role in chatbot stickiness. The present study proposes that chatbot affinity may influence customer stickiness to chatbots. For example, when interacting with the chatbot, if customers develop a positive affinity toward them based on their interaction and the content of the information they deliver (Niu and Mvondo, 2024), customers may be more likely to expand their chatbot usage (stickiness). Accordingly, chatbot affinity can significantly enhance customer chatbot stickiness, leading us to propose the following hypothesis:

H7. Affinity is positively related to stickiness.

4. Research methodology

4.1 Measurement scales

The survey items were adapted from well-established academic sources and measured using a 7-point scale (Likert) ranging from "strongly disagree" (score = 1) to "strongly agree" (score = 7). The present study measured interactivity affordance (Fang, 2019; Shao *et al.*, 2020), selectivity affordance (Fang, 2019; Shen *et al.*, 2013), information affordance (Shao *et al.*, 2020; Sussman and Siegal, 2003), association affordance (Fang, 2019) and smart experience (Fan *et al.*, 2023) as second-order constructs, while navigation affordance (Shao *et al.*, 2020), affinity (Niu and Mvondo, 2024) and stickiness (Lin, 2007; Shao *et al.*, 2020) were evaluated as first-order reflective constructs. Stickiness was measured using a four-item scale, whereas all other constructs were measured based on a three-item scale.

4.2 Sample and data collection

We collected data from chatbot users using the Prolific platform to test the hypothesized model. Following Guha et al. (2023), a screening study was initially conducted to identify participants who had previously interacted with chatbots by requesting 1,000 respondents (e.g. whether they used the chatbot before, how often, and their willingness to take part in a follow-up study). As a result of the screening study, 889 participants who specified they had interacted with chatbots were identified. Of them, 792 participated in the subsequent study. There were, however, 31 respondents who did not pass the attention check question, resulting in 761 responses (Table 3). We also asked respondents about their purpose for using chatbots (e.g. For what purpose do you mostly use the chatbot?), and Figure 2 shows that users mostly use chatbots to ask questions, get help, solve problems and receive quick information.

5. Analytical tools and results

This study employed SmartPLS4 and the PLS-SEM approach to analyze the collected data (Ringle et al., 2022; Sarstedt et al., 2017). The PLS-SEM is commonly preferred to test complex models (Sarstedt et al., 2017), which also accomplishes high levels of statistical power for testing the hypotheses (Guha et al., 2023). Notably, earlier technology studies, including research on chatbots, have employed this approach (e.g. Ashfaq et al., 2023; Li and Zhang, 2023).

5.1 Common method bias (CMB)

The CMB was confirmed using two commonly used methods for PLS-SEM studies. First, the “variance inflation factor” (VIF) was below 5 (Hair et al., 2019). Second, the “marker variable” method proposed by Lindell and Whitney (2001) was performed in our study

Table 3. Profile of the respondents

Characteristics	Distribution	Frequency	%
Gender	Male	371	48.75
	Female	390	51.25
Frequency	Once a week	307	40.34
	2–5 times a month	314	41.26
	6–10 times a month	54	7.10
	>10 times a month	86	11.30
Age	Below 20	14	1.84
	20–30	402	52.83
	31–40	208	27.33
	41–50	86	11.30
	Above 50	51	6.70
Education	Less than high school	4	0.53
	High school	114	14.98
	Some college	139	18.27
	Bachelor’s degree	380	49.93
	Master’s degree	104	13.67
	Doctoral degree	12	1.58
Income (household income)	Professional degree	8	1.05
	\$0–\$5,000	134	17.61
	\$5,001–\$10,000	106	13.93
	\$10,001–\$20,000	131	17.21
	\$20,001–\$30,000	126	16.56
	\$30,001–\$40,000	86	11.30
	Above \$40,000	178	23.39

Source(s): Authors’ own work

Table 4. Reliability and validity

Factor	Item	Loading	Cronbach's alpha	CR	AVE
Two-way communication (TWC)	TWC1	0.802	0.717	0.748	0.633
	TWC2	0.743			
	TWC3	0.837			
Active control (ACC)	ACC1	0.862	0.842	0.842	0.760
	ACC2	0.872			
	ACC3	0.881			
Synchronicity (SYN)	SYN1	0.830	0.843	0.853	0.761
	SYN2	0.911			
	SYN3	0.874			
Customization (CUS)	CUS1	0.910	0.883	0.883	0.810
	CUS2	0.910			
	CUS3	0.880			
Localization (LOC)	LOC1	0.911	0.909	0.910	0.846
	LOC2	0.925			
	LOC3	0.923			
Argument quality (ARQ)	ARQ1	0.841	0.826	0.828	0.742
	ARQ2	0.855			
	ARQ3	0.887			
Source credibility (SOC)	SOC1	0.908	0.858	0.861	0.781
	SOC2	0.930			
	SOC3	0.809			
Connectivity (CON)	CON1	0.893	0.901	0.903	0.835
	CON2	0.909			
	CON3	0.938			
Sense of safety (SOS)	SOS1	0.898	0.888	0.891	0.817
	SOS2	0.927			
	SOS3	0.886			
Navigation affordance (NVA)	NVA1	0.840	0.848	0.863	0.766
	NVA2	0.885			
	NVA3	0.900			
Hedonic smart experience (HSE)	HSE1	0.921	0.925	0.926	0.869
	HSE2	0.923			
	HSE3	0.953			
Cognitive smart experience (CoSE)	CoSE1	0.926	0.914	0.914	0.853
	CoSE2	0.927			
	CoSE3	0.918			
Affinity (AFF)	AFF1	0.907	0.853	0.887	0.773
	AFF2	0.929			
	AFF3	0.796			
Stickiness (STI)	STI1	0.802	0.905	0.916	0.779
	STI2	0.899			
	STI3	0.908			
	STI4	0.917			

Source(s): Authors' own work

information (H3: $\beta = 0.098^*$; $t = 2.173$), association (H4: $\beta = 0.274^{***}$; $t = 6.871$) and navigation affordance (H5: $\beta = 0.081^*$; $t = 2.303$) impacts CSE, supporting H1–H5. Further, the results showed that CSE positively influences affinity ($\beta = 0.566^{***}$; $t = 24.16$), which in turn positively impacts stickiness ($\beta = 0.690^{***}$; $t = 37.82$). Given these results, H6 and H7 are also supported. Finally, the analysis showed that control variables have insignificant impacts (Table 5). We further assessed our model under the coefficient of determinants/explanatory power (R^2), predictive relevance (Q^2) and effect size (f^2). Our model explained 62.4% of the variance in CSE, 32% in affinity and 47.6% in stickiness, signifying a satisfactory outcome (Hair *et al.*, 2019). In addition, as can be seen in Table 5, our model had good predictive relevance, leading to acceptable outcomes (Hair *et al.*, 2019).

Table 5. Structural model test results

Hypothesis and relationship	Beta (β)	t-statistics	p-values	Significant?
Interactivity affordance → CSE	0.307***	8.741	0.000	Yes
Selectivity affordance → CSE	0.177***	5.665	0.000	Yes
Information affordance → CSE	0.098*	2.173	0.040	Yes
Association affordance → CSE	0.274***	6.871	0.000	Yes
Navigation affordance → CSE	0.081*	2.303	0.031	Yes
CSE → affinity	0.566***	24.16	0.000	Yes
Affinity → stickiness	0.690***	37.82	0.000	Yes
<i>Control variables</i>				
Frequency → stickiness	0.017	0.663	0.508	No
Gender → stickiness	0.019	0.366	0.715	No
Age → stickiness	-0.014	0.518	0.605	No
Type → stickiness	0.028	1.113	0.141	No
Education → stickiness	0.036	1.389	0.166	No
Income → stickiness	-0.052	1.804	0.072	No
		R^2	Q^2	
CSE		0.622	0.617	
Affinity		0.320	0.227	
Stickiness		0.476	0.325	

Note(s): Customers' smart experience (CSE), *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$
Source(s): Authors' own work

6. Discussion and implications

In this research, we set out to investigate the antecedents and consequences of CSEs in the chatbot context. To address our RQs, we developed a research model and conducted a quantitative study using a cross-sectional approach. Regarding the study's outcomes, we found that chatbot affordances, including interactivity, selectivity, information, association and navigation significantly influence CSE. These findings indicate that when a chatbot facilitates two-way communication, offers customized information, delivers accurate/trustworthy information, allows customers to connect anytime/anywhere and provides concise and clear links, customers perceive they have positive experiences. The findings are consistent with extant technology studies stating that technology affordances, such as virtual reality, branded apps or chatbot affordances, can develop a strong relationship with customers and create unique customer experiences (Fang, 2019; Leung *et al.*, 2022; Li *et al.*, 2023).

Furthermore, our study highlighted the significant effect of CSEs on chatbot affinity. This outcome suggests that when customers perceive a positive experience with chatbots, they develop a strong attachment to and association with them, thereby enhancing chatbot affinity. This finding is supported by Xu and Du's (2018) study, which observed that a system providing users with accurate and comprehensive information along with personalized and on-time services boosts users' affinity with the system. Finally, we verified that affinity is positively associated with customer stickiness with chatbots; thus, affinity is a key determinant of stickiness that reflects customers' perceptions of being committed to continued use of chatbots (Li *et al.*, 2024; Lin, 2007). This finding implies that increased perceptions of the importance of chatbots (chatbot affinity) contribute to greater stickiness to chatbots, enriching our understanding of affinity in facilitating customer chatbot stickiness.

6.1 Theoretical implications

Our study provides evidence that supports and extends affordance and affinity theories by highlighting the roles of specific chatbot affordance factors that contribute to positive-smart

experiences and subsequently enhance customer chatbot stickiness through affinity. First, while CSEs were studied in diverse domains, including mobile apps (Japutra *et al.*, 2021), AR/VR services (Fan *et al.*, 2020) and AI technology (Gao *et al.*, 2022), limited studies examined the notion of CSEs in chatbot settings (Fan *et al.*, 2022, 2023). To further explore this notion and subsequently respond to Fan *et al.*'s (2023) call to study smart experiences in the chatbot domain, we advance current research on chatbots by specifically studying the antecedents and consequences of CSEs.

Second, as an intelligence agent rather than merely a software, the chatbot not only provides the basic functions related to searching and retrieving information but it can significantly enhance customers' experiences by engaging with them through personalized interactions and providing anytime/anyplace connectivity (Lee and Li, 2023; Shahzad *et al.*, 2024b; Zhu *et al.*, 2022). Likewise, we advance extant literature by showing that enhanced levels of chatbot affordances improve CSEs. While several studies investigated the impact of technology affordances on diverse factors, including customer inspiration (Zhou *et al.*, 2023), brand competence/warmth (Lee and Li, 2023) and satisfaction (Shao *et al.*, 2020), these studies have predominantly overlooked the impact of affordances on CSEs in technology research in general, and chatbot literature in particular. As such, the present study expands our understanding by studying the role of affordances (interactivity, selectivity, information, association, navigation) as antecedents of CSEs in the under-researched chatbot context.

Third, in contrast to earlier work focusing on examining the influence of CSEs on word-of-mouth (Gao *et al.*, 2022; Roy *et al.*, 2019) and customer patronage intention (Fan *et al.*, 2023), our research takes this a step further by exploring the impact of CSEs on chatbot affinity, thereby proposing a novel relationship. According to Wang (2025), an article contributes to extant literature when it presents new information or expands current knowledge. As such, this study's findings contribute to existing literature by showing how CSE enhances chatbot affinity. Lastly, this study proposes another new association that expands our understanding of the imperative role of affinity that drives customer chatbot stickiness. Several technology studies examined the factors that drive customer stickiness (e.g. Shao *et al.*, 2020); however, no study investigated how affinity drives customer stickiness. We theorize affinity in the chatbot context and confirm that it is an important antecedent for enhancing customer chatbot stickiness.

6.2 Practical implications

Our study offers practical insights into the types of affordances that could increase CSEs toward chatbots, which would be beneficial for chatbot designers and developers. In particular, a chatbot's ability to facilitate two-way communication, allowing users to connect anytime/anywhere connectivity, and providing customized and engaging interactions should be prioritized as core features. Interactivity, association and selectivity affordances are often considered important factors in technology settings generally, and chatbots particularly, to improve customer service and experience (Fang, 2019; Lee and Li, 2023; Li *et al.*, 2023). Accordingly, managers should design chatbots by focusing on their affordance features, particularly emphasizing interactivity, selectivity and association of chatbot affordances to enhance CSEs and customer stickiness to chatbots. Accurate/reliable responses and ease of navigation provide feelings of comfort, and these are other core chatbot features that should be emphasized. Such chatbot affordance factors enhance CSEs, leading to customer chatbot stickiness through affinity, which would be useful insights for chatbot designers and developers.

Next, our study found that CSEs facilitate chatbot affinity, which in turn improves customer stickiness to chatbots. Managers should note that enhancing affordance features of chatbots not only boost CSEs but also increase customer stickiness to chatbots through affinity. Customers often become attached to chatbots when their services provide experiential value (Li *et al.*, 2023). Besides, we also offer some industry-specific design recommendations. For

instance, retail chatbots can focus on personalized recommendations with clear opt-in mechanisms to boost customer experience without overstepping privacy boundaries, while healthcare chatbots should prioritize strict privacy controls to align with sensitive patient information needs. Future research could explore how variables like social influence, information sensitivity and platform identification further shape the balance between privacy concerns and perceived benefits in chatbot adoption (Chen *et al.*, 2024). By offering industry-specific recommendations, this study reinforces its contributions to understanding the complexities of AI-driven customer interactions while providing actionable insights for chatbot developers.

7. Limitations and future research directions

This study acknowledges certain limitations. First, the study does not categorize chatbot usage based on purposes such as transactional, informational or interactional. Future research could add contextual relevance to our findings by exploring the difference between transactional chatbots and informational chatbots and their impact on smart experiences and usage intentions. Second, future research may explore chatbot services in other industries, such as healthcare or finance, where user needs and privacy concerns vary, which could yield valuable insights. Third, this study did not include any potential moderating variable, thus we suggest considering potential moderating variables such as tech-savviness or the specific purpose of chatbot interactions (e.g. transactional versus informational) in future studies. Finally, the present research was primarily based on the affordance lens to explain customer chatbot stickiness, where we only included enabler factors in our model while ignoring the role of inhibitors such as privacy risks and technology anxiety that may discourage customers from sticking with chatbots. Future research can explore the balance between personalization and privacy concerns—a matter of growing importance in AI and digital interactions—using the privacy calculus model or BRT to contribute to chatbot adoption literature. For example, the Privacy Calculus Model emphasizes trade-offs users face between perceived benefits (e.g. personalized experiences) and risks (e.g. privacy concerns) in their interactions with chatbots (Chen *et al.*, 2024). While chatbots provide several benefits (e.g. personalized interactions), these benefits often coexist with significant privacy concerns, such as data misuse or inadequate transparency in data handling (Wang, 2024). Consequently, scholars should prioritize developing a model to investigate trade-offs between perceived benefits and risks within a single framework in the chatbot setting.

References

- Aldás-Manzano, J., Ruiz-Mafé, C. and Sanz-Blas, S. (2009), “Exploring individual personality factors as drivers of M-shopping acceptance”, *Industrial Management and Data Systems*, Vol. 109 No. 6, pp. 739-757, doi: [10.1108/02635570910968018](https://doi.org/10.1108/02635570910968018).
- Ameen, N., Tarhini, A., Reppel, A. and Anand, A. (2021), “Customer experiences in the age of artificial intelligence”, *Computers in Human Behavior*, Vol. 114, 106548, doi: [10.1016/j.chb.2020.106548](https://doi.org/10.1016/j.chb.2020.106548).
- Ashfaq, M., Yun, J., Yu, S. and Loureiro, S.M.C. (2020), “I, Chatbot: modeling the determinants of users’ satisfaction and continuance intention of AI-powered service agents”, *Telematics and Informatics*, Vol. 54, 101473, doi: [10.1016/j.tele.2020.101473](https://doi.org/10.1016/j.tele.2020.101473).
- Ashfaq, M., Zhang, Q., Ali, F., Waheed, A. and Nawaz, S. (2021), “You plant a virtual tree, we’ll plant a real tree: understanding users’ adoption of the Ant Forest mobile gaming application from a behavioral reasoning theory perspective”, *Journal of Cleaner Production*, Vol. 310, 127394, doi: [10.1016/j.jclepro.2021.127394](https://doi.org/10.1016/j.jclepro.2021.127394).
- Ashfaq, M., Yu, S., Liu, Y. and Luo, K. (2023), “Usage intensity of mobile instant messengers for work and employees’ anxiety”, *International Journal of Mobile Communications*, Vol. 22 No. 3, pp. 278-295, doi: [10.1504/ijmc.2023.133100](https://doi.org/10.1504/ijmc.2023.133100).

- Aslam, F. (2023), "The impact of artificial intelligence on chatbot technology: a study on the current advancements and leading innovations", *European Journal of Technology*, Vol. 7 No. 3, pp. 62-72, doi: [10.47672/ejt.1561](https://doi.org/10.47672/ejt.1561).
- Chandra, S., Shirish, A. and Srivastava, S.C. (2022), "To be or not to be . . . human? Theorizing the role of human-like competencies in conversational artificial intelligence agents", *Journal of Management Information Systems*, Vol. 39 No. 4, pp. 969-1005, doi: [10.1080/07421222.2022.2127441](https://doi.org/10.1080/07421222.2022.2127441).
- Chen, X., Wu, M., Cheng, C. and Mou, J. (2024), "Weighing user's privacy calculus on personal information disclosure: the moderating effect of social media identification", *Online Information Review*, Vol. ahead-of-print No. ahead-of-print. doi: [10.1108/OIR-03-2024-0135](https://doi.org/10.1108/OIR-03-2024-0135).
- Chung, M., Ko, E., Joung, H. and Kim, S.J. (2020), "Chatbot e-service and customer satisfaction regarding luxury brands", *Journal of Business Research*, Vol. 117, pp. 587-595, doi: [10.1016/J.JBUSRES.2018.10.004](https://doi.org/10.1016/J.JBUSRES.2018.10.004).
- Demers, E. and Lev, B. (2001), "A rude awakening: Internet shakeout in 2000", *Review of Accounting Studies*, Vol. 6, pp. 2-3, doi: [10.1023/a:1011675227890](https://doi.org/10.1023/a:1011675227890).
- Dong, X. and Wang, T. (2018), "Social tie formation in Chinese online social commerce: the role of IT affordances", *International Journal of Information Management*, Vol. 42, pp. 49-64, doi: [10.1016/j.ijinfomgt.2018.06.002](https://doi.org/10.1016/j.ijinfomgt.2018.06.002).
- Fan, X., Chai, Z., Deng, N. and Dong, X. (2020), "Adoption of augmented reality in online retailing and consumers' product attitude: a cognitive perspective", *Journal of Retailing and Consumer Services*, Vol. 53, 101986, doi: [10.1016/j.jretconser.2019.101986](https://doi.org/10.1016/j.jretconser.2019.101986).
- Fan, H., Han, B., Gao, W. and Li, W. (2022), "How AI chatbots have reshaped the frontline interface in China: examining the role of sales-service ambidexterity and the personalization-privacy paradox", *International Journal of Emerging Markets*, Vol. 17 No. 4, pp. 967-986, doi: [10.1108/ijom-04-2021-0532](https://doi.org/10.1108/ijom-04-2021-0532).
- Fan, H., Gao, W. and Han, B. (2023), "Are AI chatbots a cure-all? The relative effectiveness of chatbot ambidexterity in crafting hedonic and cognitive smart experiences", *Journal of Business Research*, Vol. 156, 113526, doi: [10.1016/j.jbusres.2022.113526](https://doi.org/10.1016/j.jbusres.2022.113526).
- Fang, Y.-H. (2019), "An app a day keeps a customer connected: explicating loyalty to brands and branded applications through the lens of affordance and service-dominant logic", *Information and Management*, Vol. 56 No. 3, pp. 377-391, doi: [10.1016/j.im.2018.07.011](https://doi.org/10.1016/j.im.2018.07.011).
- Ferreira, M., Loureiro, S.M.C., Ashfaq, M. and Pereira, H. (2023), "Tourist-virtual assistant communication: the power of attachment and authenticity", *Anatolia*, Vol. 34 No. 4, pp. 566-578, doi: [10.1080/13032917.2022.2096653](https://doi.org/10.1080/13032917.2022.2096653).
- Gao, J., Ren, L., Yang, Y., Zhang, D. and Li, L. (2022), "The impact of artificial intelligence technology stimuli on smart customer experience and the moderating effect of technology readiness", *International Journal of Emerging Markets*, Vol. 17 No. 4, pp. 1123-1142, doi: [10.1108/ijom-06-2021-0975](https://doi.org/10.1108/ijom-06-2021-0975).
- Gibson, J.J. (1979), *The Ecological Approach to Visual Perception*, Houghton Mifflin., Psychology Press, Boston.
- Gnewuch, U., Morana, S., Hinz, O., Kellner, R. and Maedche, A. (2023), "More than a bot? The impact of disclosing human involvement on customer interactions with hybrid service agents", *Information Systems Research*, Vol. 35 No. 3, pp. 936-955, doi: [10.1287/isre.2022.0152](https://doi.org/10.1287/isre.2022.0152).
- Guha, A., Bressgott, T., Grewal, D., Mahr, D., Wetzels, M. and Schweiger, E. (2023), "How artificiality and intelligence affect voice assistant evaluations", *Journal of the Academy of Marketing Science*, Vol. 51 No. 4, pp. 843-866, doi: [10.1007/s11747-022-00874-7](https://doi.org/10.1007/s11747-022-00874-7).
- Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review*, Vol. 31 No. 1, pp. 2-24, doi: [10.1108/EBR-11-2018-0203](https://doi.org/10.1108/EBR-11-2018-0203).
- Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135, doi: [10.1007/s11747-014-0403-8](https://doi.org/10.1007/s11747-014-0403-8).

- Jan, I.U., Ji, S. and Kim, C. (2023), "What (de) motivates customers to use AI-powered conversational agents for shopping? The extended behavioral reasoning perspective", *Journal of Retailing and Consumer Services*, Vol. 75, 103440, doi: [10.1016/j.jretconser.2023.103440](https://doi.org/10.1016/j.jretconser.2023.103440).
- Japutra, A., Utami, A.F., Molinillo, S. and Ekaputra, I.A. (2021), "Influence of customer application experience and value in use on loyalty toward retailers", *Journal of Retailing and Consumer Services*, Vol. 59, 102390, doi: [10.1016/j.jretconser.2020.102390](https://doi.org/10.1016/j.jretconser.2020.102390).
- Kushwaha, A.K., Kumar, P. and Kar, A.K. (2021), "What impacts customer experience for B2B enterprises on using AI-enabled chatbots? Insights from Big data analytics", *Industrial Marketing Management*, Vol. 98, pp. 207-221, doi: [10.1016/j.indmarman.2021.08.011](https://doi.org/10.1016/j.indmarman.2021.08.011).
- Lee, K.-W. and Li, C.-Y. (2023), "It is not merely a chat: transforming chatbot affordances into dual identification and loyalty", *Journal of Retailing and Consumer Services*, Vol. 74, 103447, doi: [10.1016/j.jretconser.2023.103447](https://doi.org/10.1016/j.jretconser.2023.103447).
- Leung, W.K.S., Cheung, M.L., Chang, M.K., Shi, S., Tse, S.Y. and Yusrini, L. (2022), "The role of virtual reality interactivity in building tourists' memorable experiences and post-adoption intentions in the COVID-19 era", *Journal of Hospitality and Tourism Technology*, Vol. 13 No. 3, pp. 481-499, doi: [10.1108/jhtt-03-2021-0088](https://doi.org/10.1108/jhtt-03-2021-0088).
- Li, C.-Y. and Zhang, J.-T. (2023), "Chatbots or me? Consumers' switching between human agents and conversational agents", *Journal of Retailing and Consumer Services*, Vol. 72, 103264, doi: [10.1016/j.jretconser.2023.103264](https://doi.org/10.1016/j.jretconser.2023.103264).
- Li, C.Y., Fang, Y.H. and Chiang, Y.H. (2023), "Can AI chatbots help retain customers? An integrative perspective using affordance theory and service-domain logic", *Technological Forecasting and Social Change*, Vol. 197, 122921, doi: [10.1016/j.techfore.2023.122921](https://doi.org/10.1016/j.techfore.2023.122921).
- Li, G., Zhao, Z., Li, L., Li, Y., Zhu, M. and Jiao, Y. (2024), "The relationship between AI stimuli and customer stickiness, and the roles of social presence and customer traits", *Journal of Research in Interactive Marketing*, Vol. 18 No. 1, pp. 38-53, doi: [10.1108/jrim-07-2022-0222](https://doi.org/10.1108/jrim-07-2022-0222).
- Lin, J.C.C. (2007), "Online stickiness: its antecedents and effect on purchasing intention", *Behaviour and Information Technology*, Vol. 26 No. 6, pp. 507-516, doi: [10.1080/01449290600740843](https://doi.org/10.1080/01449290600740843).
- Lindell, M.K. and Whitney, D.J. (2001), "Accounting for common method variance in cross-sectional research designs", *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 114-121, doi: [10.1037/0021-9010.86.1.114](https://doi.org/10.1037/0021-9010.86.1.114).
- Liu, Y. (2003), "Developing a scale to measure the interactivity of websites", *Journal of Advertising Research*, Vol. 43 No. 2, pp. 207-216, doi: [10.2501/jar-43-2-207-216](https://doi.org/10.2501/jar-43-2-207-216).
- Loureiro, S.M.C., Ashfaq, M. and Rodrigues, M.O.B. (2021), "AI meaning and applications in the consumer sector of retailing, hospitality, and tourism", in *Handbook of Research on Applied Data Science and Artificial Intelligence in Business and Industry*, IGI Global, pp. 291-303.
- Molinillo, S., Navarro-García, A., Anaya-Sánchez, R. and Japutra, A. (2020), "The impact of affective and cognitive app experiences on loyalty towards retailers", *Journal of Retailing and Consumer Services*, Vol. 54, 101948, doi: [10.1016/j.jretconser.2019.101948](https://doi.org/10.1016/j.jretconser.2019.101948).
- Mostafa, R.B. and Temerak, M.S. (2024), "Does consumer empowerment enhance brand page stickiness? The role of brand page experience and brand love", *Journal of Research in Interactive Marketing*, Vol. 18 No. 6, pp. 1136-1154, doi: [10.1108/jrim-06-2023-0192](https://doi.org/10.1108/jrim-06-2023-0192).
- Nadeem, W., Alimamy, S. and Ashraf, A.R. (2024), "Unraveling the factors that influence connectedness and relationship performance with augmented reality apps", *Information Technology and People*, Vol. ahead-of-print No. ahead-of-print, doi: [10.1108/ITP-06-2023-0596](https://doi.org/10.1108/ITP-06-2023-0596).
- Niu, B. and Mvondo, G.F.N. (2024), "I am ChatGPT, the ultimate AI Chatbot! Investigating the determinants of users' loyalty and ethical usage concerns of ChatGPT", *Journal of Retailing and Consumer Services*, Vol. 76, 103562, doi: [10.1016/j.jretconser.2023.103562](https://doi.org/10.1016/j.jretconser.2023.103562).
- Ou, C.X., Pavlou, P.A. and Davison, R.M. (2014), "Swift guanxi in online marketplaces: the role of computer-mediated communication technologies", *MIS Quarterly*, Vol. 38 No. 1, pp. 209-230, doi: [10.25300/misq/2014/38.1.10](https://doi.org/10.25300/misq/2014/38.1.10).

- Perse, E.M. (1986), "Soap opera viewing patterns of college students and cultivation", *Journal of Broadcasting and Electronic Media*, Vol. 30 No. 2, pp. 175-193, doi: [10.1080/08838158609386618](https://doi.org/10.1080/08838158609386618).
- Pillai, R., Ghanghorkar, Y., Sivathanu, B., Algharabat, R. and Rana, N.P. (2023), "Adoption of artificial intelligence (AI) based employee experience (EEX) chatbots", *Information Technology and People*, Vol. 37 No. 1, pp. 449-478, doi: [10.1108/ITP-04-2022-0287](https://doi.org/10.1108/ITP-04-2022-0287).
- Research-and-Markets (2024), "Conversational AI market size, share and forecast to 2029", available at: https://www.researchandmarkets.com/report/chatbot?utm_source=GNE&utm_medium=PressRelease&utm_code=xw7jrv&utm_campaign=1841066+-+Global+Conversational+AI+Market+Report+2023%3a+Increasing+Demand+for+AI-Powered+Customer+Support+Services+Boosts+Growth&utm_exec=como322prd (accessed 27 November 2024).
- Ringle, C.M., Wende, S. and Becker, J.-M. (2022), *SmartPLS 4*, SmartPLS GmbH, Oststeinbek.
- Roy, S.K., Singh, G., Hope, M., Nguyen, B. and Harrigan, P. (2019), "The rise of smart consumers: role of smart servicescape and smart consumer experience co-creation", *Journal of Marketing Management*, Vol. 35 Nos 15-16, pp. 15-16, doi: [10.1080/0267257X.2019.1680569](https://doi.org/10.1080/0267257X.2019.1680569).
- Rubin, A.M. (1981), "An examination of television viewing motivations", *Communication Research*, Vol. 8 No. 2, pp. 141-165, doi: [10.1177/009365028100800201](https://doi.org/10.1177/009365028100800201).
- Sarstedt, M., Ringle, C.M. and Hair, J.F. (2017), *Partial Least Squares Structural Equation Modeling*, Research and Markets, Dublin.
- Schuetzler, R.M., Grimes, G.M., Giboney, J.S. and Rosser, H.K. (2021), "Deciding whether and how to deploy chatbots", *MIS Quarterly Executive*, Vol. 20 No. 1, pp. 1-15, doi: [10.17705/2msqe.00039](https://doi.org/10.17705/2msqe.00039).
- Shahzad, K., Ashfaq, M., Zafar, A.U. and Basahel, S. (2024a), "Is the future of the metaverse bleak or bright? Role of realism, facilitators, and inhibitors in metaverse adoption", *Technological Forecasting and Social Change*, Vol. 209, 123768, doi: [10.1016/j.techfore.2024.123768](https://doi.org/10.1016/j.techfore.2024.123768).
- Shahzad, M.F., Xu, S., An, X. and Javed, I. (2024b), "Assessing the impact of AI-chatbot service quality on user e-brand loyalty through chatbot user trust, experience and electronic word of mouth", *Journal of Retailing and Consumer Services*, Vol. 79, 103867, doi: [10.1016/j.jretconser.2024.103867](https://doi.org/10.1016/j.jretconser.2024.103867).
- Shao, Z., Zhang, L., Chen, K. and Zhang, C. (2020), "Examining user satisfaction and stickiness in social networking sites from a technology affordance lens: uncovering the moderating effect of user experience", *Industrial Management and Data Systems*, Vol. 120 No. 7, pp. 1331-1360, doi: [10.1108/IMDS-11-2019-0614](https://doi.org/10.1108/IMDS-11-2019-0614).
- Shen, X.-L., Sun, Y. and Wang, N. (2013), "Recommendations from friends anytime and anywhere: toward a model of contextual offer and consumption values", *Cyberpsychology, Behavior, and Social Networking*, Vol. 16 No. 5, pp. 349-356, doi: [10.1089/cyber.2012.0215](https://doi.org/10.1089/cyber.2012.0215).
- Sussman, S.W. and Siegal, W.S. (2003), "Informational influence in organizations: an integrated approach to knowledge adoption", *Information Systems Research*, Vol. 14 No. 1, pp. 47-65, doi: [10.1287/isre.14.1.47.14767](https://doi.org/10.1287/isre.14.1.47.14767).
- Swani, K. (2021), "To app or not to app: a business-to-business seller's decision", *Industrial Marketing Management*, Vol. 93, pp. 389-400, doi: [10.1016/j.indmarman.2020.05.033](https://doi.org/10.1016/j.indmarman.2020.05.033).
- Thakur, R. and AlSaleh, D. (2018), "A comparative study of corporate user-generated media behavior: cross-cultural B2B context", *Industrial Marketing Management*, Vol. 73, pp. 125-136, doi: [10.1016/j.indmarman.2018.02.004](https://doi.org/10.1016/j.indmarman.2018.02.004).
- Upadhyay, N. and Kamble, A. (2023), "Why can't we help but love mobile banking chatbots? Perspective of stimulus-organism-response", *Journal of Financial Services Marketing*, Vol. 29 No. 3, pp. 1-18, doi: [10.1057/s41264-023-00237-5](https://doi.org/10.1057/s41264-023-00237-5).
- Wagner, D., Vollmar, G. and Wagner, H.-T. (2014), "The impact of information technology on knowledge creation: an affordance approach to social media", *Journal of Enterprise Information Management*, Vol. 27 No. 1, pp. 31-44, doi: [10.1108/jeim-09-2012-0063](https://doi.org/10.1108/jeim-09-2012-0063).

- Wang, C.L. (2022), "Editorial–The misassumptions about contributions", *Journal of Research in Interactive Marketing*, Vol. 16 No. 1, pp. 1-2, doi: [10.1108/jrim-03-2022-276](https://doi.org/10.1108/jrim-03-2022-276).
- Wang, C.L. (2023), "Interactive marketing is the new normal", in *The Palgrave Handbook of Interactive Marketing*. doi: [10.1007/978-3-031-14961-0_1](https://doi.org/10.1007/978-3-031-14961-0_1).
- Wang, C.L. (2024), "Editorial – what is an interactive marketing perspective and what are emerging research areas?", *Journal of Research in Interactive Marketing*, Vol. 18 No. 2, pp. 161-165, doi: [10.1108/JRIM-03-2024-371](https://doi.org/10.1108/JRIM-03-2024-371).
- Wang, C.L. (2025), "Demonstrating contributions through storytelling", *Journal of Research in Interactive Marketing*, Vol. 19 No. 1, pp. 1-4, doi: [10.1108/jrim-01-2025-455](https://doi.org/10.1108/jrim-01-2025-455).
- Wei, Y., Syahrivar, J. and Simay, A.E. (2024), "Unveiling the influence of anthropomorphic chatbots on consumer behavioral intentions: evidence from China and Indonesia", *Journal of Research in Interactive Marketing*, Vol. 19 No. 1, pp. 132-157, doi: [10.1108/jrim-09-2023-0295](https://doi.org/10.1108/jrim-09-2023-0295).
- Westaby, J.D. (2005), "Behavioral reasoning theory: identifying new linkages underlying intentions and behavior", *Organizational Behavior and Human Decision Processes*, Vol. 98 No. 2, pp. 97-120, doi: [10.1016/j.obhdp.2005.07.003](https://doi.org/10.1016/j.obhdp.2005.07.003).
- Wolf, M., Ritz, W. and McQuitty, S. (2023), "The role of affinity for prosumption experiences and values", *Journal of Consumer Behaviour*, Vol. 22 No. 1, pp. 43-55, doi: [10.1002/cb.2105](https://doi.org/10.1002/cb.2105).
- Xie, T., Pentina, I. and Hancock, T. (2023), "Friend, mentor, lover: does chatbot engagement lead to psychological dependence?", *Journal of Service Management*, Vol. 34 No. 4, pp. 806-828, doi: [10.1108/josm-02-2022-0072](https://doi.org/10.1108/josm-02-2022-0072).
- Xu, F. and Du, J.T. (2018), "Factors influencing users' satisfaction and loyalty to digital libraries in Chinese universities", *Computers in Human Behavior*, Vol. 83, pp. 64-72, doi: [10.1016/j.chb.2018.01.029](https://doi.org/10.1016/j.chb.2018.01.029).
- Zhang, P. and Von Dran, G.M. (2001), "User expectations and rankings of quality factors in different Web site domains", *International Journal of Electronic Commerce*, Vol. 6 No. 2, doi: [10.1080/10864415.2001.11044237](https://doi.org/10.1080/10864415.2001.11044237).
- Zhou, F., Zhang, N., Wang, N. and Mou, J. (2023), "Design affordance in VR and customization intention: is customer inspiration a missing link?", *Technological Forecasting and Social Change*, Vol. 192, 122594, doi: [10.1016/j.techfore.2023.122594](https://doi.org/10.1016/j.techfore.2023.122594).
- Zhou, Y., Zhang, Y., Furuoka, F. and Kumar, S. (2024), "The antecedents and outcomes of electronic customer-to-customer interaction: a PLS-SEM and fsQCA approach", *Journal of Research in Interactive Marketing*, Vol. 18 No. 5, pp. 836-864, doi: [10.1108/jrim-11-2023-0397](https://doi.org/10.1108/jrim-11-2023-0397).
- Zhu, H. and Zhang, Y. (2007), "Navigability design and measurement", in *Encyclopedia of Portal Technologies and Applications*, IGI Global, pp. 642-646.
- Zhu, Y., Janssen, M., Wang, R. and Liu, Y. (2022), "It is me, chatbot: working to address the COVID-19 outbreak-related mental health issues in China. User experience, satisfaction, and influencing factors", *International Journal of Human-Computer Interaction*, Vol. 38 No. 12, pp. 1182-1194, doi: [10.1080/10447318.2021.1988236](https://doi.org/10.1080/10447318.2021.1988236).

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