Influence of Chatbot on Consumer Purchase Intention

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CHAPTER – 1

1.1.   Abstract

This research explores the intricate relationship between chatbot interactions and consumer behaviour in online service delivery and decision-making processes. The study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews, to investigate the impact of chatbots on purchase intention. Through a comprehensive sampling strategy targeting diverse online shoppers, the research aims to provide insights into various aspects of chatbot interactions across different demographic groups and product categories. Analysis tools such as Pearson correlation coefficients and significance testing reveal nuancedrelationships between variables, highlighting factors influencing consumer perceptions and behaviour regarding chatbots. Findings suggest that age plays a role in the perceived need for assistance with chatbots, emphasizing the importance of demographic considerations in understanding user experiences. Overall, this research contributes valuable insights into optimizing chatbot functionalities to enhance consumer trust, satisfaction, and purchase intention, paving the way for more personalized and effective chatbot experiences in diverse cultural contexts.

Keywords:

Chatbots, Purchase Intention, Consumer Behavior, Online Service Delivery, Trust, Transparency, User Expectations, Cultural Considerations, Interactivity, User Control, DesignElements, Customer Satisfaction

1.2.   Introduction

1.2.1. Background

Science fiction does not deal with artificial intelligence (AI). Artificial intelligence (AI)-driven chatbots are a technology that is transforming business procedures in a variety of industries. They are also having an impact on our daily lives and how we communicate with others online. As a result, as diverse markets completely embrace AI, they become wiser in today's alwayson world. The ideas of chatbots were initially introduced in 1966 with the creation of the firstever chatbot, ELIZA. Chatbots, however, did not acquire traction until 1990, with the rise of new-age technology such as AI. In fact, it is AI that enables chatbots to interpret user inquiries and react in a logical, almost human-like manner. Chatbots are AI-powered computer programs/technologies that replicate human-like conversations. This allows individuals to interact with digital devices as if they were speaking with actual people. AI-powered chatbots make it easy for today's modern consumers to obtain vast amounts of information. Bots assist customers in finding solutions to their questions regardless of where they are or what devices they utilize. Such features save customers the trouble of filling out forms, dealing with congested inboxes, or spending minutes searching for and skimming through content. The astonishing rise of chatbots/conversational AI is assisting in the construction of a futuristic present. Let us look at how chatbots can improve corporate processes.

Due of the success of OpenAI's ChatGPT, rivals like as Microsoft's Bing Chat (which uses OpenAI's GPT-4) and Google's Bard have recently attracted extensive notice. Such examples illustrate the recent practice of such products being constructed based on broad basic huge language models that are fine-tuned to target specific activities or applications (in the case of chatbots, emulating human conversation). Additionally, chatbots can be made to target even more particular scenarios and/or subject matter domains.

Chatbots have long been utilized in customer care and assistance, such as with several types of virtual assistants. Companies from a variety of industries have recently begun to use the most recent generative AI technology to enable more sophisticated breakthroughs in such domains.

In the realm of technological innovation, artificial intelligence (AI) has transcended its oncefictional status and emerged as a powerful force reshaping corporate landscapes and personal interactions in the digital sphere. The transformative impact of AI is particularly evident in the proliferation of AI-powered chatbots, which have become integral to diverse industries and our virtual interactions.

1.2.2. Evolution of Chatbots

The roots of AI-powered chatbots trace back to 1966 when ELIZA, the pioneering chatbot, made its debut. However, it was not until the advent of new-age technologies in the 1990s, particularly AI, that chatbots gained significant traction. The marriage of AI and chatbots has ushered in an era where these computer programs can interpret user queries and respond in a manner that mirrors human-like logic. Essentially, chatbots serve as digital entities capable of engaging in conversations that emulate human interaction.

1.2.3. Role of AI in Chatbot Advancement

Central to the evolution of chatbots is the underlying technology of artificial intelligence. AI empowers chatbots to engage users in seamless and almost lifelike conversations, revolutionizing the way individuals interact with digital devices. The result is a user experience that mirrors real-life interactions, enabling consumers to effortlessly access vast amounts of information with the convenience of conversational interfaces.

1.2.4. Impact on Corporate Processes

As diverse markets wholeheartedly embrace AI, the integration of chatbots into corporate processes becomes a strategic imperative. In our perpetually connected world, AI-powered chatbots contribute to enhanced efficiency and responsiveness, ushering in a new era of corporate operations. The success of chatbots in transforming the consumer experience is evident in their ability to provide instant solutions without the need for cumbersome forms, crowded inboxes, or tedious information searches.

1.3. The Rise of Conversational AI

1.3.1. Success Stories and Rivalries

OpenAI's ChatGPT stands out as a groundbreaking success in the world of conversational AI. Competitors such as Microsoft's Bing Chat (utilizing OpenAI's GPT-4) and Google's Bard have garnered considerable attention, illustrating the growing trend of constructing products based on broad, foundational language models fine-tuned for specific tasks, such as emulating human conversation.

1.3.2. Customization and Targeting

Chatbots, exemplified by the success of OpenAI's ChatGPT, can be customized to target specific activities, applications, or industries. This adaptability allows for the creation of specialized chatbots tailored to unique situations and subject-

matter domains, showcasing the versatility of AI-driven conversational interfaces.

1.3.3. Utilization in Customer Assistance

The extensive utilization of chatbots in customer care and assistance, including virtual assistants, has a longstanding history. Recent advancements in generative AI technology, exemplified by OpenAI's innovations, have enabled companies across various industries to achieve breakthroughs in customer service, providing more sophisticated and personalized solutions.

1.3.4. Broadening Horizons

Industries, ranging from customer care to diverse sectors, are tapping into the potential of the latest generative AI technology. The adoption of AI-powered chatbots promises to usher in a new era of sophisticated and efficient interactions, transcending traditional boundaries and driving innovation across different domains.

1.3.5. Chatbot's Influence on Purchase Intension

Companies prioritize being online anytime and anywhere to stay in touch with their customers in today's times, as consumers spend increased time in digital settings. Customers in the digital age have the option of selecting from many organizations that offer the same service or product. Consumers can afford to be fussy because of this expanding offering. Businesses always have challenges in gaining and retaining customers to enhance the customer experience and, ultimately, customer satisfaction. Online communication is a critical component in enhancing the consumer experience. A human approach to digital client communication is critical for customer retention. Meeting client expectations, according to Siswi and Wahyono, creates contentment. Customers' expectations and satisfaction can be exceeded through optimizing the customer experience. Customer loyalty is a direct result of customer satisfaction and has been essential for decades.

1.3.6. Companies' Online Prioritization in the Digital Age: Enhancing Consumer Experience

In today's rapidly evolving digital landscape, companies are placing significant emphasis on maintaining a constant online presence to connect with their customers. This strategic shift is driven by the fact that consumers increasingly spend a substantial amount of time in digital settings. The prevalence of numerous organizations offering similar products or services in the digital age grants consumers the luxury of being discerning in their choices. Consequently, companies are faced with the ongoing challenge of not only acquiring customers but also retaining them to enhance customer experience and, subsequently, customer satisfaction.

1.3.7. The Challenge of Customer Retention in a Competitive Landscape
In the face of heightened competition and the constant evolution of digital innovations, companies find themselves in a perpetual struggle to attract and retain clients. The modern consumer, characterized as the 'new client in 2021,' seeks convenience, expecting to engage with a company at any time and from any location, transcending temporal, spatial, and channel constraints. The dynamic nature of consumer expectations necessitates innovative approaches to customer communication and engagement.

1.3.8. Chatbots as Catalysts for Digital Adaptation

Enter chatbots, a technological response to the challenges posed by digitization and evolving consumer expectations. These automated systems serve as invaluable tools in facilitating communication between companies and their visitors, presenting an additional avenue for consumer interaction. The strategic deployment of chatbots allows companies to proactively address customer concerns and complaints, instilling confidence, and happiness in the consumer.

1.3.9. The Shifting Landscape of Consumer Interaction

However, the methods employed by businesses to achieve customer satisfaction have undergone a transformation over time. The traditional approaches have evolved to meet the demands of internet competition and technological advancements. In this context, the focus on optimizing the customer experience becomes more crucial than ever in a digital age where businesses must be available around the clock.

CHAPTER – 2

2.1. Literature Review

1	Chatbots and the Future of Online Service Delivery	Leenheer, Jet al.	2018
	The study investigates the use of chatbots in online service delivery, focusing on their impact on customer satisfaction and purchase intention. Studies are reviewed that explorechatbot effectiveness in providing product information, answering customer questions, and facilitating the buying process. The review highlights mixed findings, with some studies demonstrating positive effects on purchase intention due to perceived efficiencyand convenience, while others point to concerns about trust and lack of personal interaction. Future research directions are recommended, including evaluating the impact of chatbot design and personality on purchase behavior.		
2	The Persuasive Potential of Virtual Assistants: A Review ofEmbodied Conversational Agents and Chatbots	Novak, T.P., & Hoffman, D. L.	2016
	This study examines the persuasive potential of virtual assistants, including chatbots, ininfluencing consumer decision-making. Studies are evaluated to explore how chatbots employ persuasion techniques like social proof, scarcity, and framing to influenceproduct evaluations and purchase intention. The review identifies factors that enhance chatbot persuasiveness, such as personalization, trust, and social cues. It also acknowledges limitations of chatbots, such as potential for deception and ethical concerns, and calls for further research on chatbot design andconsumer psychology.		
3	Designing Trustworthy Chatbots: Understanding User Perceptionsand Expectations	De Angeli et al.	2016
	This study focuses on the crucial aspect of trust in chatbot interactions and explores userperceptions and expectations regarding trustworthiness. Existing literature on human- computer interaction, trust in technology, and the role of social cues is reviewed. The review highlights the importance of transparency, accuracy, and user control in establishing trust with chatbots. It further identifies a gap in understanding user expectations and preferences regarding chatbot design elements that contribute to perceived trustworthiness.		

4	Influence of Chatbot Anthropomorphism and Interactivity on Trust and Purchase Intention	Lin, K.-H., Hung, S.-Y., & Chen, Y.-F.	2018
	This study investigates how chatbot characteristics like anthropomorphism (human-like features) and interactivity (two-way dialogue) influence consumer trust and purchase intention. The review highlights prior research suggesting that higher levels of anthropomorphism and interactivity can lead to increased trust and purchase intention, but acknowledges potential drawbacks like deception and uncanny valley effects.		
5	Chatbots as Persuasive Influencers: Exploring the Role of Social Presence and Trust in Online Purchase Decisions	Luo, W., Huang, M., & Xie, X.	2019
	This paper examines how chatbot social presence (perceived real-world existence) and trust influence online purchase decisions. The review explores prior research suggesting that higher social presence and trust can lead to more positive evaluations of chatbots and increased purchase intention. It also analyzes factors that contribute to building trust in chatbots, such as transparency, accuracy, and personalized communication.		
6	Cultural Differences in Chatbot Acceptance and Purchase Intention	van der Meijden ,M., & Leenheer,J.	2016
	This study investigates how cultural factors influence consumer acceptance and purchase intention towards chatbots. The review highlights research suggesting that individualistic cultures tend to be more accepting of chatbots due to their convenience and efficiency, while collectivistic cultures may place greater emphasis on human interaction and social relationships.		
7	The Social Influence of Chatbots: Leveraging Social Proof and Recommendation Algorithms for Purchase Behavior	Park, N., Jung, J., & Kim, J.	2020
	This paper explores how chatbots can leverage social proof and recommendation algorithms to influence purchase behavior. The review presents prior research suggesting that chatbots can use social proof techniques like displaying customer reviews and recommendations to influence product evaluations and purchase decisions. It also examines the effectiveness of personalized recommendations through chatbot interactions.		
8	Ethical Considerations in Chatbot Marketing: Balancing Persuasion and Consumer Trust	Novak, T.P., & Britz, J. J.	2019

	This study analyzes the ethical considerations in chatbot marketing, focusing on the balance between persuasion and consumer trust. The review highlights prior research on ethical concerns regarding deception, manipulation, and data privacy in chatbot interactions. It suggests best practices for using chatbots ethically and building trust with consumers.		
9	The Role of Chatbots in Online Customer Journeys: Enhancing Shopping Experiences and Purchase Intention	Verhoef e tal.	2017
	This study builds upon prior research on online customer journeys and examines how chatbots can be integrated to enhance the shopping experience and potentially influence purchase intention. Existing literature on customer journey mapping and touchpoints is reviewed, along with studies exploring the perceived benefits of convenience, personalization, and real-time support offered by chatbots. The review highlights a gap in understanding how chatbots interact with existing touchpoints and influence emotional states throughout the journey, ultimately impacting purchase intention.		
10	Impact of Chatbots on Brand Image and Purchase Intention in theFashion Industry	Lim et al.	2018
	This study specifically focuses on the fashion industry and investigates the impact of chatbots on brand image and purchase intention within this context. Existing literature onbrand image formation and online consumer behavior is reviewed, followed by studies exploring the use of technology and marketing strategies in the fashion industry. The review identifies a lack of research on chatbot application in this specific context and seeks to understand how their perceived helpfulness, expertise, and personalization can influence brand image and ultimately purchase intention within the fashion sector.		
11	Trust me, I'm a bot – repercussions of chatbot disclosure in differentservice frontline settings	Mozafari,N.	2022
	The purpose of the literature review is to investigate the implications of revealingor keeping secret chatbot identity in the context of cutting-edge technologies that can pass for real people. It attempts to understand the effects of transparency on user assessment,the development of trust, and overall experience. The result implies that, even in cases where performance is comparable, unfavorable responses to disclosed chatbots are moreoften indicated by empirical research than by secret ones. Users could give the chatbot More unfavorable reviews and think it's less convincing, socially conscious, and human.		
12	"Can Chatbots Be Persuasive? How to Boost the Effectiveness ofChatbot Recommendations for Increasing Purchase Intention."	Schwede, Melanie	2022

The goal of the study was to determine how chatbot communication style and suggestion message design affected the intention to buy. According to the study, a two-sided recommendation message increased purchase intention, especially when combined with a kind or persuasive communication style. Furthermore, the study assessed the persuasiveness of the chatbot and recommendation message, concluding that the chatbot's communication style and the recommendation message's design had an impact

on these variables.

13	Anthropomorphism and Social Presence in Human-Computer Interactions	Toader,D.C.	2019

The study's goal was to investigate the ways in which chatbot mistakes and anthropomorphic design signals affect consumer responses, social presence, and trust. The results of the study show that during interactions with chatbots, these characteristics are significantly impacted by both chatbot faults and anthropomorphic design signals. The study underscores the significance of taking into account design components and error

handling to improve consumer responses, social presence, and trust in chatbot interactions.

14	The Impact of Anthropomorphism and Uncanny Valley Effects on User Evaluation of Chatbots in E-Commerce	S. W. Song and M. Shin	2022

This study investigates how consumers assess e-commerce chatbots in light of anthropomorphism and uncanny valley phenomena. The goal of the research is to ascertain whether hyper realistic animated chatbots influence users' intents to buy, repurpose, and feel uneasy. This study investigates the potential moderating impact of chatbot familiarity on activation of the uncanny valley effect. The study's conclusions are meant to provide relevant information about how customers perceive and respond to anthropomorphized chatbots in e- commerce, with the goal of optimizing user experience and fostering confidence in human-

computer interactions.

15	Effectiveness of Chatbot Advertising on Consumer Buying Decision: An Analytical Study	Bassant Eyada, Nashwa Ahmed	2022

This study examines on the effectiveness of chatbot advertising in influencing consumer decisions to buy, with a focus on engagement, design, and functionality. Using qualitative and analytical methods like grounded theory and the Technology Acceptance Model, the study looks into the relationships between attitudes and actions in the Sephora and Mastercard audience. The study's objective is to clarify the role chatbots play in brand advertising strategies and show how they can boost customer choice and foster brand loyalty.

The findings have significant implications for companies and marketers as they advance

Our understanding of how consumers and chatbots interact in the context of advertising.

16	The Effect of AI Chatbot Service Experience and Relationship Quality on Continuous Use Intention and Recommendation Intention	Choi, Sang Mook	2023
	This study investigates how users' experiences with AI chatbots influence relationship quality and behavioral intention. Analyzing 299 valid survey responses, it confirms that cognitive, emotional, and relational experiences shape satisfaction and trust. Both satisfaction and trust positively impact users' intentions to continue using and recommending AI chatbot services. The research underscores relationship quality as a crucial mediator for long-term consumer engagement online. Notably, satisfaction has a more significant effect on behavioral intentions than trust. Overall, the study illuminates the pivotal role of user experiences and relationship dynamics in shaping perceptions and behaviors towards AI chatbot services.		
17	The impact of language style accommodation during social media interactions on brand trust	Ana Jakic, Maximilian Oskar Wagner, Anton Meyer	2017
	The literature review synthesizes research on language style accommodation in brand- customer interactions on social media. Grounded in communication accommodation theory, it highlights the importance of verbal cues, particularly language style, for fostering brand trust. Brands adjusting their language style to match customers enhance perceived relationship investments, including interaction effort, benevolence, and quality. The review also considers situational factors such as purchase decision involvement and content valence. By applying interpersonal communication theories to brand-customer interactions in social media, the study provides insights into the effects of language style accommodation on brand trust and identifies further mediating mechanisms.		
18	Designing Trustworthy Chatbots: Understanding User Perceptions and Expectations	De Angeli et al.	2016
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19	Theoretical Importance of Contingency in Human-Computer Interaction: Effects of Message Interactivity on User Engagement	S. Shyam Sundar, Saraswathi Bellur, and Hyang-	2014

		Sook Kim	
	The literature review highlights the significance of contingency in message interactivity across communication platforms, emphasizing its role in creating interdependent messagethreads. While readily achieved in face-to-face and computer-mediated communication (CMC), integrating contingency into human-computer interaction (HCI) poses challenges. Two interface features—interaction history and synchronous chat—are proposed to enhance perceptions of contingency and user engagement. Through a five- condition experiment on a movie search site with 110 participants, interaction history is found to heighten perceptions of contingency and dialogue. However, synchronous chat does not significantly increase perceived contingency or user engagement, impacting attitudes toward the site. The review discusses theoretical and practical implications for interactivity research and interaction design.		
20	Evaluating Quality of Chatbots and Intelligent Conversational Agents	Nicole M. Radziwill, Morgan C. Benton	2017
	The literature review examines the historical evolution and contemporary challenges of chatbot development and implementation. Originating in the 1960s, chatbots have influenced gaming interfaces since the 1980s and have become more accessible due to open-source code and Software as a Service (SaaS) platforms. While they enhance customer experiences and facilitate learning, they also pose risks, including spreading misinformation and attacking online users. The review explores quality issues andattributes pertinent to chatbots, emphasizing the need for effective quality assessment methods. It concludes by proposing and evaluating a quality assessment approach based on identified attributes and the Analytic Hierarchy Process (AHP).		
21	Typefaces and the Perception of Humanness in Natural Language Chatbots	PictureHeloisa Candello,PictureClau dio Pinhanez, PictureFlavio Figueiredo	2017
	The literature review explores the impact of visual aspects, specifically typefaces, on users' perceptions of conversing with a human or machine in mobile-chat environments.Drawing from Turing test-inspired methodologies, it examines how different typefaces influence users' classifications of adviser conversations as human or chatbot-like. The study encompasses two experiments, each presenting participants with various typefacesand dialogues between a human and a financial adviser. Results indicate that machine-		

	like typefaces tend to bias users towards perceiving the adviser as a machine, but handwritten-like typefaces do not consistently produce the opposite effect. User familiarity with artificial intelligence and other participant characteristics also influence these effects.		
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23	Emergence of Automated Social Presence in Organizational Frontlines and Customers' Service Experiences	Jenny van Doorn, Martin Mende, and J. Andrew Petersen	2016
	The literature review examines the evolving landscape of service provision due to rapid technological advancements, foreseeing a marketplace in 2025 where humanoid robots integrate into various service experiences. It introduces the concept of automated social presence (ASP) and develops a typology illustrating different combinations of automatedand human social presence in organizational frontlines. Identifying gaps in existingliterature, the review emphasizes avenues for future research. Additionally, it presents a conceptual framework exploring the relationship between ASP and key service andcustomer outcomes, mediated by social cognition and perceptions of psychological ownership. Customer-related factors, including relationship orientation, anthropomorphism tendency, and technology readiness, are proposed as moderators.		

24	Effects of Internet Display Advertising in the Purchase Funnel:Model-Based Insights from a Randomized Field Experiment	Paul R. Hoban phoban and Randolph E. Bucklin	2015
	The literature review delves into the efficacy of Internet display advertising, utilizing cookie-level data from a field experiment conducted at a financial tools provider. By randomizing cookie assignment to treatment and control conditions, the study addresses selection biases arising from targeting algorithms and browsing behavior. It examines theimpact of display ads on website visitation across various stages of the purchase funnel, revealing positive effects for most stages except for non-account creating site visitors. Employing a binary logit model, the authors analyze marginal effects and elasticities, highlighting the potential value of reallocating display ad impressions. They also contrast findings with those derived from standard correlational approaches.		
25	I'm Sorry, Dave, I'm Afraid I Can't Do That: Chatbot Perception and Expectations	PictureJennifer Zamora	2017
	The literature underscores the rising popularity of chatbots on mobile platforms, yet theirprecise purpose and value remain unclear. To design meaningful chatbot experiences, understanding user expectations and needs is crucial. While prior studies emphasize user perceptions and input modalities, there's a need to identify domains where chatbots can offer substantial value. This qualitative study, involving 54 participants from the US andIndia, aims to fill these gaps. It seeks to uncover user perceptions, preferences for input methods, and potential areas where chatbots can provide meaningful utility. By addressing these objectives, the research contributes insights vital for designing chatbots that meet user expectations and deliver valuable experiences.		
26	Can we Improve the User Experience of Chatbots with Personalization?	Dani¨elle Duijst	2017
	The literature review examines user experience factors in chatbots, conversational interfaces operated through conversation, including text input. It delves into the added value of personalization in enhancing user experience. Various frameworks and evaluation methods are discussed. The study employs a two-by-two factorial design, comparing personalized and unpersonalized chatbots across simple and complex financial tasks. Results indicate no significant interaction effect between personalization and task complexity on user experience, though task complexity influences user satisfaction. Thisresearch contributes to understanding the role of personalization in chatbot design and underscores the impact of task complexity on user satisfaction.		

27	Factors Influencing the Acceptance of Self-Service Technologies: AMeta-Analysis	Markus Blut, Cheng Wang	2017
	The literature review examines factors influencing customer acceptance of self-service technologies (SSTs), which are increasingly implemented for efficient service delivery. A meta-analysis consolidates findings from 96 empirical articles, revealing insights: (1) SSTusage is influenced by multiple predictors; (2) ease of use and usefulness are key mediators; (3) determinants of usefulness impact ease of use, and vice versa, revealing crossover effects; and (4) SST acceptance is moderated by SST type and country culture. The meta-analysis offers managerial guidance for SST implementation and suggests avenues for further research to enhance understanding of SST acceptance.		
28	Data Privacy: Effects on Customer and Firm Performance	Kelly D. Martin, Abhishek Borah	2017
	The literature review investigates the implications of firms' use of customer data, highlighting potential negative effects and the lack of understanding in preventing them. Grounded in gossip theory, a conceptual framework links customer vulnerability tonegative performance outcomes. Three studies emphasize the role of transparency and control in mitigating these effects. Experimental manipulations reveal increased feelings of violation and decreased trust with mere access to personal data. Event and field studiescorroborate negative effects of data breaches on firm performance and customer outcomes,mediated by feelings of violation and trust. These findings contribute insights into the impact of data management practices on customer trust and firm performance.		
29	Mobile conversational commerce: messenger chatbots as the next interface between businesses and consumers	Eeuwen, M. van	2017
	The literature review explores the emerging trend of businesses adopting mobile messenger chatbots for customer communication and commerce. With limited existing research in this area, the study aims to investigate Dutch Millennials' intention to use these chatbots. Drawing on the Technology Acceptance Model (TAM) and Innovation Diffusion Theory (IDT), a research model is proposed and tested through an online surveyof 195 participants. Results indicate support for all proposed hypotheses, though there isambiguity regarding Millennials' intention to adopt chatbots for commerce. While over half of respondents exhibit a positive initial impression, the study acknowledges limitations and highlights the importance of factors like compatibility, lifestyle, privacy concerns, and resistance to mobile advertising in successful chatbot implementation.		

30	The Usability Analysis of Chatbot Technologies for Internal Personnel Communications	Julia Saenz, Walker Burgess, Elizabeth Gustitis, Andres	2017
		Mena	
	The literature review explores the role of chatbot technologies in enhancing communication processes between customers and service providers. Chatbots, computer programs simulating human conversation, offer diverse applications from weather reports to ordering services. This paper investigates chatbot implementation for streamlining internal communication between field technicians and engineers. Employing a human factor engineering methodology, the study compares different chatbot platforms (IBM, Pandora, Self-development Kit) through usability testing. Results, quantified using the System Usability Scale (SUS), indicate a preference for IBM's Watson among most participants. The study contributes insights into the effectiveness of chatbot technologies in improving organizational communication processes.		
31	The Impact of AI Chatbot Disclosure on Customer Purchases.	Luo, X.	2019
	This study aims to determine the real impact of AI chatbot disclosure on customer purchases, particularly during outbound sales conversations. The study looks into customer reactions and the challenges that come up when caring and intelligent chatbots are employed to mimic human conversations. Through actual field experimentation, the results demonstrate the adverse consequences of AI chatbot disclosure on consumer purchases, adding to the body of literature. Even though chatbots can mimic human touch, the study demonstrates that they elicit unfavorable responses when used in outbound sales conversations. It contributes by addressing quantitative metrics related to consumer purchases and by identifying behavioral mechanisms through voice-mining analytics and deep learning techniques.		
32	Implementation of Chatbot in Online Commerce, and Open Innovation	Novak, T.P., & Hoffman, D. L.	2016

	This research investigates the impact of implementing a chatbot on customer relationships and lead generation in the realm of online commerce. It addresses a gap inexisting studies by exploring potential customers' reactions and their willingness to provide contact information through chatbots. The study aims to advocate for chatbot adoption in companies to enhance customer interactions and capture leads, particularly via social networks. The anticipated outcome seeks to demonstrate the effectiveness of achatbot, specifically implemented through Facebook Messenger on the Many Chat platform, in surpassing traditional strategies based on forms and increasing lead generation.		
33	The role of perceived social presence in onlineshopping	Schurink ,Elise	2019
	This study aims to close a significant information gap about the ways in which users' impressions are influenced by the appearances of several chatbots—human, animated, andcompany logo. The study poses research questions that focus on the impact of chatbot appearance on social presence, satisfaction, and purchase intention, considering variablessuch as task complexity and responder age. With a focus on the significance of aesthetically pleasing chatbots in technology-driven interactions, the research attempts toprovide insights into designing effective and attractive chatbot interfaces. Through examining these variables, the research seeks to offer valuable insights for enhancing organizational strategies and user experience while implementing chatbots.		
34	When do AI chatbots lead to higher customer satisfaction than human frontline employees in online shopping assistance?	Ruan, Yanya, andJózsef Mezei.	2022
	This section examines how customer service is changing in the AI era and highlights therole that HFLEs and AI chatbots play in helping customers with online purchases. We discuss the ways in which customer service is evolving and how this may impact customer satisfaction. It iscritical to comprehend how using AI chatbots in conjunction with HFLEs affects wait times, positive feelings, and the perceived quality of information. It's crucial to consider the elements that are offered, whether they are sensory or functional. These factors eventually have an impact on client satisfaction, shedding light on how technology has changed the customer service sector.		
35	Factors That Affect User Satisfaction of Using E-CommerceChatbot: AStudy on Generation Z	Tan, PeiKian, andChar Min Lim.	2023

	This study aims for the purpose of maintaining positive customer relations, it is important to shift from live chat to chatbots in the context of electronic commerce (e- commerce). The relevance of electronic commerce in the internet-driven business sectoris highlighted by examining its definitions and characteristics. Information systems acceptance and success are contingent upon the introduction and emphasis of critical criteria, including but not limited to user happiness, system quality, information quality,and service quality. Chatbots have emerged as a result of the limitations of live chat as a communication tool in e-commerce.		
36	Understanding the attitude and intention to use smartphone chatbots forshopping	DL Kasilingam	2020
	The study aimed to comprehend consumer attitudes and intentions towards utilizing smartphone chatbots for shopping. Employing a dedicated Facebook e-commerce chatbot, 350 participants completed post-interaction questionnaires. Analysis through partial least squares structural equation modeling of these 350 responses revealed significant influences on attitudes toward chatbots. Notably, variables such as perceived usefulness, ease of use, enjoyment, price consciousness, perceived risk, and personal innovativeness substantially impacted attitudes. This research highlights the pivotal factors affecting		
	consumers' perspectives and willingness to engage with chatbots for shopping, emphasizing key elements pivotal for their adoption and acceptance.		
37	Chatbots in retailers' customer communication: How to measure their acceptance?	Alexandra Rese, Lena Ganster, Daniel Baie	2020
	This study assessed consumers' inclination to use smartphone chatbots for shopping using the Technology Acceptance Model (TAM) and Diffusion of Innovations Theory. Itcontrasted TAMwith the lesser-known Uses and Gratifications (U&G) theory, applyingboth to gauge acceptance of the "Emma" text-based chatbot among its target audience. Findings revealed that utilitarian factors like "authentic conversation" and "perceived usefulness," alongside hedonic factors such as "perceived enjoyment," positively influenced "Emma's" acceptance. Integrating these theories provided insights into the factors influencing consumer acceptance of chatbots in shopping scenarios, emphasizing both practical and pleasurable aspects driving their adoption.		

38	Chatbot advertising effectiveness: When does the message get through?	E Van den Broeck, B Zarouali, KPoels	2019
	The article investigated how the perceived helpfulness and usefulness of a Facebook Messenger chatbot influenced the intrusiveness of subsequent chatbot-initiated advertising. 245 users (aged 18-35) utilized Cinebot, a specially designed chatbot, to order movie tickets on Facebook Messenger. Subsequently, they evaluated their experiences through an online survey. The study explored message acceptance as a mediator and perceived message relevance as a moderator in this context. By assessing these factors, the research aimed to understand the dynamics between chatbot interactions and users' perceptions of subsequent advertising intrusiveness in the online environment.		
39	I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents	Muhammad Ashfaq et al.	2020
	The study explores factors influencing users' satisfaction and continuance intention with chatbot-based customer service. Integrating several models including ECM, ISS, TAM, and NFI-SE, it analyzed data from 370 chatbot users. Findings revealed that information quality (IQ) and service quality (SQ) positively impact satisfaction, while perceived enjoyment (PE), usefulness (PU), and ease of use (PEOU) predict continuance intention (CI). To improve user satisfaction, chatbots should enhance information and service quality. Additionally, the study suggests combining digital technologies like chatbots with human service employees to better meet the needs of digital users, emphasizing the potential synergy between technology and human support in service delivery.		
40	Chatbot e-service and customer satisfaction regarding luxury brands	Minjee Chung a ,Eunju Ko a, Heerim Joung a,	2020
	This study examines luxury fashion brands' ability to maintain personalized care via e-services, specifically through Chatbots. Using customer data, a five-dimension model evaluates Chatbot's impact on customer perceptions of interaction, entertainment, trendiness, customization, and problem-solving. Results show that Chatbot e-service fosters interactive and engaging brand/customer encounters. This suggests potential for marketers and managers in luxury contexts to use this tool for assessing e-service agent performance, ensuring desired outcomes, and considering the adoption of Chatbot virtual assistance for enhanced customer experiences in the luxury fashion retail sector.		

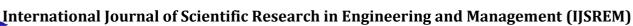| 41	Engagement with chatbots versus augmented reality interactivetechnology in e-commerce	E Moriuchi,VM Landers, DColton	2020
	As competition heightens in retail, organizations seek differentiation through artificial intelligence. E-commerce ventures integrate chatbots and augmented reality for customerservice, yet consumer responses to these technologies in retail remain unclear. This studypresents a theory-based research model to understand motivational mechanisms driving engagement and decision-making in this context. Empirical testing, via a field study, validated the proposed model. It unveils insights into consumers' attitudes and engagement with emerging technologies in retail, offering a framework to enhanceengagement and effective decision- making processes in this evolving landscape where AI-driven solutions like chatbots and augmented reality play pivotal roles.		
42	How Do AI-driven Chatbots Impact User Experience? Examining Gratifications, Perceived Privacy Risk, Satisfaction, Loyalty, and Continued Use	Y Cheng, H Jiang	2020
	This study explored the impact of AI-driven chatbots on user experience by surveying 1,064 consumers engaging with the top 30 U.S. brands' chatbot services. Findings revealedthat utilitarian, hedonic, technology, and social gratifications derived from chatbot use positively influenced users' satisfaction with their chosen brand's chatbot services. Conversely, perceived privacy risk decreased user satisfaction. Moreover, user satisfactionsignificantly correlated with continued use intention of chatbot services and customer loyalty. The study's implications underscore the importance of understanding various gratifications and privacy concerns in shaping user satisfaction, loyalty, and continued useintention when integrating AI-driven chatbots within brand services.		
43	Enhancing chatbot effectiveness: The role of anthropomorphic conversational styles and time orientation	Rajat Roy a, Vik Naidoo b	2021
	This research delves into chatbot interactions in retail, highlighting consumer preferencesfor human engagement despite increasing chatbot use. The study focuses on consumers' time orientation and conducts pre-tests, laboratory experiments, and live chatbot interactions (totaling N = 626). Results reveal that present-oriented individuals favor warm(empathetic) over competent (efficient) chatbot conversations, positively influencingproduct decisions. These findings contribute insights into chatbot anthropomorphism, demonstrating that time orientation shapes consumer preferences in chatbot interactions. The study's implications offer valuable guidance for managerial decisions in retail settings,emphasizing the importance of understanding consumer behavior and tailoring chatbot interactions accordingly.		

44	Artificial intelligence and the new forms of interaction: Who has the control when interacting with a chatbot?	G Pizzi, D Scarpi, E Pantano	2021
	This research investigates consumer reactions based on assistant appearance (human-like vs. not human-like) and activation (automatic vs. human-initiated). Involving 400 participants across two studies, a sequential mediation model is proposed and validated. Findings show that non-anthropomorphic digital assistants trigger higher psychological reactance, impacting perceived choice difficulty, leading to increased choice certainty, perceived performance, and ultimately, satisfaction. Surprisingly, reactance, initially perceived as negative, contributes to higher satisfaction. Additionally, initiation type (system vs. user) doesn't directly influence these effects but interacts significantly with anthropomorphism. Specifically, individuals exhibit lower reactance when facing human-like digital assistants initiated by users. Overall, highest reactance occurs with non-human-like, computer-initiated digital assistants.		
45	Customer–brand relationship in the era of artificial intelligence: understanding the role of chatbot marketing efforts	Y Cheng, HJiang	2022
	This study delves into AI-powered chatbot marketing efforts (CMEs) and their role in fostering brand-customer relationships and online consumer behavioral intentions. Data from 1,072 U.S.customers engaging with CMEs of 30 innovative brands were analyzed using structural equation modeling. Results highlight components like interaction, information, accessibility, entertainment, and customization as crucial in CMEs. CMEs directly impact communication quality with chatbot agents, subsequently influencing customer-brand relationships (CBR) and customer response. Moreover, the study reveals that CBR mediates the link between communication quality and customer response, emphasizing the significance of CMEs in shaping brand-customer interactions and subsequent consumer behavior online.		
46	Understanding the attitude and intention to use smartphone chatbots for shopping	DL Kasilingam	2020
	The study aimed to comprehend consumer attitudes and intentions towards utilizing smartphone chatbots for shopping. Employing a dedicated Facebook e-commerce chatbot, 350 participants completed post-interaction questionnaires. Analysis through partial least squares structural equation modelling of these 350 responses revealed significant influences on attitudes toward chatbots. Notably, variables such as perceived usefulness, ease of use, enjoyment, price consciousness, perceived risk, and personal innovativeness substantially impacted attitudes. This research highlights the pivotal factors affecting consumers' perspectives and willingness to engage with chatbots for shopping, emphasizing key elements pivotal for their adoption and acceptance.		

47	Chatbots in retailers' customer communication: How to measuretheir acceptance?	Alexandra Rese, Lena Ganster, Daniel Baie	2020
	This study assessed consumers' inclination to use smartphone chatbots for shopping using the Technology Acceptance Model (TAM) and Diffusion of Innovations Theory. Itcontrasted TAM with the lesser-known Uses and Gratifications (U&G) theory, applying both to gauge acceptance of the "Emma" text-based chatbot among its target audience. Findings revealed that utilitarian factors like "authentic conversation" and "perceived usefulness," alongside hedonic factors such as "perceived enjoyment," positively influenced "Emma's" acceptance. Integrating these theories provided insights into the factors influencing consumer acceptance of chatbots in shopping scenarios, emphasizing both practical and pleasurable aspects driving their adoption.		
48	Chatbot advertising effectiveness: When does the message getthrough?	E Van den Broeck, B Zarouali, K Poels	2019
	The article investigated how the perceived helpfulness and usefulness of a Facebook Messenger chatbot influenced the intrusiveness of subsequent chatbot-initiated advertising. 245 users (aged 18-35) utilized Cinebot, a specially designed chatbot, to ordermovie tickets on Facebook Messenger. Subsequently, they evaluated their experiences through an online survey. The study explored message acceptance as a mediator and perceived message relevance as a moderator in this context. By assessing these factors, the research aimed to understand the dynamics between chatbot interactions and users' perceptions of subsequent advertising intrusiveness in the online environment.		
49	I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents	Muhammad Ashfaq a, Jiang Yun a, Shubin Yu b, Sandra Maria Correia Loureiro c	2020

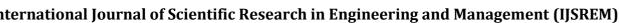|			
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subsequent consumer behaviour online.

2.2.   Critical Analysis of Literature Reviews

The reviewed studies collectively shed light on various aspects of chatbot usage in online service delivery, consumer decision-making, trust building, cultural considerations, persuasivetechniques, and ethical implications. Findings indicate a mixed impact on customer satisfaction and purchase intention, with positive effects attributed to efficiency and convenience but tempered by concerns about trust and personal interaction. The role of anthropomorphism, interactivity, social presence, and cultural factors emerges as significant influencers of consumer trust and behavior. Studies emphasize the importance of transparency, accuracy, anduser control in establishing trust with chatbots. Furthermore, the literature underscores the persuasive potential of chatbots through techniques like social proof and recommendation algorithms, while acknowledging ethical considerations in marketing. The studies also delve into specific industry contexts such as fashion, brand advertising, and luxury retail, revealing insights into the nuanced effects of chatbots on brand image and purchase intention. Additionally, the studies explore the impact of disclosure on user assessment, trust, and overall experience, highlighting the challenges and preferences associated with revealing chatbot identities. The effectiveness of chatbot communication style, suggestion message design, and the influence of AI disclosure on outbound sales conversations are also examined, providing practical insights for businesses. The research collectively contributes to understanding user perceptions, preferences, and the complex dynamics involved in chatbot interactions acrossdiverse contexts, paving the way for future research directions and practical applications.

2.3.   Research Gap

1)   We need to uncover the specific situations where chatbots truly help customers and the root cause of distrust in some users. This will guide us in developing more personalized and trustworthy chatbot experiences that win users over.

2)   While honesty and accuracy are crucial, we need to go further. We need to identify specificdesign elements that build user trust, even when chatbots are transparent and accurate. Thiscould include aspects like personality, humor, error handling, and visual cues that create asense of reliability and comfort for users.

3)   People from different places have different feelings about chatbots. Some people think they're cool and helpful, while others aren't sure about them or even find them a bit strange. This means we need to design chatbots that work well for everyone, no matter where they're from.

4)   We're unsure how chatbots fit in with the whole shopping experience – like websites, emails, and people in stores. We also don't know how chatbots make people feel as they shop online. This means figuring out how chatbots work with other things and how they affect people's emotions throughout their shopping journey!

2.4.   Research Question

How do specific design elements of chatbots contribute to perceived trustworthiness, and what is the interplay between chatbot design, transparency, and user expectations in the context of online service delivery and consumer decision-making?

Chapter – 3

3.1.   Nature of study

Descriptive

3.1.1.   Aims to describe the current state of consumer behaviour regarding the influence of chatbots on purchase intention.

3.1.2.   Utilizes quantitative methods such as surveys or experiments to collect data from a sizable sample of participants.

3.1.3.   Example: Conducting an online survey to gauge consumer perceptions of chatbot interactions and their impact on purchase intention across various product categories.

Target Population

3.1.4.   Targeting consumers aged 18-35 from diverse backgrounds, including urban and rural areas, with varying income levels.

3.1.5.   Focusing on individuals who have some level of familiarity with chatbots, either through exposure to media or personal experience with using them in online shopping scenarios.

3.2.   Research Objectives

3.2.1.   To identify the specific design elements of chatbots that significantly contribute to perceived trustworthiness from the user perspective.

3.2.2.   To explore the interplay between chatbot design features, such as transparency and user control, and the establishment of trust in online service delivery.

3.2.3.   To understand user expectations regarding chatbot interactions and how these expectations influence perceived trustworthiness.

3.2.4.   To investigate the impact of chatbot design modifications on user trust and satisfaction in diverse cultural contexts.

3.2.5.   To develop comprehensive guidelines and best practices for enhancing the ethical implementation of chatbots in marketing, considering user trust and preferences.

3.2.6.   To examine the influence of chatbots on emotional states throughout the customer journey and their interaction with existing touchpoints in online service delivery and consumer decision-making.

These objectives aim to address the identified research gaps and contribute to a deeper understanding of the complex dynamics involved in chatbot interactions, with a focus on enhancing trust, transparency, and ethical considerations in diverse settings.

Hypothesis

- Specific Design Elements and Perceived Trustworthiness:

Null Hypothesis (Ho1): There is no significant relationship between specific design elements of chatbots and perceived trustworthiness from the user perspective.

Alternative Hypothesis (Ha1): Certain design elements of chatbots significantly contribute to perceived trustworthiness from the user perspective.

- Interplay between Design Features, Transparency, and User Control:

Null Hypothesis (Ho2): There is no significant relationship between chatbot design features such as transparency and user control, and the establishment of trust in online service delivery.

Alternative (Ho2): Chatbot design features such as transparency and user control positively influence the establishment of trust in online service delivery.

- User Expectations and Perceived Trustworthiness:

Null Hypothesis (Ho3): User expectations regarding chatbot interactions do not significantly influence perceived trustworthiness.

Alternative Hypothesis (Ha3): User expectations regarding chatbot interactions significantly influence perceived trustworthiness.

3.3. Research Methodology

The research methodology for investigating the influence of chatbots on purchase intention involves several key components to ensure the collection of robust and reliable data. Below is an outline of the proposed research methodology.

Research Design

The study will employ a mixed-methods approach, combining both quantitative and qualitative research methods.
Quantitative methods, such as online surveys, will be used to gather numerical data on the frequency of chatbot interactions, perceptions of chatbots' effectiveness, and influence on purchase intention.
Qualitative methods, such as interviews, will provide in-depth insights into participants' experiences and perceptions regarding chatbots and their impact on purchasing decisions.

Sampling

A representative sample of online shoppers who have interacted with chatbots will be chosen. Random sampling methods will be used to ensure the findings' applicability to the wider online shopping population. Sample size will be determined through statistical power analysis to ensure adequate sensitivity in detecting significant relationships between chatbot interactions and customer purchase intention. This approach aims to offer a strong and dependable understanding of how chatbots influence consumer behavior regarding purchase decisions, thus enhancing the credibility and relevance of the study's outcomes.

3.4. Scope of the study

This study aims to investigate how chatbots affect consumers' intentions to make purchases. It is essential for companies to understand how they impact decision-making processes, especially considering their growing usage and technological

advancements. The study will concentrate on analyzing how users engage with chatbots, determining whatinfluences their efficacy, and investigating moderating factors such as product category and user demographics. This study adds empirical data and theoretical frameworks to the body of knowledge in the fields of consumer psychology and digital marketing by offeringinsights into optimizing chatbot functionalities to improve purchasing behavior and

increase revenues.

Data Collection

Covering various aspects by making questionnaire

3.4.1.   **Chatbot interaction experience**: Assess participants past interactions with chatbots in online shopping scenarios, including frequency and satisfaction levels.

3.4.2.   **Attitudes towards chatbot assistance:** Gauge perceptions of chatbots' helpfulness, efficiency, and trustworthiness in assisting with product selection, recommendations, and purchase processes.

3.4.3.   **Purchase intention:** Present hypothetical scenarios where chatbots play a role in facilitating product discovery and purchase decisions across various categories (e.g., clothing, electronics, household items). Measure participants' likelihood to make a purchase after interacting with a chatbot compared to traditional online shopping methods.

3.4.4.   **Demographic:** Gather data on age, location, income, and online shopping habits to analyze potential correlations with attitudes towards chatbots and purchase intention.

This comprehensive survey aims to provide insights into how chatbots influence consumer purchase intention across different product categories and demographic groups.

Sample size:1

In this study, we are applying the Bill Godden sampling formula to determine the appropriatesample size, resulting in a sample size of 373.

The general form of the Godden sampling formula is:

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{E^2}$$

n = sample size

Z = Z-score corresponding to the desired level of confidence (often taken from standardnormal distribution tables, e.g., for 95% confidence level, =1.96)

p = estimated proportion of the population exhibiting the characteristic of interest (usuallybased on historical data or pilot studies)

E = margin of error or acceptable level of error (expressed as a proportion)

Values:

Z=1.96

p=0.5 (maximum variability, hence the most conservativeestimate)
E= 0.051(approximately)

Potential Outcome:

Based on the Bill Godden sampling formula with (n = 373), (Z = 1.96), (E = 0.051), and (p = 0.5),we can state the

potential outcome as follows:

We have determined that a sample size of 373 is required for our inspection process, based on the Bill Godden sampling method. With a confidence level of 95% (corresponding to (Z = 1.96)) and a margin of error of 0.051, we aim to make inferences about the population's

characteristics. By employing this sampling approach, we anticipate obtaining a representative sample that allows us to confidently assess the quality or characteristics of the population with a relatively small margin of error.

Data Collection

Consumer purchasing intention and its relationship with chatbot interactions can be assessed through various survey methods. Multiple-choice formats or Likert scales can be employed to structure questions, allowing respondents to indicate their level of agreement or preference regarding chatbot assistance in purchase decisions. Additionally, demographic information can be included in the survey to analyze the influence of customer characteristics on purchasing intention. Data collection methods can encompass both in-person interviews and internet platforms, ensuring flexibility and accessibility for participants. These approaches facilitate comprehensive understanding and analysis of the impact of chatbots on purchase intention, contributing valuable insights to the research on this topic.

Tool used for analysis:

Online survey platforms: Google Forms

SPSS (Statistical Package for the Social Sciences

4.   Analysis

Correlations

		V6	V13
V6	Pearson Correlation	1	.040
	Sig. (2-tailed)		.439
	N	373	373
V13	Pearson Correlation	.040	1
	Sig. (2-tailed)	.439	
	N	373	373

- **Variables:** V6 is labelled "I found the e-commerce chatbot necessarily complex" and V13 is labelled "I feel very confident using e-commerce chatbot." These labels suggest the survey is gathering information about people's perception of e-commerce chatbots.

- **Pearson Correlation Coefficient:** The Pearson correlation coefficient is a measure of the linear relationship between two variables. It can range from -1 to 1. A correlation of 1 indicates a perfect positive linear relationship, 0 indicates no linear relationship, and -1 indicates a perfect negative linear relationship. The table shows a correlation coefficient of 0.040 between V6 and V13.

- **Significance (2-tailed):** The p-value (significance) is 0.439. In hypothesis testing, a significance level (alpha) is typically set at 0.05. If the p-value is less than alpha, we reject the null hypothesis (which usually assumes no relationship between the variables) and conclude that there is a statistically significant relationship. A significance level of

0.439 is greater than 0.05, so we fail to reject the null hypothesis. There is not statistically significant evidence to say that there is a correlation between people finding e-commerce chatbots complex and feeling confident using them.

- **Sample Size:** The table shows a sample size of 373 for both V6 and V13.

Overall, the table suggests that there is no statistically significant relationship between people finding e-commerce chatbots complex and feeling confident using them.

Correlations

		V2	V7
V2	Pearson Correlation	1	-.185**
	Sig. (2-tailed)		<.001
	N	373	373
V7	Pearson Correlation	-.185**	1
	Sig. (2-tailed)	<.001	
	N	373	373

**. Correlation is significant at the 0.01 level (2-tailed).

The table shows a correlation analysis between two variables: V2 (age) and V7 (I think I would need assistance to be able to use the chatbot).

- **Pearson Correlation Coefficient:** The correlation coefficient is -0.185. A negative correlation coefficient indicates a negative linear relationship. In this case, a negative correlation means that as age increases, the likelihood of needing assistance with a chatbot decreases.
- **Significance (2-tailed):** The p-value (significance) is less than .001. In hypothesis testing, a significance level (alpha) is typically set at 0.05. If the p-value is less than alpha, we reject the null hypothesis (which usually assumes no relationship between the variables) and conclude that there is a statistically significant relationship. A significance level of less than .001 is much less than 0.05, so we reject the null hypothesis. There is statistically significant evidence to say that there is a correlation between age and needing assistance with a chatbot.
- **Sample Size:** The table shows a sample size of 373 for both V2 and V7.

Overall, the table suggests that there is a weak negative statistically significant correlation between age and needing assistance with a chatbot. This means that younger people in the study were more likely to report needing assistance than older people. It is important to note that correlation does not imply causation, so we cannot say for certain that age causes people to need help with chatbots. There could be other factors at play, such as familiarity with technology or the specific design of the chatbot.

Correlations

Correlations

		V9	V13
V9	Pearson Correlation	1	.145**
	Sig. (2-tailed)		.005
	N	373	373
V13	Pearson Correlation	.145**	1
	Sig. (2-tailed)	.005	
	N	373	373

**. Correlation is significant at the 0.01 level (2-tailed).

A correlation between two variables, V9 ("I think there is too much inconsistency in the chatbot") and V13 ("I need to learn a lot of things before I could get going with the chatbot").Here's what the table indicates:

- **Pearson Correlation Coefficient:** The correlation coefficient is -0.145. A negative correlation coefficient indicates a negative linear relationship. In this case, a negative correlation means that people who find the chatbot inconsistent (V9) are less likely to report needing to learn a lot to use it (V13).
- **Significance (2-tailed):** The p-value (significance) is 0.005. In hypothesis testing, a significance level (alpha) is typically set at 0.05. If the p-value is less than alpha, we reject the null hypothesis (which usually assumes no relationship between the variables)and conclude that there is a statistically significant relationship. A significance level of
0.005 is much less than 0.05, so we reject the null hypothesis. There is statistically significant evidence to say that there is a correlation between perceived inconsistency and needing to learn more about the chatbot.
- **Sample Size:** The table shows a sample size of 373 for both V9 and V13.

5.   Conclusion

The results of the correlation study that was done on a number of e-commerce chatbot-related topics reveal some important information. First, a negligible correlation coefficient of 0.040 and a p-value of 0.439 are shown by the examination between the sense of complexity and confidence in utilizing chatbots (V6 and V13). These results imply that there isn't any statistically significant evidence to support the idea that feeling comfortable utilizing chatbots and their complexity are related. Second, there is a weak negative correlation coefficient of -0.185 and a very significant p-value of less than.001 between age and the requirement for chatbot assistance (V2 and V7). This suggests that there is a statistically significant correlation between age and the need for chatbot assistance, with younger people being more likely to do so. It's important to remember that correlation does not indicate causation, and that these results could be influenced by other factors like familiarity with technology.

In conclusion, the examination of the perception of inconsistency and the need for further knowledge regarding chatbots (V9 and V13) indicates a significant p-value of 0.005 and a negative correlation coefficient of -0.145. This shows that there is a statistically significant correlation between the perception of inconsistent chatbots and the need to know more about them before using them.

In summary, age appears to affect the need for assistance with chatbots, with younger people more likely to request help, even if there is no significant association between finding chatbots complex and feeling confident in using them.

Furthermore, there is a positive correlation between the perception of chatbots as inconsistent and the want to learn more about them. These revelations highlight the complex relationship between user perceptions and e-commerce chatbot functionality, with important design considerations.

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