L-Università ta' Malta
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From Expectations to Satisfaction

A Comparative Study of Customer Interactions with AI Chatbots vs Human Agents in e-Commerce Settings

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Abstract

The purpose of this study is to explore the comparative impact of customer interactions with AI chatbots versus human agents in e-commerce settings, focusing on how expectations shape satisfaction. Using Expectation Confirmation Theory (ECT) as the theoretical framework, the research aims to examine the specific expectations customers hold when engaging with AI chatbots compared to human live-chat agents and how these expectations influence their overall satisfaction with both agents.

Primary research was collected using a qualitative research method by conducting semi-structured interviews with a typical case sample of 27 Generation Z participants, analysed through the Gioia Method to identify recurring themes.

The findings indicate that while AI chatbots offer efficiency and availability, customers still prioritise empathy, adaptability, and problem-solving skills from human agents, particularly in complex or emotionally charged situations. The study contributes to the existing literature by identifying key gaps in chatbot performance and providing actionable recommendations for balancing automation with human interaction in e-commerce customer service. Limitations and suggestions for future research are also discussed.

Keywords: **Artificial Intelligence, Chatbots, Human Agents, e-Commerce, Expectations, Satisfaction**

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List of Acronyms and Abbreviations

AI: Artificial Intelligence
ECT: Expectation-Confirmation Theory
HCI: Human-Computer Interaction
CAGR: Compound Annual Growth Rate
ROI: Return on Investment
EVT: Expectancy Violation Technique
CIT: Critical Incident Technique

1. Introduction

"What if customers do not want your AI chatbot?" This question, posed in a recent Forbes article (Faran 2024), cuts to the core of a growing concern in the digital age: while AI chatbots promise efficiency, not all customers are willing to sacrifice human interaction for it. According to the article, 86% of customers prefer human interaction over chatbots for customer service, with 40% feeling frustrated when chatbots misunderstand their queries, underscoring limitations in current AI capabilities. Although AI in customer service has surged, many customers still value the empathy and adaptability of human agents (Faran 2024).

This contrast raises questions about the future of customer service: while chatbots offer speed and handle routine queries, it is unclear when customers prefer them over human agents, particularly in emotionally charged or intricate situations where the need for understanding and nuance may influence their choice. Chatbots can enhance experiences by efficiently resolving simple issues (Jenneboer, Herrando and Constantinides 2022), yet businesses must find the right balance between automation and human touch as AI continues to develop (Vu, Hoang Lai, Tran et al. 2022).

While prior research has made efforts to examine the utilisation and significance of chatbots in service interactions (Shawar, Atwell 2007, Kumar, Israel, Malik 2018, Ambawat, Wadera 2019, De Keyser, Köcher, Alkire et al. 2019, Go, Sundar 2019, Adam, Wessel, Benlian 2020, Adamopoulou, Moussiades 2020, Gümüs, Çark 2021, Cheng, Zhang, Cohen et al. 2022), there is a limited body of work that explores the elements contributing to customer satisfaction after interacting with chatbots on e-commerce websites. Additionally, it is still unclear whether, and when, customers prefer automated chats over live human agents.

This study bridges the gap by exploring customer satisfaction with AI chatbots versus human agents (AI Chatbots: Epley, Waytz, Cacioppo 2007, Schuetzler, Grimes, Giboney 2020, Seeger, Pfeiffer, Heinzl 2021, Human Agents: Grandey, Goldberg, Pugh 2011, Sutanto, Palme, Tan, et al. 2013, Giebelhausen, Robinson, Sirianni et al. 2014) By examining the roles of both AI-powered chatbots and human live-chat agents through the lens of Expectation Confirmation Theory (ECT), this study brings to light overlooked nuances in customer experiences, offering fresh insights into the differences between the two communication agents. This approach

allows for a deeper understanding of how expectations and satisfaction levels vary depending on the type of interaction.

In this light, this study's objectives are (1) to explore customers' specific expectations when interacting with AI chatbots compared to human live-chat agents on an e-commerce website; and (2) to explore how these specific expectations influence overall customer satisfaction for both agents.

1.1 Research Questions

Research Question 1

What are the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website?

Research Question 2

How do these specific expectations influence overall customer satisfaction when using AI chatbots versus human live-chat agents?

1.2 Dissertation Overview

Chapter 1 – Introduction outlines the research context, purpose, and objectives.

Chapter 2 – Literature Review analyses existing literature to identify research gaps and formulate the research questions.

Chapter 3 – Methodology describes data collection approach, detailing qualitative, semi-structured interviews with typical case sampling.

Chapter 4 – Results presents key findings from the interviews, analysed using the Gioia Method.

Chapter 5 – Discussion interprets the findings, connects them to the research questions, literature and theoretical framework (ECT).

Chapter 6 – Conclusion summarises the study, discusses limitations, and suggests areas for future research.

2. Literature Review

2.1 Introduction

Since Turing's (1950) introduction of human-computer interaction (HCI), the field has grown significantly (Adamopoulou, Moussiades 2020). Chatbots now play a key role in e-commerce, providing 24/7 support, assisting with queries, and enhancing shopping experiences (Nicolescu, Tudorache 2022). Their efficiency and cost-effectiveness make them invaluable for improving customer engagement and satisfaction (Widyastuti, Ferdiana, Nugroho 2023). Understanding which factors customers look for in chatbots is crucial for optimising chatbot performance and ensuring that businesses can meet the diverse needs of their customers.

This chapter critically evaluates literature on customer expectations and satisfaction in interactions with AI chatbots versus human agents. It begins with chatbot definitions and their adoption in e-commerce, then explores customer expectations and satisfaction, using Oliver's (2015) ECT as a theoretical framework. However, it is noteworthy that current literature falls short of providing comprehensive insights into the expectations customers have before interacting with a chatbot (Castillo, Farrugia 2024). Instead, studies often discuss interaction attributes as a replacement for expectations. This literature review addresses this gap by examining these attributes, providing a deeper understanding of factors influencing customer experiences and satisfaction in AI versus human interactions on e-commerce platforms.

2.2 Chatbots: Key Characteristics and Scope

It is important to first establish a clear understanding of the meaning of chatbots.

Within the field of HCIs, the term "chatbot" acts as a broad umbrella term, encompassing various analogous concepts like conversational agents, intelligent agents, virtual agents, and virtual assistants (Io, Lee 2017). Though often used interchangeably in literature, chatbots are uniquely characterised by aspects such as representation, embodiment, purpose, and intelligence level (Wirtz, Patterson, Kunz et al. 2018).

2.2.1 Representation and Embodiment

Service robots interact physically with the world, possessing tangible bodies that allow real-world actions, such as delivering items (e.g., Starship™) or guiding customers (e.g., Pepper™) (De Keyser, Köcher, Alkire et al. 2019). In contrast, chatbots are disembodied digital entities, their actions limited to text or voice communication on digital platforms (e.g., Alexa™) (Wirtz, Patterson, Kunz et al. 2018).

2.2.2 Purpose

General-purpose chatbots, such as ChatGPT, are designed for open-ended conversations across various topics, aiming to mimic human-like interaction. In contrast, domain-specific chatbots focus on specialised tasks; for example, a bank's chatbot assists with account balances or password resets (Gnewuch, Morana, Adam et al. 2018).

2.2.3 Level of Intelligence

Perceived intelligence in AI depends on its agency, authority, and autonomy (Gnewuch, Morana, Adam et al. 2018). Agency reflects a chatbot's ability to engage dynamically in conversations, while authority is its capacity to make decisions within its scope (Følstad, Skjuve 2019). Autonomy measures how independently it operates. In customer service, chatbots often rely on user input, which may reduce perceived autonomy compared to AI that directly controls its environment (De Keyser, Köcher, Alkire et al. 2019).

Within this thesis, the term “chatbot” is used to refer to disembodied computer programs that make use of text-based dialogue systems to replicate human speech via a text-based interface, to provide customer support with regards to inquiries and/or issues (Zumstein, Hundertmark 2017).

2.3 Chatbot Adoption in e-Commerce

The chatbot market has experienced significant growth in recent years, with an anticipated compound annual growth rate (CAGR) of over 34% from 2021 to 2026 and a projected market size of $102 billion by 2026 (Ramadass 2022).

IBM reports that AI-powered chatbots like Watson Assistant have significantly improved customer engagement and operational efficiency, achieving a 370% ROI and generating $23 million in benefits over three years (Brodsky 2024). While these figures highlight financial gains, they do not fully address the qualitative aspects of customer experience, raising questions about whether economic benefits might compromise customer satisfaction, especially in scenarios where personal engagement and empathy are vital.

In the context of e-commerce, chatbots are positioned as pivotal tools for providing customers with round-the-clock assistance by responding to their queries, educating them about the company's goods and services, and facilitating transactions (Ambawat, Wadera 2019).

The integration of AI into e-commerce, explored by Kumar, Rajan, Venkatesan et al. (2019), opens new avenues for value creation. In the context of e-commerce, AI chatbots enable seamless interactions and conversations. Customers input queries, and chatbots employ various parameters to comprehend human intentions and respond accordingly. This stands in contrast to traditional customer service, with in-person interactions being common, and online services handling non-face-to-face interactions (Gümüş, Çark 2021).

The integration of technology into the customer service experience is increasingly prevalent, with major fashion brands like Prada, Burberry, and Gucci employing customer service chatbots (Chung, Ko, Joung et al. 2018). Notably, both online and offline service customers have acknowledged the advantages of online service, such as efficiency, accessibility, timesaving, and cost-effectiveness (Escobar 2016). However, research findings, such as Hill,

Randolph Ford, Farreras' (2015) experiment, challenge this perspective by revealing that chatbot interactions feature longer conversations with numerous, albeit shorter, messages that contain less richness compared to user-to-user interactions (Følstad, Brandtzaeg 2020, Hill, Randolph Ford, Farreras 2015). Similarly, Mou and Xu (2017) highlight that customers exhibit more open, agreeable, extroverted, conscientious, and self-disclosing behaviours when engaging with human live-chat agents, suggesting that AI chatbots, despite their efficiency, may lack the depth found in human interactions.

The shift from human live-chat agents to AI chatbots is largely driven by the need for cost efficiency and scalability in businesses. Morsi (2023) emphasises that AI-powered chatbots have become indispensable in the e-commerce sector, providing uninterrupted service and overcoming human limitations such as fatigue and coordination issues. Their consistent, immediate responses reduce operational costs, positioning chatbots as a viable alternative to human agents. Advances in natural language processing are expected to further drive chatbot adoption, reshaping customer service by balancing efficiency with customer experience (Pizzi, Scarpi, Pantano 2021).

2.4 Customer Expectations: AI Chatbot vs Human Live-Chat

The integration of AI chatbots in e-commerce has reshaped customer service, enhancing efficiency and offering continuous availability. However, it has also evolved customer expectations (Misischia, Poecze, Strauss 2022). Understanding these expectations is essential for designing customer service solutions that genuinely meet customer needs (Zamora 2017). The critical question here is whether these technological advancements are truly aligned with customer needs or if they are merely offering a more efficient, but less satisfying, interaction experience.

Customer expectations in service interactions are pivotal for satisfaction and loyalty. Ziethaml, Berry, and Parasuraman (1993) define these expectations as pre-trial beliefs about a product or service, serving as benchmarks for performance evaluation.

Although widely available, chatbots often fail to meet customer expectations due to limited comprehension of human input. For example, Facebook's Project M, a text-based virtual assistant, reportedly failed in over 70% of interactions, requiring the intervention of a human service representative (Sheehan, Jin, Gottlieb 2020).

Adam, Wessel and Benlian (2020) suggest that anthropomorphic design elements in chatbots, such as using first-person pronouns and engaging in small talk, can enhance the customer's perception of social presence and increase compliance with requests. This indicates that making chatbots more human-like can improve customer interaction. However, despite these efforts, chatbots still frequently fail to meet expectations when it comes to understanding and appropriately responding to complex or nuanced customer queries (Adam, Wessel, Benlian 2020). Customers expect a degree of empathy from chatbots, similar to what they would expect from human agents (Munusamy, Chelliah, Mun 2010, Adam, Wessel, Benlian 2020, Adamopoulou, Moussiades 2020, Jenneboer, Herrando, Constantinides 2022). The lack of sympathy and personalisation in chatbot interactions often leads to customer dissatisfaction. When chatbots fail to address these emotional needs, customers frequently feel a heightened need for human intervention, seeking the empathy and personalised service that only a live agent can provide (Castillo, Canhoto, Said 2020).

Contrastingly, Crolic, Thomaz, Hadi et al. (2022) delve into the specific context of customer anger and how it affects interactions with chatbots. They find that anthropomorphism (the attribution of human characteristics, emotions, or behaviours to non-human entities, such as animals, objects, or AI technologies (Epley, Waytz, Cacioppo 2007)) can backfire in situations where customers are angry, leading to inflated pre-interaction expectations and consequently greater dissatisfaction when these expectations are unmet, which may subsequently lead to a negative effect on purchase intentions. Castillo, Canhoto, and Said (2020) support this, noting that cognitive issues, such as misunderstandings or irrelevant responses, increase frustration and anger, especially when chatbots repeatedly fail to grasp queries or provide incorrect information.

Pizzi, Scarpi and Pantano (2021) echo the sentiment that AI chatbots, while efficient and cost-effective, struggle with complex and context-dependent interactions. They note that customers hold higher expectations for human agents in terms of problem-solving and empathetic communication. This finding supports the observations made by Nowak and Rauh (2008) and

Culley and Madhavan (2013) who found that anthropomorphic gestures are also subject to cultural variations that hinder their universality and affect customers' expectations.

Although some literature addresses customer expectations in interactions with AI chatbots versus human agents, no study to date has specifically outlined these expectations within e-commerce settings. Existing research covers broad themes like efficiency, response accuracy, and emotional intelligence but does not detail the distinct expectations for AI versus human interactions in e-commerce (Nowak, Rauh 2008, Culley and Madhavan 2013, Adam, Wessel, Benlian 2020, Castillo, Canhoto, Said 2020, Crolic, Thomaz, Hadi et al. 2022, Pizzi, Scarpi, Pantano 2021, Cheng, Zhang, Cohen et al. 2022). This gap leaves a critical need to understand how specific attributes of AI and human interactions align with customer expectations.

Without a detailed understanding of these expectations, e-commerce businesses risk misaligning customer service strategies, potentially resulting in dissatisfaction and reduced loyalty. Additionally, the lack of a comprehensive list of expectations for each interaction type hinders effective benchmarking and improvement of AI chatbot and human live-chat performance.

This study, therefore, aims to address this gap in the literature by providing a detailed comparative analysis of customer expectations for AI chatbots and human live-chat agents in e-commerce. Rather than merely listing expectations, this research will use qualitative semi-structured interviews to explore the sensitivity customers have for each attribute, uncovering nuanced experiences and preferences that quantitative methods might overlook.

This gap within the literature has led to this study's first research question:

RQ1: What are the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website?

2.5 Customer Satisfaction: AI Chatbot vs Human Live-Chat

Customer expectations are central to achieving satisfaction, as businesses must meet and surpass these expectations to ensure customer satisfaction (Siswi, Wahyono 2020). A positive, effortless experience not only boosts customer happiness and satisfaction but also cultivates brand loyalty, strengthening the relationship between the customer and the brand (Sharma, Chaubey 2014).

Online communication has become essential for improving customer satisfaction (Mclean, Wilson 2016). The notion of a 'customer' has evolved. Modern customers do not want to waste their time – they expect to reach a company anytime and anywhere (Jenneboer, Herrando, Constantinides 2022). Due to this shift in behaviour, companies have no option than to take on a digital shift and introduce AI chatbots. This offers customers an additional communication method to get in touch with the brand. When brands respond proactively to the customers' queries, they instil a sense of confidence and satisfaction within the customer (Hallowell 1996, Jenneboer, Herrando, Constantinides 2022).

Despite the potential benefits, chatbot adoption has been lower than expected (Jenneboer, Herrando, Constantinides 2022), primarily due to perceived unnatural interactions and privacy concerns (Liebrecht, van Hooijdonk 2020, Ling, Tussyadiah, Tuomi et al. 2021, Nordheim, Følstad, Bjørkli 2019). Previous studies suggest that human-like chatbots, using personalised approaches and tailored messages, could help address these concerns, build trust, and increase satisfaction (Balakrishnan, Dwivedi 2021, Følstad, Nordheim, Bjørkli 2018). This aligns with Novak, Hoffman, and Yung's (2000) findings that many customers favour human live chats for a more positive experience, emphasising the importance of direct human interaction.

The research conducted by Chang, Kim, Beom et al. (2020) reveals that chatbots significantly influence customers talking about a service (i.e. word-of-mouth) and their likelihood to use it again. On the other hand, traditional customer service satisfaction has a more profound effect on customer loyalty (Chang, Kim, Beom et al. 2020, Jenneboer, Herrando, Constantinides 2022).

De Cicco, Da Costa e Silva, and Palumbo (2020) found that revealing a chatbot's identity can reduce social presence, trust, and positive attitudes towards the retailer. Conversely, when chatbot identity is not disclosed, customers often show higher trust and more favourable attitudes. This indicates that thoughtful design and transparency are essential for AI tools to effectively boost customer satisfaction.

Considering the limited literature on customer expectations for interactions with AI chatbots versus human live chat agents, it is unsurprising that research is also scarce on how these expectations impact overall customer satisfaction in these interactions.

While some research examines the effectiveness and efficiency of AI chatbots and human live-chat agents independently (Følstad, Nordheim, Bjørkli 2018, Nordheim, Følstad, Bjørkli 2019, Liebrecht, van Hooijdonk 2020, Balakrishnan, Dwivedi 2021, Ling, Tussyadiah, Tuomi et al. 2021, Pizzi, Scarpi, Pantano 2021), there is a lack of studies directly comparing the two in terms of customer expectations and satisfaction. This gap leaves a critical void in understanding how each type of support influences overall satisfaction. Moreover, existing literature often treats AI chatbots and human agents separately, without fully exploring the comparative expectations and satisfaction levels they evoke.

This gap within the literature has led to this study's second research question:

RQ2: How do these specific expectations influence overall customer satisfaction when using AI chatbots versus human live-chat agents?

2.6 Conceptual Model: Expectation-Confirmation Theory

To effectively assess customer expectations in chatbot interactions, it is crucial to adopt a theoretical framework that addresses this aspect comprehensively. ECT, developed by Oliver (1980), is well-suited for this purpose. ECT suggests that customer satisfaction is largely determined by the extent to which pre-consumption expectations align with or exceed the actual performance of a product or service. The theory comprises four main constructs: expectations, perceived performance, confirmation or disconfirmation, and satisfaction (Oliver 2015).

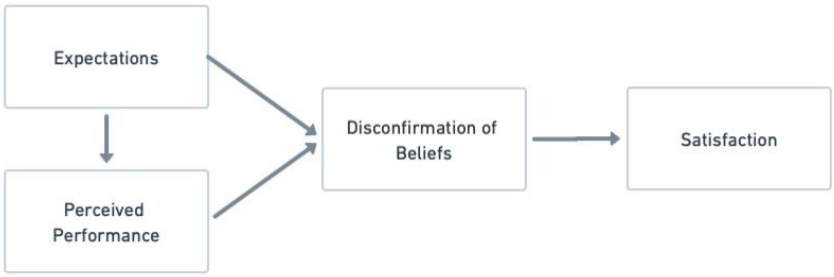


Figure 1 - Traditional Expectation Confirmation Theory (Spreng, MacKenzie and Olshavsky 1996)

Expectations are the initial beliefs that customers hold about a product or service, influenced by prior experiences, marketing communications, and word-of-mouth (Crolic, Thomaz, Hadi et al. 2022, Ziethaml, Berry, Parasuraman 1993). These expectations set the benchmark against which actual performance is measured, with higher expectations creating a higher bar for satisfaction, while lower expectations are more easily met or exceeded.

Expectations can be categorised into five levels.

Basic expectations refer to the minimum standards required for a service to function effectively. These expectations are foundational; when unmet, they lead to immediate dissatisfaction but meeting them alone does not necessarily result in satisfaction (Parasuraman, Zeithaml, Berry 1985).

Performance expectations go beyond these basic needs, shaped by prior experiences and social influences, and represent the anticipated level of quality or effectiveness that customers expect (Oliver 1980).

Delight expectations involve a hope that the service will exceed standard performance, providing an unexpectedly satisfying experience. Kumar, Olshavsky and King (2001) define delight as a stronger emotional response than satisfaction, occurring when a service not only meets functional needs but also surprises the customer.

Latent expectations are subconscious assumptions that customers may not explicitly express but still expect to be fulfilled, representing an essential layer of expectations that businesses must account for (Zeithaml, Berry, Parasuraman 1993).

Finally, ideal expectations represent the highest standards that customers aspire to, shaped by personal needs, past experiences, and word-of-mouth. Parasuraman, Zeithaml and Berry (1985) explain that ideal expectations embody the highest level of service quality, where customers feel completely fulfilled when these standards are met. However, achieving ideal expectations consistently can be challenging due to their aspirational nature.

Perceived performance is the customer's assessment of how well the product or service performs during the interaction, including attributes such as response time, accuracy, empathy, and problem-solving ability (Liao 2007).

Confirmation or disconfirmation arises when actual performance is compared to initial expectations. Positive confirmation occurs when performance meets or exceeds expectations, while negative disconfirmation results from performance falling short (Lankton, McKnight 2012).

Satisfaction is the ultimate construct, representing the overall contentment or dissatisfaction that results from the confirmation or disconfirmation of expectations. This satisfaction level subsequently influences customer behaviours, including repurchase intentions, word-of-mouth recommendations, and loyalty (Oliver 2015).

While ECT has been widely applied to various technologies and services, there remains a gap in its application specifically to chatbot and human live-chat interactions (Ghazali, Mutum, Lun 2023). Additionally, the literature predominantly relies on quantitative methodologies, with limited use of qualitative approaches that often provide deeper insights into complex phenomena, such as customer interactions with AI chatbots and human live-chat agents in e-commerce (Eren 2020, Go, Sundar 2019).

This study seeks to address this gap by applying ECT to examine how customer expectations of AI chatbots versus human live-chat agents affect overall satisfaction within e-commerce. ECT's systematic approach offers a structured framework for investigating the nuances of customer interactions with these distinct service agents. By emphasising the impact of expectations on attitudes and behaviours, ECT underscores the importance of expectation confirmation or violation in shaping customer experiences in interactions with both AI chatbots and human live-chat agents.

Using ECT offers distinct advantages for this research. Firstly, ECT provides a well-established and comprehensive framework for examining satisfaction formation, capturing the entire journey from initial expectations through perceived performance to final satisfaction. This holistic perspective is essential for understanding the evolution of customer interactions with AI chatbots and human agents (Kumar, Israel, Malik 2018). Secondly, ECT has a robust empirical foundation, with numerous studies validating its constructs and interrelationships across various contexts (Fu, Zhang, Chan 2018). Thirdly, given that expectations significantly shape customer satisfaction, ECT's focus on expectation-confirmation aligns closely with the study's objectives. By examining how different expectations are confirmed or disconfirmed in interactions with AI chatbots versus human agents, ECT facilitates deeper insights into the dynamics of customer satisfaction.

An alternative theory, Expectancy Violation Theory (EVT), explores how deviations from expected behaviours impact interpersonal communication outcomes (Burgoon 2016). Initially applied to nonverbal communication, EVT has been expanded to contexts like mass media (Walther-Martin 2015) and online interactions (Baxter, Braithwaite 2013). EVT suggests that expectation violations initiate an appraisal process, leading to either positive or negative outcomes based on the perceived benefits of the violator's actions (Burgoon 2016).

While EVT offers insights into the effects of unexpected behaviours, its primary focus on violations of social norms is less aligned with this study's aims (Burgoon, Bonito, Lowry et al. 2016, Rheu, Dai, Meng et al. 2024). In contrast, ECT's structured approach to understanding how expectations are formed and then confirmed or disconfirmed provides a more systematic framework for examining customer satisfaction in e-commerce interactions. ECT's emphasis on the relationship between expectations and satisfaction aligns closely with the study's objectives, making it the preferred theoretical framework for this research.

As previously noted, the existing literature lacks a clear definition of customers' true expectations when interacting with AI chatbots versus human live-chat agents, often substituting attributes for genuine expectations. To effectively compare and contrast data on customer expectations and their impact on satisfaction, it is crucial to first recognise and understand how the literature defines the attributes of chatbot interactions and how these compare to those of human live-chat interactions.

2.7 Attributes of Chatbot vs Human Live-Chat Interactions

The literature outlines numerous attributes (specific characteristics, features or qualities), associated with interactions involving both AI chatbots and human live-chat agents. In describing these attributes, the literature captures the elements that shape the experience of interacting with either an AI chatbot or a human agent. Some attributes are shared across both mediums, emphasising essential qualities that define effective customer service overall. However, there are also notable contrasts that highlight the distinct advantages and challenges inherent to each type of interaction.

2.7.1 Human-Like and Human Touch

Research by Zarouali, Van Den Broeck, Walrave et al. (2018) highlights the importance of designing anthropomorphic AI chatbots in e-commerce to improve customer experience, emphasising perceived helpfulness and utility as critical factors shaping customer attitudes. Social Response Theory, as presented by Nass and Moon (2000) and Nass, Steuer, Tauber (1994), supports this notion, suggesting that HCIs are inherently social. People tend to interact with computers in socially acceptable ways, even though they cognitively recognise that computers lack emotions and motives (Schuetzler, Grimes, Giboney 2020). Anthropomorphic design in chatbots can evoke a sense of social presence, encouraging customers to engage as they would with humans (Epley, Waytz, Cacioppo 2007).

However, limitations exist with anthropomorphism in AI chatbots. Tsai, Liu, and Chuan (2021) caution that relying too heavily on human-like features can lead to unrealistic customer expectations, and when chatbots fail to meet these expectations, it often results in disappointment.

In contrast, human live-chat interactions are praised for their inherent personal touch, an element that AI chatbots may struggle to replicate. McLean, Osei-Frimpong, Wilson et al. (2020) underscores the importance of attributes like human warmth, assurance, attentiveness, and customised responses in live-chat interactions. Live agents can adapt to customers' emotional tones and specific needs, leading to more satisfying and personalised experiences (Giebelhausen, Robinson, Sirianni et al. 2014). However, Ashfaq, Yun, Yu et al. (2020) found

that while chatbots are useful, they often lack the depth required for complex problem-solving, further emphasising the comparative value of human agents.

The value of human touch in live-chat interactions, however, is not absolute. Mou and Xu (2017) discovered that while customers appreciate human interaction, it does not always result in higher satisfaction. In cases where efficiency and quick resolution are prioritised, the added personal touch may not significantly enhance satisfaction, suggesting that the effectiveness of live-chat interactions may be context-dependent, where customer needs and interaction context influence the relative importance of personalisation and human touch versus efficiency.

Overall, comparing human-like attributes in AI chatbots with the human touch in live-chat interactions reveals a nuanced landscape. While anthropomorphic design in chatbots can boost social presence and engagement, it risks setting expectations that may lead to disappointment. Conversely, human live-chat interactions excel in providing personalised, adaptive responses, especially in complex situations, though their impact may diminish in scenarios focused on efficiency.

2.7.2 Empathy and Emotional Intelligence

Empathy and emotional intelligence are essential attributes in both AI chatbot and human live-chat interactions, each presenting unique strengths and challenges.

In AI chatbot interactions, empathy is recognised as crucial. Chatbots employing warm, empathetic expressions can enhance the customer experience and satisfaction (Vu, Hoang Lai, Tran et al. 2022), aligning with research demonstrating that empathy in technology agents positively influences customer perceptions (Da Costa Liberato, Alén-González, de Azevedo Liberato 2018, Finstad 2010, Pappas, Pateli, Giannakos et al. 2014, Portela, Granell-Canut 2017). However, empathetic responses in chatbots face limitations. Han, Yin, and Zhang (2022) found that while empathetic chatbots can increase perceptions of warmth, they often struggle to convey competence, especially when handling service issues, which may reduce customer trust and satisfaction. Similarly, Agarwal, Maiya, and Aggarwal (2021) noted that chatbots trained to demonstrate empathy often fail to accurately recognise and respond to complex human emotions, leading to ineffective responses that can heighten frustration.

Failures in empathetic responses from chatbots frequently amplify customer frustration and scepticism. Studies by Seeger, Pfeiffer, and Heinzl (2021) and Mozafari, Weiger, and Hammerschmidt (2022) show that such failures often cause customers to abandon interactions and reduce their willingness to engage with chatbots in future.

Empathy and emotional intelligence are equally fundamental to effective human live-chat interactions. McLean and Osei-Frimpong (2017) emphasise that service representatives use emoticons to convey empathy and a human touch, helping to overcome the limited emotional expressiveness of text-based communication and boosting customer satisfaction and loyalty. Hill, Randolph Ford, and Farreras (2015) further found that customers generally feel more confident and at ease with human live-chat due to the emotional nuances that humans provide.

However, applying emotional intelligence in human live-chat also presents challenges. Grandey, Goldberg, and Pugh (2011) highlight that, while emotional labour is often necessary, excessive efforts to display emotional intelligence can lead to employee burnout, ultimately affecting service quality and customer perceptions.

Overall, empathy and emotional intelligence play critical roles in both AI chatbot and human live-chat interactions. Chatbots can enhance customer experience through empathetic design but risk frustrating customers when responses lack depth. Human agents excel at providing nuanced emotional support, though sustaining this level of empathy can impact employee well-being and service quality.

2.7.3 Perceived Trust and Credibility

Trust is a critical component shaping customer satisfaction in interactions with AI chatbots. Vu, Hoang Lai, Tran et al. (2022) stress that perceived trust is essential for a satisfactory online experience, playing a pivotal role in customer perception and loyalty. This finding is supported by Akter, D'Ambra, and Ray (2013), who discovered that perceived trust significantly influences customers' intentions to continue using digital services.

However, trust in AI chatbots can be fragile. While chatbots can build trust through consistency and reliability, Han, Yin, and Zhang (2022) note that competence perception, especially in handling complex issues or service failures, remains a challenge. Customers may hesitate to

fully trust chatbots if they perceive limitations in the chatbot's ability to understand and address their concerns effectively.

Trust is equally crucial in both AI chatbot and human live-chat interactions, significantly affecting customer satisfaction and loyalty. Gefen, Karahanna, and Straub (2003) highlight that human interactions are often inherently more trustworthy due to the perceived expertise and authenticity of live agents. This trust is further reinforced by agents' ability to provide detailed explanations, reassurances, and transparency during service. Ashfaq, Yun, Yu et al. (2020) confirm that trust strongly influences satisfaction in both AI and human interactions, with human agents generally enjoying higher trust levels because of their adaptability to customer needs.

Nevertheless, trustworthiness in human agents has its own challenges. Xiao and Benbasat (2007) found that inconsistencies or errors in human responses can diminish perceived trustworthiness and satisfaction. Unlike AI chatbots, which operate on programmed consistency, human agents may unintentionally introduce variability, impacting trust levels, especially in contexts requiring precise and consistent information.

2.7.4 Responsiveness and Efficiency

Responsiveness is a crucial factor shaping customer satisfaction in both AI chatbot and human live-chat interactions, though its impact varies. Research paints a nuanced picture of how responsiveness affects these two types of customer service experiences.

For AI chatbots, Vu, Hoang Lai, Tran et al. (2022) found that responsiveness alone did not significantly influence customer satisfaction, possibly due to evolving expectations for automated services. Studies by Munusamy, Chelliah and Mun (2010), Wang and Shieh (2006), and Zaim, Bayyurt, and Zaim (2010) suggest that customers now anticipate a baseline level of quick responses from automated systems, making basic responsiveness less impactful. However, Jiang, Cheng, and Yang (2022) offer a different perspective, indicating that when responsiveness is paired with a conversational tone, it significantly enhances satisfaction. They argue that chatbots employing dialogic, human-like communication styles foster stronger customer relationships, suggesting that while basic speed may not suffice, responsiveness combined with engaging dialogue can improve customer satisfaction.

Conversely, human live-chat interactions are often lauded for their responsiveness, especially when agents are supported by advanced CRM systems. Collier and Bienstock (2006) found that quick, accurate responses from human agents greatly enhance satisfaction, particularly for urgent or sensitive issues. Hill, Randolph Ford, and Farreras (2015) support this, noting that while chatbots can be efficient, they often lack the depth and responsiveness provided by human agents.

Customer preferences also vary by task type. Meuter, Ostrom, Roundtree et al. (2000) found that for highly routine tasks, customers may prefer the efficiency of automated responses over human interaction, as they often find it more satisfying for straightforward inquiries. This suggests that while human agents excel in delivering nuanced and responsive service for complex matters, automated systems may be better suited for repetitive tasks requiring quick, consistent responses.

2.7.5 Helpful and Problem-Solving Skills

This attribute is vital for both AI chatbot and human live-chat interactions, though it presents distinct qualities in each context. For example, Edwards, Edwards, Spence et al. (2014), using the CASA (Computers are Social Actors) paradigm, found no significant differences between AI chatbots and human agents regarding source credibility, interaction intentions, and communication competence. Chatbots were seen as attractive, credible, and competent in interactional intentions, yet, in both social and task contexts, human agents were perceived as more attractive, suggesting that while chatbots are effective communicators, they may lack certain relational qualities where human agents excel.

Human agents, in particular, are better suited to managing unexpected issues and complex problem-solving. Jiang, Guo, Wei et al. (2022) found that customers value live agents' ability to think creatively and offer unscripted solutions, which enhances the perceived competence and reliability of the service. This adaptability in problem-solving gives human agents an edge over more rigid automated systems. Mou and Xu (2017) further highlight that customers tend to show higher trust and satisfaction when complex queries are handled by humans, underscoring the critical role of human ingenuity in addressing multifaceted issues.

Conversely, research by Adam, Wessel, and Benlian (2020) indicates that for straightforward, routine inquiries, customers often prefer automated solutions due to their speed and consistency. Automated systems can efficiently provide quick, reliable answers without requiring human intervention, which can be more satisfying for customers dealing with simple matters. This is supported by Inavolu (2024), who noted that the efficiency of automated systems in handling routine tasks often surpasses that of human agents, making them the preferred option for such interactions.

2.7.6 Reliable Information and Contextual Awareness

AI chatbots have demonstrated considerable effectiveness in enhancing customer satisfaction through the quality of information and service they provide. Ashfaq, Yun, Yu et al. (2020) found that chatbots delivering high-quality information and service significantly increase customer satisfaction. Huang and Gursoy (2024) further support this, identifying that chatbots positively influence satisfaction by using appropriate language styles and offering both emotional and informational support during various stages of decision-making. These studies underscore chatbots' ability to provide reliable, timely, and contextually relevant information, making them valuable tools in customer service.

Contextual awareness also plays a significant role in customer satisfaction in human live-chat interactions, though it manifests differently. Liao, Davis, Geyer et al. (2016) note that human agents excel at maintaining context and coherence, even during complex or lengthy conversations, ensuring customers feel understood and valued - an area where chatbots may struggle. Hill, Randolph Ford, and Farreras (2015) found that human interactions tend to be richer in content and context, enhancing the overall quality and satisfaction of the experience.

However, the benefits of contextual awareness provided by human agents do not universally lead to higher satisfaction. Hill, Randolph Ford, and Farreras (2015) also observed that in high-pressure situations, the detailed inquiries needed for contextual understanding can be seen as time-consuming and less efficient, potentially reducing satisfaction. This suggests that while human agents are adept at delivering detailed and contextually rich information, there can be trade-offs in efficiency and perceived responsiveness.

2.7.7 Other Attributes

The literature identifies usability, accessibility, and hedonistic features as key attributes that distinguish AI chatbots from human live-chat agents.

Usability is central to shaping customer attitudes toward chatbots, with factors like ease of use, the Personalisation-Privacy Paradox (the trade-off between the benefits of personalised services and the concerns about privacy), and perceived usefulness being significant influences on satisfaction (Araújo, Casais 2020, Vu, Hoang Lai, Tran et al. 2022). However, some research notes that chatbots' limited ability to manage unexpected issues or provide personalised responses can lead to frustration and decreased satisfaction (Liao, Davis, Geyer et al. 2016).

Accessibility also plays a vital role. Although early studies found that increased accessibility enhances satisfaction (Orden-Mejía, Huertas 2021), Vu, Hoang Lai, Tran et al. (2022) noted no direct link to satisfaction among younger users, who may take accessibility as a given. This finding aligns with research by Biswas, Omar, Rashid-Radha (2020) and Assaker, Hallak, Assaf et al. (2015), who emphasise age as a moderating factor in the accessibility-customer satisfaction relationship.

Hedonistic features, which enhance enjoyment and engagement, further contribute to customer experience, especially in education and health contexts (Følstad, Brandtzaeg 2020). However, customers typically prioritise practical attributes like efficiency and effectiveness over hedonistic aspects, particularly when task completion is the main goal (Følstad, Skjuve 2019).

Overall, the effectiveness of AI chatbots compared to human live-chat interactions appears to depend heavily on context.

The tables below summarise the most prominent attributes identified in the literature for both AI chatbot interactions (Table 1) and human live-chat interactions (Table 2). Additionally, Table 3 provides a comparative overview of these attributes across both interaction types.

Attribute	Endorse	Details	Challenge	Details
Human-Like	Zarouali, Van Den Broeck, Walrave et al. (2018)	Recommend anthropomorphic AI chatbots in e-commerce to enhance user experience, emphasising perceived helpfulness and utility.	Tsai, Liu and Chuan (2021)	Warn that over-reliance on human-like features can lead to unrealistic expectations and disappointment.
	Nass, Moon (2000); Nass, Steuer, Tauber (1994)	Human-computer interactions are social, with users perceiving computers as social entities.		
	Schuetzler, Grimes, Giboney (2020); Epley, Waytz, Cacioppo (2007)	Anthropomorphic design in HCIs can evoke a sense of social presence, leading to socially acceptable behaviour.		
Usability	Araújo and Casais (2020)	Highlight the Personalisation-Privacy Paradox, perceived usefulness, ease of use, and compatibility as factors influencing attitudes towards e-commerce chatbots.	Liao, Davis, Geyer et al. (2016)	Chatbots can fail to meet user expectations due to limited ability to handle unexpected issues or provide personalised responses. Failure to resolve issues effectively leads to customer frustration and decreased satisfaction.
	Vu, Hoang Lai, Tran et al. (2022)	Chatbot usability significantly enhances customer satisfaction.		
	Lubbe, Ngoma (2021); Rese, Ganster, Baier (2020)	Support the findings on factors influencing attitudes towards e-commerce chatbots.	Skrebeca, Kalniete, Goldbergs et al. (2021)	Main challenges for chatbots include inability to understand users' requests accurately due to lack of contextual awareness and inability to understand the consumer's will.
	Munusamy, Chelliah (2010); Wang, Shieh (2006); Zaim, Bayyurt, Zaim (2010)	Prior research aligning with the findings on the impact of chatbot usability on customer satisfaction.		

Responsiveness	Jiang, Cheng, Yang et al. (2022)	Responsiveness and conversational tone in chatbot communication have significant direct effects on customer satisfaction. Recommend employing dialogic communication style in chatbots to foster high-quality customer relationships.	Vu, Hoang Lai, Tran et al. (2022)	Chatbot responsiveness did not significantly impact customer satisfaction, possibly due to increased demand for responsiveness in service technology.
	Munusamy, Chelliah (2010); Wang, Shieh (2006); Zaim, Bayyurt, Zaim (2010)	Support the finding that there is a growing demand for responsiveness in service technology.		
Perceived Trust	Vu, Hoang Lai, Tran et al. (2022)	Perceived trust plays a crucial role in enhancing customer satisfaction, emphasising its necessity for a satisfactory online experience.		
	Akter, D'ambra, Ray (2013)	Supports the influence of perceived trust on customer continuance intention.		
Accessibility	Orden-Mejía, Huertas (2021)	Previous research suggests that enhanced accessibility improves overall customer happiness.	Vu, Hoang Lai, Tran et al. (2022)	Found no link between chatbot accessibility and consumer satisfaction, likely due to young participants for whom accessibility is a given.
			Biswas, Omar, Rashid-Radha (2020); Assaker, Hallak, Assaf et al. (2015)	Emphasise age as a moderating factor in the relationship between accessibility and customer satisfaction.

Empathy	Vu, Hoang Lai, Tran et al. (2022)	Empathy in chatbots significantly predicts customer satisfaction; warm expressions enhance user experience and satisfaction.	Han, Yin and Zhang (2022)	Empathic chatbots may enhance perceptions of warmth but often fail to convey competence, especially during service failures, reducing trust and satisfaction.
	Da Costa Liberato, Alén-González, de Azevedo Liberato (2018); Finstad (2010); Pappas, Pateli, Giannakos et al. (2014); Portela, Granell-Canut (2017)	Empathy in technology agents positively influences user perceptions and opinions.	Agarwal, Maiya and Aggarwal (2021)	Chatbots trained to demonstrate empathy might struggle with recognising and responding to nuanced human emotions, potentially causing frustration.
			Seeger, Pfeiffer and Heinzl (2021); Mozafari, Weiger and Hammerschmidt (2022)	Failures in empathetic chatbot responses can increase user frustration and scepticism, leading to abandonment of conversations.
Hedonistic	Følstad and Brandtzaeg (2020)	Identified hedonistic attributes as an enticing feature of chatbots in education, health, and customer service, enhancing user experience.	Følstad and Skjuve (2019)	Users prioritise pragmatic attributes such as efficiency and effectiveness over hedonistic features in task-oriented interactions.
	Nordheim, Følstad, Bjørkli (2019)	Hedonistic attributes in HCI contribute to a more engaging user experience.		
Helpful	Edwards, Edwards, Spence et al. (2014)	AI chatbots perceived as attractive, credible, and competent in communication and interactional intentions.	Edwards, Edwards, Spence et al. (2014)	Human live-chat agents were notably perceived as more attractive in both social and task contexts compared to chatbots.

Provides Reliable Information	Ashfaq, Yun, Yu et al. (2020)	Quality of information and service provided by chatbots significantly enhances user satisfaction.		
	Huang and Gursoy (2024)	Chatbots impact customer satisfaction through appropriate language styles and emotional and informational support.		

Table 1 - Most Prominent and Prevalent Chatbot Attributes identified through Literature

Attribute	Endorse	Details	Challenge	Details
Human Touch	McLean, Osei-Frimpong, Wilson et al. (2020)	Human-live chat interactions provide a personal touch through warmth, assurance, attentiveness, and customised content.	Mou and Xu (2017)	Human touch does not always lead to higher customer satisfaction, particularly in scenarios prioritising efficiency.
	Giebelhausen, Robinson, Sirianni et al. (2014)	Live agents adapt responses based on emotional tone and customer needs, leading to a satisfying and personalised experience.		
	Ashfaq, Yun, Yu et al. (2020)	Chatbots often fail to provide the depth of interaction necessary for complex problem-solving.		
Emotional Intelligence	McLean and Osei-Frimpong (2017)	Emoticons in human-live chat interactions enhance empathy and convey emotions effectively, boosting customer satisfaction and loyalty.	Grandey, Goldberg and Pugh (2011)	Excessive emotional labour in customer service can lead to employee burnout and may not necessarily increase customer satisfaction.
	Hill, Ford and Farreras (2015)	Users prefer human live-chat due to emotional nuances and comfort in interactions compared to AI chatbots.		

Contextual Awareness	Liao, Davis, Geyer et al. (2016)	Human agents excel in maintaining context and coherence in conversations, enhancing customer understanding and value.	Hill, Ford and Farreras (2015)	In high-pressure situations, detailed inquiries for contextual understanding may reduce efficiency and satisfaction.
	Hill, Ford and Farreras (2015)	Human conversations are richer in content and context, contributing to higher quality interactions compared to chatbots.		
Problem-Solving Skills	Jiang, Guo, Wei et al. (2022)	Human agents excel in handling unexpected issues and complex problem-solving, enhancing perceived competence and reliability.	Adam, Wessel and Benlian (2020)	For straightforward and routine inquiries, customers may prefer automated solutions due to consistency and speed.
	Mou and Xu (2017)	Users demonstrate higher trust and satisfaction when complex queries are handled by human agents rather than AI.		
Trust and Credibility	Gefen, Karahanna and Straub (2003)	Human-live chat interactions are perceived as more trustworthy due to agents' expertise, authenticity, and detailed explanations.	Xiao and Benbasat (2007)	Perceived trustworthiness of human agents can be undermined by inconsistencies and errors, potentially reducing satisfaction compared to automated systems.
	Ashfaq, Yun, Yu et al. (2020)	Trust is a crucial factor influencing user satisfaction in both human and AI interactions, with humans typically garnering higher trust levels.		

Efficiency and Responsiveness	Collier and Bienstock (2006)	Human-live chats can provide quick and accurate responses, enhancing customer satisfaction in urgent or sensitive situations.	Meuter, Ostrom, Roundtree et al. (2000)	Customers may prefer the swift responses of automated systems in highly routine and repetitive tasks, finding them more efficient and satisfying.
	Hill, Ford and Farreras (2015)	Human agents offer responsiveness and depth of understanding that chatbots often lack, contributing to higher quality interactions.		
Personalisation	Nguyen (2019)	Personalised service, where agents remember previous interactions and tailor responses, improves customer satisfaction and loyalty. Automated systems struggle to achieve this level of personalisation.	Sutanto, Palme, Tan et al. (2013)	Excessive personalisation can be perceived as intrusive, leading to discomfort and reduced satisfaction, especially where privacy and data security concerns are present.
	Ashfaq, Yun, Yu et al. (2020)	Personalisation enhances user satisfaction. Chatbots lag behind humans in providing highly personalised experiences.		

Table 2 - Most Prominent and Prevalent Human Live-Chat Attributes identified through Literature

Attribute		Chatbot	Human Live-Chat
Human-Like & Human Touch	**Supports**	Anthropomorphic AI chatbots in e-commerce enhance user experience, perceived helpfulness, and utility (Zarouali, Van Den Broeck, Walrave et al., 2018).	Human-live chat interactions provide a personal touch through warmth, assurance, attentiveness, and customized content (McLean, Osei-Frimpong, Wilson et al., 2020).
		Human-computer interactions are social, with users perceiving computers as social entities (Nass, Moon, 2000; Nass, Steuer, Tauber, 1994).	Live agents adapt responses based on emotional tone and customer needs, leading to a satisfying and personalized experience (Giebelhausen, Robinson, Sirianni et al., 2014).
		Anthropomorphic design in HCIs can evoke a sense of social presence, leading to socially acceptable behaviour (Schuetzler, Grimes, Giboney, 2020; Epley, Waytz, Cacioppo, 2007).	
	Does Not Support	Over-reliance on human-like features can lead to unrealistic expectations and disappointment (Tsai, Liu, Chuan, 2021).	Live agents adapt responses based on emotional tone and customer needs, leading to a satisfying and personalised experience (Mou, Xu, 2017).

Empathy & Emotional Intelligence	**Supports**	Empathy in chatbots significantly predicts customer satisfaction; warm expressions enhance user experience and satisfaction (Vu, Hoang Lai, Tran et al., 2022).	Emoticons in human-live chat interactions enhance empathy and convey emotions effectively, boosting customer satisfaction and loyalty (McLean, Osei-Frimpong, 2017).
		Empathy in technology agents positively influences user perceptions and opinions (Da Costa Liberato, Alén-González, de Azevedo Liberato, 2018; Finstad, 2010; Pappas, Pateli, Giannakos et al., 2014; Portela, Granell-Canut, 2017).	Users prefer human live-chat due to emotional nuances and comfort in interactions compared to AI chatbots (Hill, Ford, Farreras, 2015).
	Does not Support	Empathic chatbots often fail to convey competence during service failures, reducing trust and satisfaction (Han, Yin, Zhang, 2022).	Excessive emotional labor in customer service can lead to employee burnout and may not necessarily increase customer satisfaction (Grandey, Goldberg, Pugh, 2011).
		Failures in empathetic chatbot responses can increase user frustration and skepticism (Agarwal, Maiya, Aggarwal, 2021; Seeger, Pfeiffer, Heinzl, 2021; Mozafari, Weiger, Hammerschmidt, 2022).	

Perceived Trust & Credibility	**Supports**	Perceived trust plays a crucial role in enhancing customer satisfaction, emphasising its necessity for a satisfactory online experience (Vu, Hoang Lai, Tran et al., 2022).	Human-live chat interactions are perceived as more trustworthy due to agents' expertise, authenticity, and detailed explanations (Gefen, Karahanna, Straub, 2003).
		Supports the influence of perceived trust on customer continuance intention (Akter, D'ambra, Ray, 2013).	Trust is a crucial factor influencing user satisfaction in both human and AI interactions, with humans typically garnering higher trust levels (Ashfaq, Yun, Yu et al., 2020).
	Does Not Support		Perceived trustworthiness of human agents can be undermined by inconsistencies and errors (Xiao, Benbasat, 2007).

Responsiveness & Efficiency	**Supports**	Responsiveness and conversational tone in chatbot communication have significant direct effects on customer satisfaction. Dialogic communication style recommended to foster high-quality customer relationships (Jiang, Cheng, Yang et al., 2022).	Human-live chats can provide quick and accurate responses, enhancing customer satisfaction in urgent or sensitive situations (Collier, Bienstock, 2006).
		There is a growing demand for responsiveness in service technology (Munusamy, Chelliah, 2010; Wang, Shieh, 2006; Zaim, Bayyurt, Zaim, 2010).	Human agents offer responsiveness and depth of understanding that chatbots often lack, contributing to higher quality interactions (Hill, Ford, Farreras, 2015).
	Does Not Support	Chatbot responsiveness did not significantly impact customer satisfaction, possibly due to increased demand for responsiveness in service technology (Vu, Hoang Lai, Tran et al., 2022).	Customers may prefer the swift responses of automated systems in highly routine and repetitive tasks (Meuter, Ostrom, Roundtree et al., 2000).

Helpful & Problem-Solving Skills	**Supports**	AI chatbots perceived as attractive, credible, and competent in communication and interactional intentions (Edwards, Edwards, Spence et al., 2014).	Human agents excel in handling unexpected issues and complex problem-solving, enhancing perceived competence and reliability (Jiang, Guo, Wei et al., 2022).
		Quality of information and service provided by chatbots significantly enhances user satisfaction (Ashfaq, Yun, Yu et al., 2020).	Users demonstrate higher trust and satisfaction when complex queries are handled by human agents rather than AI (Mou, Xu, 2017).
		Chatbots impact customer satisfaction through appropriate language styles and emotional and informational support (Huang, Gursoy, 2024).	Human conversations are richer in content and context, contributing to higher quality interactions compared to chatbots (Hill, Ford, Farreras, 2015).
	Does not Support	Chatbots often fail to provide the depth of interaction necessary for complex problem-solving (Ashfaq, Yun, Yu et al., 2020).	For straightforward and routine inquiries, customers may prefer automated solutions due to consistency and speed (Adam, Wessel, Benlian, 2020).

Reliable Information and Contextual Awareness	**Supports**	Main challenges for chatbots include inability to understand users' requests accurately due to lack of contextual awareness and inability to understand the consumer's will (Skrebeca, Kalniete, Goldbergs et al., 2021).	Human agents excel in maintaining context and coherence in conversations, enhancing customer understanding and value (Liao, Davis, Geyer et al., 2016).
			Human conversations are richer in content and context, contributing to higher quality interactions compared to chatbots (Hill, Ford, Farreras, 2015).
	Does not Support	Chatbots can fail to meet user expectations due to limited ability to handle unexpected issues or provide personalized responses (Liao, Davis, Geyer et al., 2016).	In high-pressure situations, detailed inquiries for contextual understanding may reduce efficiency and satisfaction (Hill, Ford, Farreras, 2015).

Other Attributes: Usability, Accessibility& Hedonistic Features	**Supports**	Usability: Chatbot usability significantly enhances customer satisfaction (Vu, Hoang Lai, Tran et al., 2022).	
		Accessibility: Chatbots provide 24/7 availability and quick access to information, making them accessible anytime (Ashfaq, Yun, Yu et al., 2020).	
		Hedonistic: Identified as an enticing feature of chatbots in education, health, and customer service, enhancing user experience (Følstad, Brandtzaeg, 2020).	
	Does not Support	Usability: Chatbots can fail to meet user expectations due to limited ability to handle unexpected issues or provide personalised responses (Liao, Davis, Geyer et al., 2016).	
		Hedonistic: Users prioritise pragmatic attributes such as efficiency and effectiveness over hedonistic features in task-oriented interactions (Følstad, Skjuve, 2019).	

Table 3 - Comparison of Most Prominent and Prevalent AI Chatbot and Human Live-Chat Attributes identified through Literature

By applying ECT, this study aims to determine whether the attributes that emerge from this study will align with or differ from the existing literature.

Figure 2 below provides a comparative analysis of positive and negative attribute expectations for human live-chat agents and AI chatbots based on literature.

Figure 2 - Comparison of Positive and Negative Attribute Expectations from Literature for a Human Live-Chat vs AI Chatbot

This study aims to fill a gap in the current body of knowledge by providing a detailed analysis of how customer expectations and subsequent satisfaction differ between AI chatbots and human live-chat agents on e-commerce platforms.

2.8 Conclusion

This literature review has critically examined customer expectations and satisfaction in interactions with AI chatbots versus human live-chat agents, identifying key gaps in understanding. While AI chatbots offer efficiency and cost-effectiveness, they often fall short in delivering the human-like qualities many customers expect. Conversely, human agents are valued for empathetic responses but face limitations in scalability and resource demands. Current research frequently addresses AI chatbots and human agents independently, lacking a thorough comparison of customer expectations and satisfaction. By leveraging ECT, this study aims to address these gaps and provide deeper insights into customer experiences in e-commerce.

3. Methodology

3.1 Context of Research

As stated in prior chapters, this research aims to explore customers' specific expectations when interacting with AI chatbots compared to human live-chat agents on an e-commerce website and to explore how these specific expectations influence overall customer satisfaction. This methodology chapter will detail the research approach taken and justify the methods used for data collection.

3.2 Research Philosophy

Saunders, Lewis, and Thornhill (2016) outline five main research philosophies: positivism, critical realism, interpretivism, post-modernism, and pragmatism. This study adopts an interpretivist philosophy, aligning its ontology, epistemology, and axiology with interpretivist principles.

Interpretivism is grounded in the belief that human interpretation is key to understanding social realities. As Prasad (2005) explains, interpretivism centres on how individuals perceive and interpret their experiences, making these perceptions fundamental to building social knowledge (Eriksson, Kovalainen 2008, Symon, Cassell 2012).

Acknowledging that social reality is often shaped through individual and collective experiences, this study recognises the complex nature of reality. It embraces the interpretivist view that while a tangible world exists, our understanding is shaped by social and cultural contexts (Symon, Cassell 2012). The researcher's role, therefore, involves balancing objectivity with an awareness of interpretation's influence on analysis (Eriksson, Kovalainen 2008).

This research philosophy was chosen due to its focus on human perceptions and narratives, which is essential in exploring the relationship between customer expectations and satisfaction. It is particularly relevant to AI and human live-chat interactions in e-commerce, where

subjective customer experiences are crucial for understanding satisfaction levels (Tsoukas, Knudsen 2003, Eriksson, Kovalainen 2008, Symon, Cassell 2012).

3.3 Research Approach

The choice of research approach is crucial as it dictates the procedures for data collection, analysis, and interpretation. Saunders, Lewis and Thornhill (2016) describe three approaches to theory development: deduction, induction, and abduction. Deduction involves deriving specific conclusions from general premises, induction draws general conclusions from specific observations, and abduction forms plausible hypotheses to explain observations (Uwe 2018).

In qualitative research, the inductive approach is particularly significant. Erikkson and Kovalainen (2008) note that qualitative research is rooted in inductive reasoning, where theories emerge from empirical findings rather than pre-existing hypotheses. Inductive research begins with observations and builds theoretical insights from the data.

This study adopted an inductive approach, aligning with its interpretivist philosophy. Given the aim to explore customer expectations and satisfaction in AI and human live-chat interactions, an inductive approach allowed for insights to emerge directly from specific observations, generating meaningful and contextually relevant findings (Azungah 2018).

Following an inductive approach also allowed openness to unexpected findings, as theories evolve in response to data rather than being fixed (Johnson, Duberley 2000). This flexibility was essential for understanding the complex, dynamic nature of customer interactions in e-commerce.

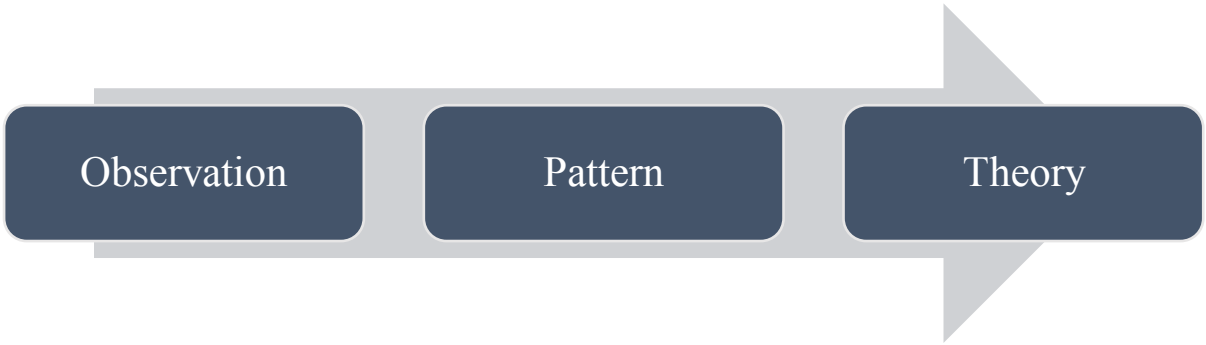


Figure 3 - Induction Approach Process - Adopted from Saunders, Lewis, Thornhill (2016)

3.4 Data Collection

3.4.1 Primary Data

Primary data collection was chosen for this study to ensure that the gathered data aligned closely with the study's objectives rather than repurposing data collected for other purposes. This choice allowed the researcher to tailor the research design to meet the study's specific aims (Adams 2015, Saunders, Lewis, Thornhill 2016).

A key advantage of this method is the flexibility of qualitative interviews, enabling participant selection based on the study's needs. Since semi-structured interviews were carried out, a list of themes and key questions were prepared, and adapted during each interview. This adaptability ensured that the interviews remained relevant and focused, while also permitting exploration of new topics that emerged during the conversations. By adapting questions to the flow of each interview, the study captured a well-rounded understanding of the research topic.

3.4.2 Qualitative Approach

A research study can employ both qualitative and quantitative approaches. Qualitative methods focus on gathering non-numerical data, such as through interviews and focus groups, whereas quantitative methods involve the collection of numerical data (Erikkson and Kovalainen 2008, Saunder, Lewis, Thornhill 2016).

This study employed a qualitative approach, given its aim to understand customer expectations when interacting with AI chatbots versus human live-chat agents and how these expectations impact satisfaction. By using qualitative methods, detailed data was gathered through customer interviews, revealing specific expectations for different interaction types and capturing nuanced insights often missed by quantitative approaches.

Therefore, semi-structured interviews were conducted in this study, enabling participants to respond in a conversational style rather than through direct questions and answers. This method was selected to emphasise and elaborate on the participants' words, providing richer detail compared to quantitative methods like Likert-scale surveys (Bell, Bryman, Harley 2022).

3.4.3 Semi-Structured Interviews

As highlighted previously, semi-structured interviews were used as the data collection tool for this study. These interviews answered the below research questions:

RQ1: What are the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website?

RQ2: How do these specific expectations influence overall customer satisfaction when using AI chatbots versus human live-chat agents?

The below interview guide (Figure 4) was used for the semi-structured interviews. The full interview guide can be found in Appendix A.

Topic	Discussion Questions/Prompts	Literature Source
General Information regarding Chatbot/Live Chat Interactions	• Familiarity with both agents • Why do you interact with both agents?	Belanche, Belk, Casalò et al. (2024)
Chatbot Interactions	• Describe an interaction with both agents • *Prompt: Both positive and negative interactions*	
Chatbot Expectations & (Dis)Confirmation	• Primary Expectation when interacting with each agent • *Prompt: Valence of expectations (positive and negative)* • Ranking these expectations in terms of which bring most satisfaction if met • Thinking back to the experiences you mentioned before, would you say that your expectations were reached? (for both agents)	Burgoon, Bonito, Lowry et al. (2016), Crolic, Thomaz, Hadi et al. (2021), Oliver (2015), Go and Sundar (2019), Lankton and McKnight (2012), Parasuraman, Ziethaml, Berry (1994), Fu, Zhang, Chan (2018), Kumar, Israel, Malik (2018), Novak, Hoffman, Yung (2000)
Chatbot Satisfaction	• Were the expectations you identified prior to the chatbot interaction met? • *Prompt:Did you assess your satisfaction level according to expectation confirmation?* • Most v Least Satisfactory Attribute • Were there any moments of Frustration & Dissatisfaction? • *Prompt: Highlighting specific attributes and if these were satisfactory (e.g., responsiveness, clear information)* • *Prompt: Satisfaction with chatbot + brand trustworthiness, user intention*	Oliver (2015); Eren (2020), Ghazali, Mutum, Lun (2023), Liao (2007), Rheu, Dai, Meng et al. (2024), Jenneboer, Herrando, Constantinides (2022), McLean, Wilson (2016), Siswi, Wahyono (2020), Hallowell (1996)

Figure 4 - Interview Guide

The interviews were conducted in person to accurately capture participants' reactions, actions, and behaviours. Each session was recorded and transcribed to support the data analysis process.

Interview questions were crafted from insights in the literature review to ensure alignment with research objectives. They aimed to further explore the research questions and gather information about participants' past experiences with AI chatbots and human live-chat agents, as well as their interactions with a chatbot tool created for the study.

A key method employed in these semi-structured interviews was the Critical Incident Technique (CIT). This technique involves collecting and analysing significant incidents that illuminate the phenomena under study - in this case, expectations and satisfaction when interacting with an AI chatbot vs a human live-chat agent in an e-commerce website. CIT was selected for its ability to capture rich, detailed data, offering deep insights into the research questions (Sharoff 2008, Saunders, Lewis, Thornhill 2016).

CIT was used particularly in the first part of the interview. The researcher noted whether participants initially described a positive or negative interaction with AI chatbots or human agents, which influenced the tone for the rest of the interview.

Example of the application of the CIT from the Interview Guide:

- Have you ever interacted with an AI chatbot, and if so, what was your experience like? Can you mention a specific interaction? *(See what they mention first - a positive or a negative interaction and delve deeper).*
- Have you ever interacted with a human live-chat agent, and if so, what was your experience like? Can you mention a specific interaction? *(See what they mention first - a positive or a negative interaction and delve deeper).*

3.4.4 Sampling

Given that it is impractical to collect data from the entire target population, sampling is a necessary step in this research. Since the sampling frame is not available and the research does not aim to make statistical inferences about the entire population, the sample does not need to be proportionally representative. The primary aim of this research is exploratory, focusing on in-depth insights rather than broad generalisations, and the selected cases may be difficult to access. Therefore, typical case sampling, a type of purpose sampling technique was employed (Saunders, Lewis, Thornhill 2016).

Typical case sampling involves selecting participants who represent the average experience within the population. This approach allows for a clearer exploration of the phenomenon in a typical setting, avoiding the influence of extreme cases (Nyimbili, Nyimbili 2024).

Participants were selected from the 18-27 age range, representing Generation Z. This demographic was chosen to maintain consistency within a generational cohort and to focus on a group highly relevant to the study, as Generation Z frequently engages with chatbots and digital communication tools. A total of twenty-seven interviews were conducted, ceasing upon reaching data saturation (Glaser, Strauss 2017).

3.4.5 Pilot Study

Conducting a pilot study is an essential step in research, serving as a preliminary test of the research instrument with a small group of participants. While a pilot study does not guarantee the success of the full-scale research, it improves the likelihood of achieving reliable results (Saunders, Lewis, Thornhill 2016, Uwe 2018). In this study, a pilot test was carried out with three participants, and their feedback was used to refine and improve the research instrument before the broader data collection began.

As shown in Appendix A, the interview questions were organised into four sections. The first section focused on participants' knowledge of AI chatbots, functioning as an icebreaker and providing background information on the participant. No changes were made here, as participants understood the questions well. A limitation was noted when participants lacked prior experience with either agent, preventing the use of the CIT.

The second section explored expectations for both AI chatbots and human live-chat interactions. While no significant changes were needed, it was observed that participants sometimes required additional guidance on “primary expectations” for each agent. Additionally, the last two questions, which focused on preferences, were often skipped as participants addressed them indirectly earlier in the interview.

The third section introduced the AI chatbot tool. To ensure consistency, all participants engaged with a fictional e-commerce business chatbot, Prestige, based on Frank Zampa’s current business model. Participants were given a brief and 25 questions to choose from when interacting with the chatbot. The primary issue observed was that participants needed more time to review the questions before interacting with the chatbot.

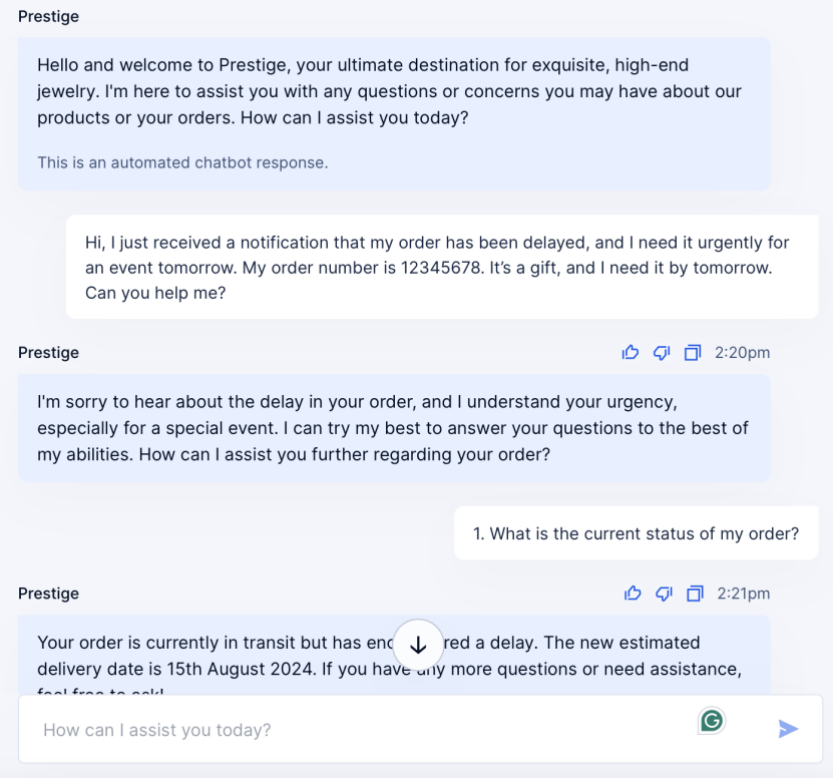


Figure 5 - Screenshot of an Interaction with the Chatbot

The fourth and final section of the interview focused on assessing participants' satisfaction with the AI chatbot tool they interacted with in the previous section. This section aimed to evaluate their overall experience with the chatbot and compare it to their satisfaction with human live-chat agents. Unlike the previous sections, this part was less structured; while the interview

guide provided a framework, participants often shared additional insights, leading to follow-up questions.

Additionally, the questions were translated into Maltese, as most participants preferred or required Maltese for additional guidance during the interview.

3.5 Data Analysis Methodology

Nvivo14, a specialised qualitative data analysis software, was used to analyse the collected data, assisting in sorting and organising information for in-depth examination. Due to language limitations, Nvivo did not transcribe the interviews, as some were conducted in Maltese, which the software does not support. Therefore, the researcher manually translated and transcribed the interviews into Word documents before importing them into Nvivo. The software facilitated thematic analysis by enabling the creation of themes and identifying connections between them, providing a nuanced understanding of the data.

The thematic approach outlined by Gioia, Corley, and Hamilton (2013) was employed. Data analysis began with initial codes reflecting interviewees' specific terms, ensuring accuracy. These codes were then examined for patterns and relationships, leading to broader themes. Through iterative transcript reviews, these themes were refined and grouped into aggregate dimensions, building a structured progression from raw data to theoretical concepts (Gioia, Corley, Hamilton 2013), suitable for inductive, qualitative-interpretivist research (Gehman, Glaser, Eisenhardt et al. 2018).

Following Jackson and Bazeley's (2019) approach, coding began with a detailed transcript to establish initial codes. Relationships between second-order themes were explored to classify them into higher-level aggregate dimensions. For example, categories like "Efficiency and Speed" and "Complexity and Task Suitability" were grouped under "Operational Efficiency." This method was consistently applied across the dataset.

Ultimately, five distinct aggregate dimensions were identified, as illustrated in Figure 6 and discussed in the next chapter.

3.6 Ethical Considerations

Prior to each interview, participants were informed that their voices would be recorded solely for research purposes. To protect their privacy and secure consent, a consent form was provided before the interview, reminding them of their right to end the interview at any time. A sample of the consent form, collected via Google Forms, is included in Appendix B.

The consent form confirmed that participation was entirely voluntary and that no incentives were offered. The study was also conducted with impartiality to ensure unbiased analysis and results.

3.7 Methodological Challenges and Limitations

It is essential to acknowledge the limitations inherent in this methodology.

Firstly, the qualitative nature of the research may lead to context-specific findings that are difficult to generalise. The emphasis on interpretation could introduce subjectivity, potentially impacting the reliability of results due to respondent or recall bias (Saunders, Lewis, Thornhill 2016). To mitigate respondent bias, clear and direct questions were formulated, and a pilot interview was conducted to identify and minimise potential biases (Saunders, Lewis, Thornhill 2016, Eriksson, Kovalainen 2011).

A notable challenge was the development of the chatbot using Zapier, which required multiple tests to ensure functionality aligned with the research goals. Additionally, participants were given 25 preset questions to choose from when interacting with the chatbot. While this approach standardised the experience across participants, it also posed limitations, as participants occasionally had to select the closest match to their intended question, potentially affecting the authenticity of their engagement and responses.

4. Results

4.1 Introduction

This study focused on Maltese Generation Z nationals, aged 18 to 27 in 2024. This chapter presents findings from the primary data, addressing the two main research questions using the Gioia Method (Gioia, Corley, Hamilton 2013), which organises data into first-order concepts, second-order themes, and aggregate dimensions.

The chapter begins with participant profiles, summarising their familiarity, experiences, and expectations with AI chatbots and human live-chat agents. This context sets the stage for a deeper exploration of participant perspectives.

The findings are organised around the two main research questions. First, they examine customer expectations of AI chatbots versus human agents on e-commerce sites, focusing on efficiency, speed, complexity, empathy, problem-solving, reliability, and personalisation. Second, they explore how these expectations affect customer satisfaction, identifying areas where AI and human agents succeed or fall short.

4.2 Sample Description

This study included 27 participants, with 15 males and 12 females, aged between 18 and 27. Among them, 23 are full-time students, 14 of whom are also employed part-time, while the remaining 4 are graduates working full-time. In terms of experience, 10 participants reported a low level of familiarity with AI chatbots, 8 had moderate experience, and 9 had high experience. For human live-chat agents, 9 participants had low experience, 10 moderate, and 8 high. The slight difference in experience levels shows a majority with low AI chatbot experience and moderate human live-chat experience.

The table below details each participant's gender, age, field of study, field of work, and experience levels with AI chatbots and human live-chat agents, categorised as low, moderate, or high.

Participant	Gender	Age	Field of Study	Field of Work	Experience with AI Chatbots	Experience with Human Live-Chat Agents
P1	Male	22	Economics	Not Applicable	High	High
P2	Male	22	Accounting	Accounting	Low	Low
P3	Male	21	Economics	Not Applicable	Low	Low
P4	Male	21	Earth Systems	Earth Systems	Moderate	Moderate
P5	Male	22	Accounting	Not Applicable	Low	Moderate
P6	Male	21	Accounting	Accounting	Moderate	Low
P7	Male	21	Accounting	Accounting	Low	Low
P8	Male	21	Accounting	Not Applicable	Low	Moderate
P9	Female	27	Earth Systems	Earth Systems	High	High
P10	Female	23	Marketing	Earth Systems	High	High
P11	Male	24	Not Applicable	Business	High	High
P12	Male	23	Not Applicable	Business	High	High
P13	Female	21	Marketing	Marketing	Moderate	Low
P14	Female	21	Accounting	Accounting	Low	Moderate
P15	Male	18	Marketing	Not Applicable	Moderate	Moderate
P16	Female	21	Accounting	Accounting	Moderate	Moderate
P17	Female	22	Banking and Finance	Banking and Finance	Low	Low
P18	Male	21	Marketing	Freelance Photography	Moderate	Moderate
P19	Male	27	Not Applicable	Customer Service	High	High
P20	Female	22	Marketing	Accounting	High	Low
P21	Female	22	Accounting	Not Applicable	Moderate	Low
P22	Female	22	Accounting	Not Applicable	High	High
P23	Male	22	Economics	Not Applicable	Moderate	Moderate
P24	Female	22	European Studies	Politics and Current Affairs	Low	Moderate
P25	Male	22	Not Applicable	Marketing	Low	Moderate
P26	Female	22	Accounting	Not Applicable	Low	Low
P27	Female	21	Law	Law	High	High

Table 4 - Table of Participants

4.3 Participants' Familiarity with AI Chatbots and Human Live-Chat Agents

Participants were asked about their familiarity with regards to AI chatbots and human live-chat agents to assess their experiences and understanding of these technologies. The responses were varied, reflecting different levels of interaction and familiarity.

4.3.1 Familiarity with AI Chatbots

Of the 27 participants, 19 reported familiarity with AI chatbots, while 8 indicated limited familiarity. Those familiar with chatbots mentioned using them in contexts such as online shopping, customer service inquiries, and telecommunications.

> *"I think I have a good understanding of what a chatbot is. I use them regularly, mostly to buy things online or to learn more about certain shops."* (Participant 1)

Interestingly, while the initial question focused on familiarity, several participants quickly referenced negative experiences with AI chatbots. Common issues included slow response times and impersonal interactions, indicating that familiarity often did not translate into positive experiences.

> *"I don't think they're that efficient. I used it once, but it took a long time to reply so I didn't continue using it."* (Participant 26)

> *"I am a bit familiar. Overall, I am open to the use of AI chatbots, although, as so far, my experience has been a little bit negative when it comes to the results that were generated when compared to what I actually wanted."* (Participant 18)

4.3.2 Familiarity with Human Live-Chat Agents

In comparison, familiarity with human live-chat agents was slightly higher, with 21 participants indicating familiarity and 6 stating they were not. Those familiar with human live-chat agents often compared these interactions to AI chatbots, generally favouring live-chat agents for their personal touch and effectiveness in handling complex issues.

"I've interacted with human agents... I would say that the experience is a bit more detailed, and if my issue is not a common one, a human could help more." (Participant 24)

Some participants expressed a preference for interacting with human agents when AI chatbots were unable to resolve their issues.

"Sometimes I ask the bot to connect me to a human because I can't communicate to the bot properly." (Participant 25)

"Generally, I made use of the service when the AI chat wasn't enough. So, I end up having to divert to someone who can help me a bit better." (Participant 9)

In conclusion, while most participants were familiar with both AI chatbots and human live-chat agents, there was a clear preference for human agents, particularly in situations requiring nuanced understanding and detailed responses. Mixed experiences with AI chatbots indicate that, despite their widespread use and recognition, some scepticism persists about their effectiveness, especially when compared to human agents.

4.4 Participants' Experiences with AI Chatbots and Human Live-Chat Agents

Participants discussed their experiences with AI chatbots and human live-chat agents, highlighting perceived strengths and weaknesses of each. Out of 27 participants, 19 had experience with AI chatbots, while 8 had not; similarly, 20 had interacted with human live-chat agents, with 7 lacking such experience. These interactions included both positive and negative aspects.

4.4.1 Experiences with AI Chatbots

From the 19 participants who had prior experience with AI chatbots, the responses were mixed. Some participants praised the efficiency and speed of AI chatbots.

"...my experience has always been a relatively good one. ...they always understood what I was referring to, and the time they took to reply was always very short" (Participant 1)

Another participant (Participant 12) noted the utility of chatbots in filtering queries before escalating them to a human agent, which they found effective in reducing wait times.

However, several participants voiced frustration with AI chatbots' limitations, citing issues like a lack of contextual understanding and repetitive, unhelpful responses. One participant (Participant 13) described their experience as *"neutral to negative,"* explaining that they had to *"repeatedly prompt the chatbot, only to receive the same unhelpful response each time"*.

Participant 20 echoed a similar sentiment, noting that while the chatbot was helpful for basic tasks, it ultimately could not resolve their issue, requiring human intervention.

Other participants similarly felt that AI chatbots struggled with more complex or specific queries. One participant described an experience where the chatbot's responses felt *"limited and unhelpful,"* leading them to request a transfer to a human agent. This reflects a broader concern among participants that, although AI chatbots are efficient, they may lack the depth of support needed in more complicated situations.

> *"It was very unhelpful, because it was very limited in its responses. I noticed it was AI, because it was spitting out different responses, but the same thing in essence. And it kept going round in circles, even though I kept asking for something different. So, it was very, very not useful, and at the end I had asked it specifically to redirect me to a human."* (Participant 4)

4.4.2 Experiences with a Human Live-Chat Agent

Experiences with human live-chat agents were similarly varied among the 20 participants who had used them. Many participants valued the human touch and the agents' ability to handle more complex issues.

> *"The person was helpful. We arrived to what I wanted eventually. I never had to go back because the person didn't help me... I think human is always better because they focus more on your issue. When it's AI, it has four options and it can't really help you beyond that, and your problem might not be one of those four options."* (Participant 22)

However, not all interactions with human agents were positive. Some participants reported long wait times and occasional misunderstandings. One participant recounted a frustrating experience, noting they had to wait a long time to connect with a human agent, only to find that the agent did not fully understand their query.

> *"It was a bit more frustrating because I had to wait for a pretty long time to get to the agent and then longer for them to respond."* (Participant 15)

Another participant mentioned that although they initially contacted a human agent expecting better service, the agent simply referred them to another email, which they found disappointing.

> *"In my experience, it's not that successful in the way that all they did was refer me to another email, because my issue was too specific."* (Participant 14)

Interestingly, some participants found that the line between AI and human agents could be blurred, with one participant unsure whether they were interacting with a human or an AI, leading to a somewhat neutral experience.

> *"I had one experience with a human, but I didn't really believe that it was a human. I still found the product I wanted, but whether it was an AI or a human, I don't know."* (Participant 21)

This underscores a potential challenge in customer experience: the lack of clear communication regarding whether a customer is interacting with a human or an AI can influence perceived service quality.

In summary, while participants generally viewed human live-chat agents as more capable of handling complex, nuanced issues, they valued AI chatbots for their speed and efficiency with straightforward queries. The mixed experiences with both types of agents suggest room for improvement in how these technologies are deployed, especially in ensuring they complement each other effectively to meet diverse customer needs.

4.5 Participants' Expectations for AI Chatbots and Human Live-Chat Agents

Understanding participants' expectations is crucial in the context of ECT (Oliver 2015), which posits that customers form initial expectations of a service or technology, which then influence their subsequent satisfaction based on whether these expectations are confirmed or disconfirmed.

This section explores participants' specific expectations for AI chatbots and human live-chat agents. These expectations, shaped by prior experiences and perceptions, significantly impact how participants assess their interactions and determine whether the actual service aligns with their expectations (Zeithaml, Berry, Parasuraman 1993). Interview data highlighted a range of anticipations around efficiency, accuracy, personalisation, and the overall customer experience, all of which contribute to satisfaction or dissatisfaction as described by ECT.

The expectations identified from participants' responses were categorised into the five distinct levels outlined in the literature: basic, performance, delight, latent, and ideal expectations (Oliver 1980, Parasuraman, Zeithaml and Berry 1985).

4.5.1 Expectations for AI Chatbots

Basic Expectations

At the most fundamental level, participants expected AI chatbots to handle routine tasks efficiently, delivering quick and accurate responses.

> *"I expect it to have instant responses and accurate responses to my problem, not other information."* (Participant 15)

For many, speed was a central expectation, with instant responses seen as a minimum requirement, especially for simpler queries.

> *"I expect the resolution to be quick, that's for sure."* (Participant 19)

However, these basic expectations also underscored AI's limitations. While participants valued efficiency, they often expected AI chatbots to struggle with complex or nuanced queries, resulting in lower expectations for sophisticated interactions.

> *"When I notice that it's an AI chatbot, I would have low expectations... It might be a bit repetitive or take a while to understand."* (Participant 16)

Performance Expectations

Beyond basic functionality, participants held performance expectations regarding the chatbot's overall competence. They expected chatbots to manage common tasks effectively, without demanding excessive customer effort. Expectations varied with task complexity; participants generally expected chatbots to perform well with straightforward, transactional tasks but recognised limitations in handling more nuanced issues.

> *"If I'm feeling lazy, and it's a simple yes or no question, or I don't feel like looking up a phone number or an address or something, and I need it quickly or whatever, I'll ask, and it will give it, because it's something in the programme that can easily answer it."* (Participant 14)

Participants often noted that for straightforward queries, such as obtaining contact details or basic information, chatbots should deliver quick and efficient responses. However, for more complex issues, they had lower expectations of the chatbot's ability to handle them effectively.

> *"I would say that the human live-chat experience is a bit more detailed. And if my issue is not a common one, I feel like a human usually tends to help more*." (Participant 24)

This highlights that participants' performance expectations were highly context-dependent, with task complexity shaping their confidence in the chatbot's capabilities.

Delight Expectations

While most participants did not expect AI chatbots to exceed basic and performance needs, some expressed a desire for chatbots to surprise them by going beyond these expectations. This included handling nuanced issues and providing personalised responses, even though such expectations were rarely met.

"It gave me something more than I actually was expecting." (Participant 12)

These delight expectations, though less commonly mentioned, reflect participants' hopes for AI to advance beyond basic functionality, delivering a more seamless and intuitive experience.

Latent Expectations

Latent expectations, or unspoken assumptions, also emerged during the interviews. A notable example was the expectation of privacy when using AI chatbots. Although privacy is emphasised in the literature (e.g. Pizzi, Scarpi and Pantano 2021, Huang, Markovitch and Stough 2024), surprisingly few participants mentioned it directly. This suggests that participants may have assumed data protection measures were already in place, viewing privacy as a given.

Ideal Expectations

Ideal expectations for AI chatbots were less commonly expressed, as most participants prioritised efficiency and accuracy. However, some participants voiced a desire for AI to eventually reach a level of advanced interaction, where chatbots could seamlessly combine human-like understanding with the speed and efficiency of AI.

> *"I would suggest making it more human-like to show a bit more emotions, but not as much as a person obviously."* (Participant 1)

4.5.2 Expectations for Human Live-Chat Agents

Basic Expectations

In contrast to AI chatbots, participants' basic expectations for human live-chat agents emphasised understanding and empathy. At a minimum, participants expected human agents to engage with emotional awareness and a level of human understanding that AI often lacks.

> *"I think that the human live chat, might behave differently in a way that it can understand feeling."* (Participant 12)

Performance Expectations

Participants' performance expectations for human agents focused on accuracy and in-depth knowledge. They expected human agents to provide precise, well-informed responses and to handle complex queries more effectively than chatbots.

> *"Knowledgeable is the most important for me, then for it to answer what I ask."* (Participant 11)

> *"I would expect it to understand my problem further. Since they have more expertise in the field".* (Participant 16)

Interestingly, while participants valued the human touch, they acknowledged that human agents might be slower in response times compared to chatbots. However, they often found the trade-off acceptable if it meant receiving a more accurate or empathetic response.

> *"I think it would take more time when using a human. But again, you lose something, you get something back".* (Participant 12)

Delight Expectations

Some participants expressed delight expectations, hoping for human agents to exceed basic requirements by offering personalised solutions and delivering an experience that surpassed their initial expectations.

> *"There's this human aspect that understands and it gives you these personal tips to make your experience better."* (Participant 4)

Latent Expectations

Latent expectations also surfaced for human live-chat agents. While literature often highlights limitations of human agents, such as higher operational costs and limited availability compared to AI chatbots, these issues were not mentioned by participants. This absence suggests that participants may subconsciously accept these limitations but do not view them as significant concerns, likely focusing more on the quality of interaction than on operational constraints.

In summary, participants' expectations for AI chatbots centred on speed, efficiency, and handling routine queries, while human live-chat agents were expected to provide deeper understanding, empathy, and expertise. Examining these expectations across different levels reveals how alignment or misalignment of these expectations shapes participants' satisfaction with their interactions.

To systematically explore the data, the Gioia Method for Coding (Gioia, Corley, Hamilton 2013) was applied, enabling a detailed analysis of the relationship between participants' expectations and their satisfaction.

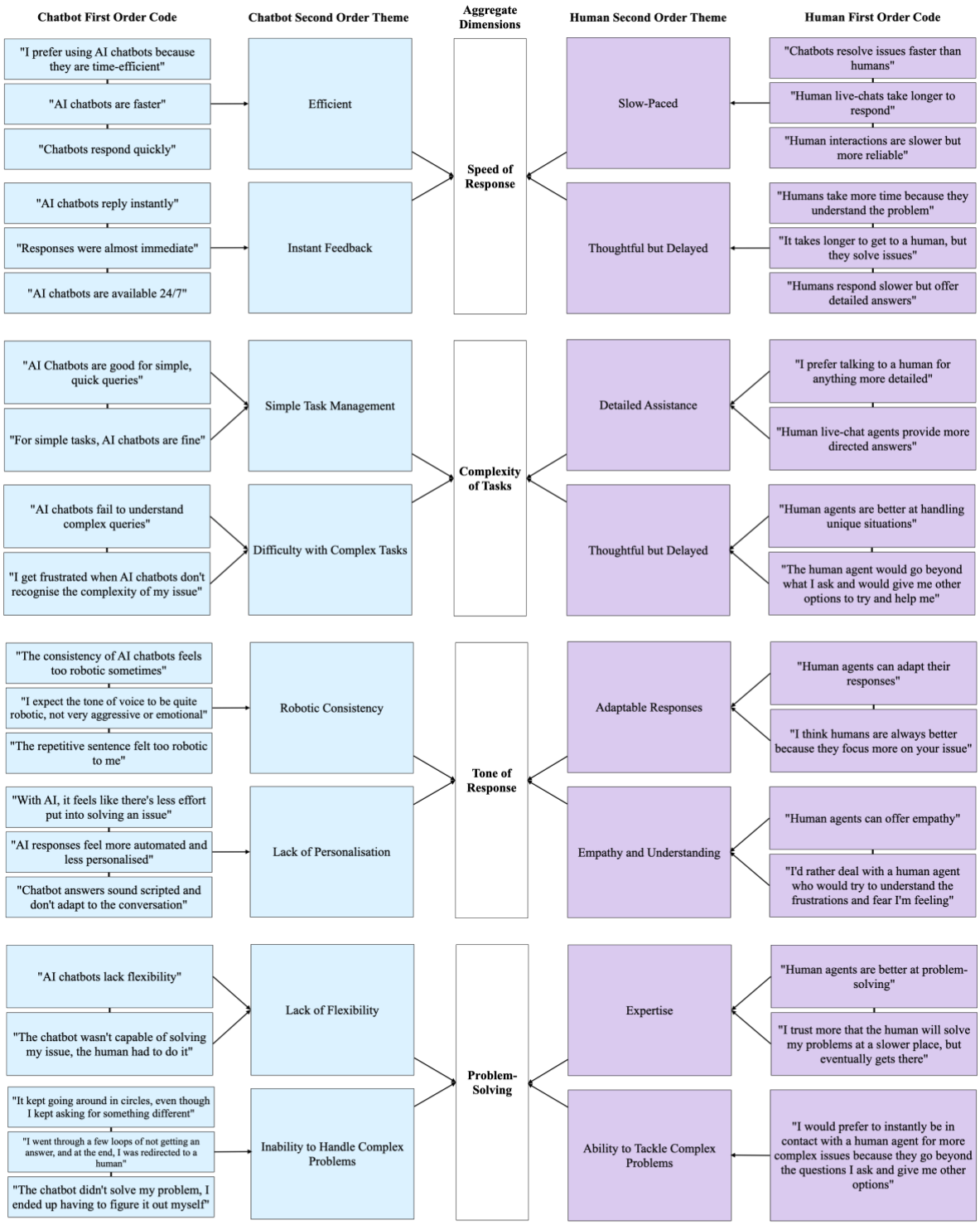
4.6 Relationship between Participants' Expectations and their Satisfaction

The first step in the analysis involved systematically reviewing each of the 27 transcripts in NVivo 14, identifying key statements and phrases, known as first-order concepts (Gioia, Corley, Hamilton 2013, Chandra, Shang 2019, Castillo, Canhoto, Said 2020). These first-order concepts reflect participants' immediate experiences and expectations regarding AI chatbots and human live-chat agents.

These first-order concepts were then grouped into broader categories, or second-order themes, which capture recurring ideas and patterns in the data. Finally, these themes were distilled into aggregate dimensions, encapsulating the key findings of the analysis (Gioia, Corley, Hamilton 2013, Chandra, Shang 2019, Castillo, Canhoto, Said 2020).

This section reveals a complex relationship between participants' expectations and their satisfaction with AI chatbots and human live-chat agents. Findings indicate that while participants appreciate chatbots for their efficiency and quick responses, particularly for managing simple, high-volume queries, they consistently prefer human agents for complex tasks requiring flexibility, problem-solving, and empathy. The analysis explores the interactions between response speed, task complexity, tone, problem-solving ability, assurance, scalability, and personal touch in relation to both AI chatbots and human agents.

These insights are synthesised in the Data Analysis Framework (Figure 6), which illustrates the core themes and dimensions emerging from the data.


Chatbot First Order Code
Chatbot Second Order Theme
Aggregate Dimensions
Human Second Order Theme
Human First Order Code
"I prefer using AI chatbots because they are time-efficient"
"AI chatbots are faster"
"Chatbots respond quickly"
Efficient
Speed of Response
Slow-Paced
"Chatbots resolve issues faster than humans"
"Human live-chats take longer to respond"
"Human interactions are slower but more reliable"
"AI chatbots reply instantly"
"Responses were almost immediate"
"AI chatbots are available 24/7"
Instant Feedback
Thoughtful but Delayed
"Humans take more time because they understand the problem"
"It takes longer to get to a human, but they solve issues"
"Humans respond slower but offer detailed answers"
"AI Chatbots are good for simple, quick queries"
"For simple tasks, AI chatbots are fine"
Simple Task Management
Complexity of Tasks
Detailed Assistance
"I prefer talking to a human for anything more detailed"
"Human live-chat agents provide more directed answers"
"AI chatbots fail to understand complex queries"
"I get frustrated when AI chatbots don't recognise the complexity of my issue"
Difficulty with Complex Tasks
Thoughtful but Delayed
"Human agents are better at handling unique situations"
"The human agent would go beyond what I ask and would give me other options to try and help me"
"The consistency of AI chatbots feels too robotic sometimes"
"I expect the tone of voice to be quite robotic, not very aggressive or emotional"
"The repetitive sentence felt too robotic to me"
Robotic Consistency
Tone of Response
Adaptable Responses
"Human agents can adapt their responses"
"I think humans are always better because they focus more on your issue"
"With AI, it feels like there's less effort put into solving an issue"
"AI responses feel more automated and less personalised"
"Chatbot answers sound scripted and don't adapt to the conversation"
Lack of Personalisation
Empathy and Understanding
"Human agents can offer empathy"
"I'd rather deal with a human agent who would try to understand the frustrations and fear I'm feeling"
"AI chatbots lack flexibility"
"The chatbot wasn't capable of solving my issue, the human had to do it"
Lack of Flexibility
Problem-Solving
Expertise
"Human agents are better at problem-solving"
"I trust more that the human will solve my problems at a slower place, but eventually gets there"
"It kept going around in circles, even though I kept asking for something different"
"I went through a few loops of not getting an answer, and at the end, I was redirected to a human"
"The chatbot didn't solve my problem, I ended up having to figure it out myself"
Inability to Handle Complex Problems
Ability to Tackle Complex Problems
"I would prefer to instantly be in contact with a human agent for more complex issues because they go beyond the questions I ask and give me other options"

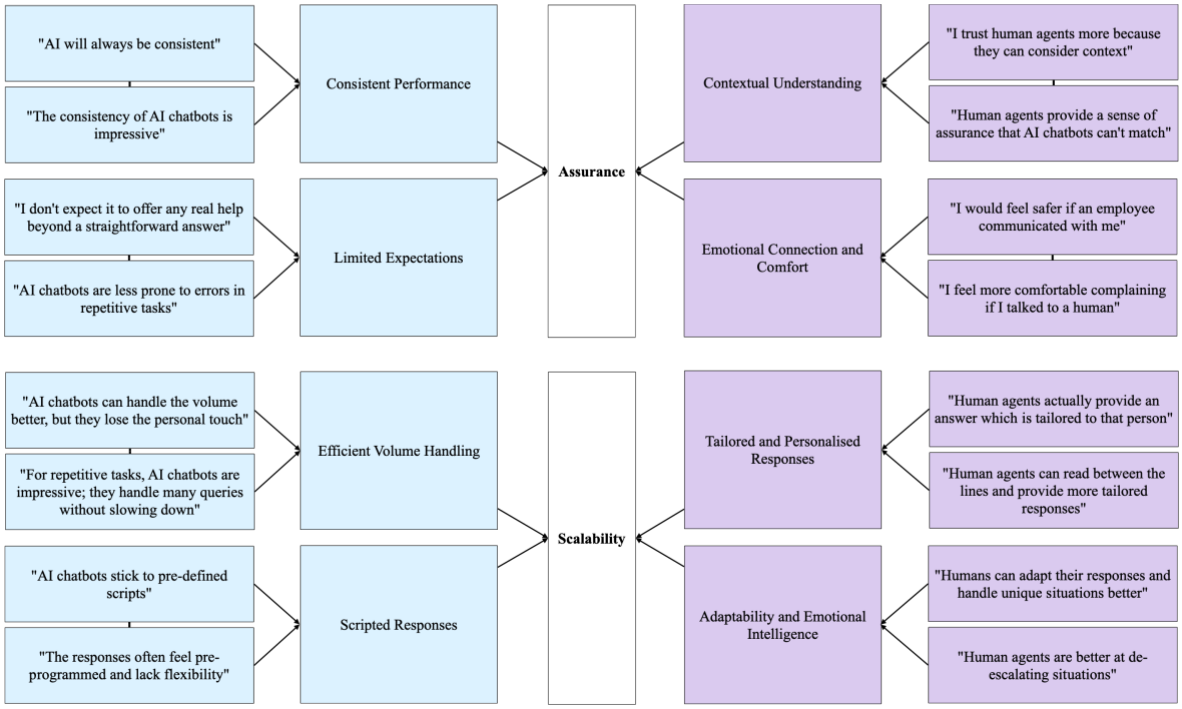


Figure 6 - Data Analysis Framework

4.6.1 Speed of Responses

Participants expressed a strong preference for the speed and efficiency of AI chatbots, particularly for handling routine tasks. Many valued chatbots' rapid response times, seeing quick responses as a core expectation for simple queries.

> *"I feel that you get the job done much faster through interacting with an AI chatbot."* (Participant 1)

This reflects a general expectation for efficiency in chatbot interactions. However, some participants highlighted a trade-off between speed and accuracy, which occasionally led to unmet expectations and frustration.

> *"The response rate from an AI chatbot is much quicker... but sometimes just getting an answer… that isn't really exactly what you need."* (Participant 10)

Human agents, while perceived as slower, were often viewed as more reliable in delivering accurate responses.

"I would expect slower service [from a human live-chat agent], but I would expect that it's more reliable, perhaps, and accurate." (Participant 4)

This points to a nuanced expectation where customers seek both speed and precision, with satisfaction levels varying based on query complexity. These insights reveal the underlying expectations customers hold when interacting with AI chatbots versus human agents, as they weigh the convenience of rapid responses against the need for accuracy and contextual relevance.

4.6.2 Complexity of Tasks

AI chatbots were appreciated for their efficiency with simple tasks, but participants encountered challenges when expecting chatbots to handle complex issues. Disconfirmation of expectations occurred when participants sought solutions to nuanced problems that chatbots struggled to address.

"For an issue like this [having an order not arriving by its estimated date of arrival], I would prefer to instantly be in contact with a human." (Participant 4)

While AI chatbots met expectations for basic queries, they often fell short in complex scenarios, leading participants to request escalation to human agents who could provide more tailored support.

"For extremely simple queries, a chatbot is useful... but for more complicated queries... there are humanistic solutions to it [that the chatbot does not offer]." (Participant 19)

The participants' experiences highlight that while AI chatbots are appreciated for their speed and efficiency in handling straightforward tasks, they are often viewed as insufficient when dealing with complex or personalised issues. This contrast in task suitability reflects the distinct expectations customers have for different types of service agents and suggests broader implications for customer satisfaction.

Contextual understanding emerged as a significant factor in customer interactions, especially in situations involving nuanced or complex issues. While participants praised AI chatbots for

efficiently managing basic queries, several noted that these systems often lacked the depth required for more intricate problems.

> *“There was no way to put context to what I’m asking... I can’t explain my situation for it to understand me.”* (Participant 25)

This limitation in contextual awareness also contributed to frustration in cases where empathy or urgency was needed.

> *“A human would have understood the urgency."* (Participant 16)

These responses underscore a gap between customer expectations for contextual understanding and AI chatbots' current capabilities. While chatbots perform well with simple inquiries, their limited ability to interpret complex or emotionally charged situations reduces their effectiveness. Consequently, this unmet expectation often led participants to seek escalation to human agents, whose abilities were perceived as better aligned with their needs.

4.6.3 Tone of Response

The distinction between AI chatbots and human agents became particularly apparent when participants reflected on the role of human insight and empathy in customer service. Many participants felt that human agents were better equipped to handle emotionally charged situations or those requiring understanding beyond the literal query content.

Participants' expectations regarding the tone of response often led to disappointment with AI chatbots, which they found robotic and repetitive despite expectations for a neutral or friendly tone.

> *"The consistency of AI chatbots feels too robotic, like it doesn't care about the problem."* (Participant 12)

> *"With AI, it feels like there’s less effort put into solving an issue, and the tone is robotic."* (Participant 12)

In contrast, human agents were seen as capable of delivering empathetic responses, particularly in sensitive situations, which increased participant satisfaction when empathy was present.

> *"They [the human agent] are more empathetic, a human would empathise more than the chatbot."* (Participant 20)

Participant 19 noted that human agents are more likely to "*soften the blow*" with personalised, compassionate responses that chatbots cannot replicate. This highlights the significant role of empathy in customer satisfaction, particularly when customers are frustrated or upset.

The findings suggest that while AI chatbots are adequate for tasks without an emotional component, they fall short in situations requiring empathy and personalised support. The ability of human agents to understand and respond to the emotional and contextual nuances of customer issues is a key factor in delivering a satisfactory customer experience.

4.6.4 Problem-Solving

Participants frequently encountered disconfirmation of expectations with AI chatbots in terms of problem-solving. They often anticipated some degree of flexibility from chatbots, especially in situations requiring alternative solutions. However, many found chatbots unable to move beyond scripted responses, resulting in frustration.

> *"The chatbot wasn't capable of solving my issue, the human had to do it."* (Participant 12)

This reflects a gap between participant expectations for dynamic problem-solving and the rigid responses often provided by chatbots. In contrast, human agents were valued for their adaptability and creativity in addressing complex issues, meeting participants' expectations for personalised problem-solving.

> *"Human agents often offer alternative options, demonstrating flexibility that AI lacks."* (Participant 24)

The ability of human agents to think outside the box and offer tailored solutions was seen as a distinct advantage in customer service scenarios needing more than a basic answer.

> *"I believe that a human can understand the issue at hand better."* (Participant 1)

4.6.5 Assurance

Participants often expected AI chatbots to deliver reliability and consistency, especially for routine tasks. In such cases, chatbots typically met or exceeded these expectations, confirming participants' belief in their efficiency.

> *"AI will always be consistent. If it's consistently bad or consistently good, it's always consistent."* (Participant 11)

The reliability of chatbots was frequently contrasted with the variability found in human agents, whose helpfulness could depend on factors such as mood or individual skill.

> *"[With an AI chatbot] you know that you're always going to receive the same amount or the same quality of service. When you're looking at a human live chat agent, it very much depends on the type of person that you meet with as well."* (Participant 24)

The consistency of AI chatbots was viewed as a notable benefit for straightforward tasks, where quick, reliable responses are essential. However, some participants voiced concerns about chatbot reliability in more complex scenarios. Participant 4 noted that while the chatbot confirmed actions like sending follow-up emails, which added to its perceived reliability, doubts remained regarding its ability to handle nuanced issues consistently. This suggests that while chatbots are generally dependable for basic tasks, their reliability is less assured when contextual understanding is required.

Trust in AI chatbots emerged as a nuanced issue. Many participants appreciated the consistency of chatbots but expressed mixed feelings about fully trusting the information provided. For example, Participant 15, although satisfied with a chatbot's response, still wanted "*confirmation from a human*" for critical matters. This sentiment was echoed by others, who

felt that while chatbots are efficient, they often lack the human touch needed to inspire full confidence, creating a gap between expectations and outcomes.

In situations where reliability is essential, participants frequently sought human agents for confirmation, underscoring an ongoing challenge for AI chatbots in building trust, particularly in complex or high-stakes interactions.

> *"My interaction with the chatbot was fine. But when it comes to confirmation, I'd prefer having the confirmation from a human rather than a chatbot."* (Participant 23)

> "*I trust more that the human will solve my problem at a slower pace, but it will eventually get there*." (Participant 4)

These responses highlight an ongoing challenge for AI chatbots in building trust, particularly when participants feel that a human touch is essential to instil confidence in complex or important interactions.

4.6.6 Scalability

Participants largely expected AI chatbots to handle high volumes of inquiries efficiently, and this expectation was confirmed. Chatbots were praised for their ability to manage simple, repetitive tasks at scale.

> *"Where if it's basic information, if I need something kind of like tracking or when it will arrive and stuff like that, AI is the way to go because it's just so quick."* (Participant 10)

This efficiency in managing large volumes of queries was seen as a clear advantage. However, while chatbots excel at handling high volume, they often lack the personal touch desired for complex or emotionally charged issues, resulting in disconfirmation. Participant 13 noted that AI can be beneficial "*during times like night shifts*," yet participants preferred human agents for more complex needs, believing humans better understand and respond to nuances.

Participants also noted that while AI chatbots reduce social anxiety in interactions, they lack the empathy that human agents provide, which is critical for customer satisfaction in personalised exchanges.

> *"I'm much more comfortable with a chatbot and I have less anxiety that the other person might react in a negative way."* (Participant 18)

> *"When it is something a bit more personal, I think human is a bit better."* (Participant 10)

The recurring tension between personal touch and volume-handling emerged in participant responses. While chatbots' standardised responses are efficient, they sometimes lack the depth required for tailored interactions. Participant 3 observed that chatbots can "*be enough to reach your goal*" for simple queries, but human agents are preferred for complex issues requiring customisation. Participant 6 further highlighted that while chatbots can store more information, humans provide "*real-life communication*" that enables realistic and adaptable solutions.

> *"I think that they [AI chatbots] can store more information and can be faster than humans. However, obviously humans have the aspect that it is real-life communication so it is more realistic, and they can provide you with better solutions."* (Participant 6)

Some participants expressed frustration with the lack of personalisation in chatbot interactions, describing it as "*speaking a bit to a wall*" (Participant 10), while human agents' ability to "*read between the lines*" (Participant 14) was valued for responding empathetically and offering nuanced solutions.

> *"A human, I hope, would be able to read between the lines and say, okay, they're upset, what do I do? Do I offer a refund? Do they want to exchange this? You know? That's the ideal."* (Participant 14)

These responses highlight that while AI chatbots are advantageous for scalability, they often fall short in meeting needs for personalisation, especially in complex scenarios, reinforcing participants' desire for more individualised interactions.

4.6.7 Overall Satisfaction and Frustration

Participants' overall satisfaction with AI chatbots was closely tied to the confirmation or disconfirmation of their expectations, particularly regarding speed and efficiency. Satisfaction was high when chatbots met expectations for quick responses in straightforward scenarios.

> *"I'm satisfied because it gave me a reply immediately and I didn't have to stay waiting."* (Participant 16)

However, satisfaction was often tempered when chatbots fell short on handling complex or nuanced issues. Many participants reported feeling satisfied only when their needs were basic. For example, Participant 18 was "*completely satisfied*" with simpler interactions, whereas Participant 21 noted being "*quite satisfied*" but wished for "*more details rather than having to prompt it.*" These responses suggest that satisfaction could be higher if chatbots were more adept at anticipating customer needs in varied contexts.

Frustration, on the other hand, frequently arose when chatbots provided repetitive or unhelpful responses. Many participants expressed annoyance with generic replies, such as "*If you have any more questions or need assistance, feel free to ask!*" - phrases that, while polite, did not address specific concerns.

> *"I don't want to 'feel free to ask'. I want an answer."* (Participant 10)

This gap between expectations and service led to dissatisfaction, particularly when participants felt the chatbot failed to grasp the urgency of certain situations. Participant 19, for instance, reported "*extreme dissatisfaction*" when the chatbot could not meet a pressing need, highlighting how unmet expectations in time-sensitive situations can intensify frustration. This often stemmed from the perception that while chatbots perform well in basic tasks, they lack the depth and flexibility required for more complex issues.

4.7 Conclusion

This chapter's findings detail the differences between AI chatbots and human agents across six key dimensions: speed of response, complexity of tasks, tone of response, problem-solving, assurance, and scalability.

Expectations were confirmed when chatbots provided quick, efficient responses for routine tasks. However, disconfirmation often occurred with issues requiring accuracy, contextual understanding, or empathy, resulting in customer frustration. Human agents, conversely, confirmed expectations in complex or emotionally charged scenarios, offering personalised, empathetic responses that met higher standards for problem-solving and assurance, though at a slower pace.

The study suggests that a combined approach, leveraging the efficiency of AI chatbots alongside the personalised service of human agents, is crucial for meeting a wide range of customer needs and effectively managing expectations. These findings set the stage for a more detailed discussion on enhancing customer satisfaction and trust in e-commerce.

5. Discussion

5.1 Introduction

This chapter addresses the research questions by comparing customer expectations for AI chatbots and human live-chat agents in e-commerce. The study explores specific customer expectations and their impact on satisfaction, using qualitative interviews analysed through ECT. Data was coded with the Gioia Method using Nvivo 14.

5.2 Summary of Findings

Among the 27 participants, 19 were familiar with AI chatbots, primarily through e-commerce and customer service, while 8 had limited experience. For human live-chat agents, 21 participants were familiar and generally preferred them for handling complex issues, whereas 6 had minimal experience.

Participants praised chatbots for their speed and efficiency with straightforward queries but expressed frustration with their limitations on complex issues, often receiving repetitive responses. Conversely, experiences with human agents were valued for empathy and problem-solving in complex situations, though some noted slow response times.

Expectations for chatbots centred on quick, efficient responses, with lower expectations for contextual understanding. For human agents, expectations focused on empathy and adaptability. Satisfaction with chatbots was high for routine tasks but declined with more complex issues, often leading to a switch to human support. Satisfaction with human agents was linked to their ability to manage nuanced interactions, despite occasional delays.

For future interactions, most participants preferred AI for simple tasks but favoured human agents for complex or emotional queries, emphasising the need for a balance between AI efficiency and human empathy in customer service.

5.3 Interpretation and Implication of Findings

This section will be split into two parts, with each part interpreting the findings for each of the research questions previously identified.

5.3.1 Research Question 1

What are the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website?

The findings of this study indicate that customers have distinct and context-dependent expectations when interacting with AI chatbots and human live-chat agents. These expectations are largely influenced by the context of the interaction and the complexity of the query.

Participants consistently identified speed and efficiency as their primary expectations for AI chatbots, aligning with the literature that highlights chatbots' quick, consistent responses for routine inquiries. Widyastuti, Ferdiana, and Nugroho (2023) emphasise operational efficiency as a core advantage of AI chatbots, a view echoed by participants who valued prompt resolutions, especially for tasks like order tracking or product availability checks. However, participants also expected chatbots to deliver accurate, relevant information - particularly for real-time data like order status or inventory - without requiring repeated prompts.

Participants also noted a key limitation: chatbots often struggle with complex inquiries or personalised responses. This aligns with critiques in the literature, such as those by Adam, Wessel, and Benlian (2020) who highlight chatbots' frequent failure to meet expectations in complex interactions that require deeper understanding. Participants shared this view, expressing disappointment in chatbots' inability to move beyond pre-programmed responses. Similarly, Skrebeca, Kalniete, Goldbergs et al. (2021) discuss chatbots' challenges in accurately interpreting customer requests due to limited contextual awareness, a frustration echoed by participants in this study.

In contrast, participants expected human live-chat agents to offer personalisation, empathy, and problem-solving abilities, aligning with existing literature. These findings support the view that human agents are better suited to handle complex or emotionally charged interactions (McLean, Osei-Frimpong, Wilson et al. 2020). Many participants depended on human agents for issues requiring deeper understanding and anticipated empathy and emotional intelligence - qualities that AI chatbots could not fulfil. This aligns with Hill, Randolph Ford, and Farreras' (2015) argument that human interactions, rich in content and context, result in higher-quality interactions, especially when personalised responses are needed.

This expectation resonates with Castillo, Canhoto and Said (2020), who noted that customers seek out human agents for emotional support or nuanced solutions that chatbots often fail to provide. Despite advancements in AI, the lack of contextual understanding and empathy remains a significant limitation, as highlighted in several studies (Adam, Wessel, Benlian 2020, Griffith, Simonite 2018).

Anthropomorphism, an attempt to make chatbots more human-like, was discussed in the literature as a way to improve interactions (Zarouali, Van Den Broeck, Walrave et al. 2018). However, interview findings reveal that, despite some advancements, participants still felt chatbots lacked the emotional intelligence of human agents. This supports the caution raised by Tsai, Liu, and Chuan (2021), who suggest that anthropomorphism can raise unrealistic expectations, leading to dissatisfaction when chatbots fail to meet deeper customer needs. McLean and Osei-Frimpong (2017) further argue that human interactions, especially those using emoticons or social cues, are more emotionally fulfilling, enhancing empathy and customer satisfaction.

The findings of this study indicate that customers view AI chatbots and human live-chat agents as complementary. Chatbots are expected to handle simple, repetitive tasks quickly and efficiently, without the need for deep, personalised engagement. In contrast, human agents are expected to deliver empathy, flexibility, and skill in managing complex issues. This dichotomy is well-supported in the literature; for instance, Castillo, Canhoto, and Said (2020) and Cheng, Zhang, Cohen et al. (2022) suggest that human agents excel in high-context, emotionally charged interactions, whereas chatbots are effective in low-context, efficiency-driven tasks.

To summarise the findings for the first research question, this study shows that customers have distinct expectations when interacting with AI chatbots versus human live-chat agents. Customers primarily expect chatbots to provide speed and efficiency in routine tasks, such as order tracking or basic queries, but often experience frustration when chatbots struggle with complex or personalised issues. While speed and efficiency are key in chatbot interactions, empathy, personalisation, and emotional intelligence are more critical with human agents, especially for complex or emotionally charged issues (Adam, Wessel, Benlian 2020, Ashfaq, Yun, Yu et al. 2020).

The frustrations noted in this study mirror critiques of chatbots' lack of emotional intelligence (Skrebeca, Kalniete, Goldbergs et al. 2021). Similarly, high expectations for empathy and problem-solving in human agents are reinforced by studies like McLean, Osei-Frimpong, and Wilson (2020), underscoring that AI and human agents serve complementary roles.

Some aspects discussed in the literature, such as anthropomorphism and trust/privacy concerns, were not prominent in participant responses. Although research suggests that human-like chatbots may enhance engagement (Zarouali, Van Den Broeck, Walrave et al. 2018), participants preferred functionality over human-like traits. Similarly, although trust and privacy are common concerns (Pizzi, Scarpi, Pantano 2021, Huang, Markovitch, Stough 2024), participants did not raise these, possibly assuming secure data handling or prioritising efficiency.

These findings highlight a nuanced distinction between the theoretical benefits discussed in the literature and the practical expectations of customers in real-world applications. While the literature often emphasises the potential for chatbots to improve through anthropomorphism, personalisation, and emotional intelligence, participants in this study took a more balanced approach. They acknowledged the value of personalisation and emotional responsiveness in AI but recognised the limitations of current chatbot technology in fulfilling these needs. As a result, participants preferred to rely on chatbots for efficiency and task-oriented functions, while turning to human agents when situations required emotional sensitivity. This suggests that customers see chatbots and human agents as complementary, with each playing a specific role depending on the nature of the interaction.

5.3.2 Research Question 2

How do these specific expectations influence overall customer satisfaction when using AI chatbots versus human live-chat agents?

This study's findings indicate that customer satisfaction strongly depends on whether AI chatbots and human live-chat agents meet, exceed, or fall short of customer expectations. ECT, proposed by Oliver (1980), provides a useful framework for understanding these outcomes. ECT suggests that satisfaction arises when a customer's pre-interaction expectations are confirmed or positively disconfirmed during the interaction. If expectations are met or

exceeded, positive disconfirmation occurs, resulting in satisfaction. Conversely, unmet expectations lead to negative disconfirmation, resulting in dissatisfaction.

For AI chatbots, participants entered interactions expecting speed, efficiency, and accuracy - attributes commonly highlighted in the literature (Widyastuti, Ferdiana, Nugroho 2023). When chatbots efficiently managed straightforward tasks like order tracking or product inquiries, participants experienced positive confirmation, leading to greater satisfaction. This aligns with Oliver's (2015) interpretation of ECT, where performance that meets or exceeds expectations prompts a positive response.

However, negative disconfirmation arose when chatbots were unable to manage complex or context-dependent inquiries, a limitation noted frequently in the literature (Adam, Wessel, Benlian 2020, Ashfaq, Yun, Yu et al. 2020). Participants expressed frustration when chatbots failed to provide tailored solutions, sufficient flexibility, or an understanding of query specifics. This lack of depth in handling intricate issues led to dissatisfaction, as chatbots were seen as limited to pre-programmed responses, reinforcing negative disconfirmation. This aligns with Skrebeca, Kalniete, Goldbergs et al. (2021), who highlight similar limitations in chatbot capabilities.

Through the application of ECT, it becomes clear that chatbot interactions are largely transactional, and satisfaction is dependent on how well chatbots can meet expectations for speed and efficiency. However, when interactions demand personalisation or deeper understanding, chatbots frequently fall short, resulting in negative disconfirmation and lower satisfaction. This aligns with Pizzi, Scarpi, and Pantano (2021), who found that chatbots perform well in low-context tasks but struggle with complex queries, where human agents are preferred. Similarly, as noted by Skrebeca, Kalniete, Goldbergs et al. (2021), chatbots' limited contextual awareness restricts their capacity to provide the depth of understanding necessary for effective problem-solving, often leading to customer dissatisfaction.

In contrast, interactions with human live-chat agents led to higher satisfaction, as participants frequently experienced positive disconfirmation. Human agents often exceeded expectations, particularly in handling complex queries, providing personalised responses, and demonstrating empathy - qualities essential for high-context, emotionally nuanced interactions. This supports

ECT, which suggests that satisfaction rises significantly when service performance surpasses expectations (Oliver 2015).

Participants reported higher satisfaction with human agents due to the empathy and personalisation they experienced, fostering a stronger sense of trust and reliability. Pizzi, Scarpi and Pantano (2021) observed similar outcomes, noting that customers have elevated expectations for human agents regarding empathy and problem-solving. When these expectations are exceeded, satisfaction is significantly enhanced.

In terms of confirmation and disconfirmation, human agents held a clear advantage. While chatbots generally met expectations for simple tasks, human agents consistently exceeded expectations in complex situations. For instance, when issues required flexibility or a nuanced approach, participants reported higher satisfaction with human agents who could adapt to their specific needs. This led to positive disconfirmation, which Oliver (2015) identifies as a crucial factor for fostering customer loyalty and long-term satisfaction.

Trust, a critical factor in ECT, significantly influenced satisfaction levels. While participants expected chatbots to handle routine tasks efficiently, they frequently relied on human agents when greater contextual awareness and emotional intelligence were needed. This aligns with Følstad, Nordheim, and Bjørkli (2018), who found that customers trust chatbots for basic tasks but view human agents as more reliable for complex problem-solving or emotionally sensitive issues. Trust in human agents, especially in complex or emotionally charged situations, has been highlighted in multiple studies as essential for fostering long-term customer satisfaction and loyalty (Ashfaq, Yun, Yu et al. 2020, Gefen, Karahanna, Straub 2003).

In conclusion, this study finds that customer satisfaction strongly depends on whether AI chatbots or human live-chat agents meet the expectations associated with the interaction's context. AI chatbots perform well in routine tasks, where speed and efficiency are prioritised, resulting in positive confirmation. However, they frequently fall short in complex or emotionally sensitive issues, leading to negative disconfirmation and overall dissatisfaction - even if speed and efficiency expectations were met. In contrast, human live-chat agents are more likely to exceed expectations in situations requiring personalisation, empathy, and problem-solving, resulting in positive disconfirmation and higher satisfaction.

These findings support ECT, confirming that satisfaction is directly linked to the fulfilment or exceeding of initial expectations. While chatbots are suitable for low-context, efficiency-driven tasks, human agents remain essential in ensuring satisfaction in complex and emotionally nuanced interactions.

5.4 Conclusion

In conclusion, AI chatbots positively impact e-commerce customer service by meeting expectations for efficiency and speed, offering instant, 24/7 responses for routine inquiries, while human live-chat agents, preferred for complex or emotionally nuanced issues, provide personalised assistance, empathy, and flexible problem-solving; thus, the complementary use of chatbots for basic tasks and human agents for deeper interactions is essential for optimising overall customer satisfaction.

6. Conclusion

6.1 Contributions to the Literature

This research offers valuable contributions to the literature on customer service in e-commerce, specifically regarding interactions with AI chatbots and human live-chat agents. A primary contribution is the comparative analysis of customer expectations and satisfaction between these two interaction types. While previous studies often treat AI chatbots and human agents separately, this research bridges that gap by examining how each uniquely impacts customer satisfaction. By focusing on both AI-driven and human agents, this study sheds new light on nuanced aspects of customer experiences that have been largely overlooked in the literature.

Another significant contribution of this study is its application of ECT to compare AI chatbots and human live-chat agents. While ECT has been widely used to assess customer satisfaction in various contexts, its application to these two service agents within the same study is unique. This research contributes to present theory by demonstrating how expectation confirmation or disconfirmation varies between chatbot and human interactions, revealing key differences in their impact on customer satisfaction and deepening the theoretical understanding of e-commerce customer service experiences.

Methodologically, this study employed qualitative semi-structured interviews, alongside the Gioia coding approach, to gain an in-depth understanding of customer expectations and satisfaction. This inductive approach allowed for a nuanced look at customer experiences with both AI chatbots and human agents, capturing detailed, context-specific insights that quantitative methods might overlook. By using this method, the research ensured that the analysis was both comprehensive and practically relevant.

This research offers practical insights into the roles of personalisation and empathy in customer service. Findings show that while AI chatbots are valued for efficiently handling straightforward queries, human agents are preferred for complex interactions needing empathy and emotional intelligence. This distinction helps e-commerce businesses optimise customer service by balancing AI and human agents according to interaction complexity, providing actionable recommendations for managing expectations, enhancing satisfaction, and fostering loyalty.

6.2 Limitations of the Study

This research encountered several limitations. The small sample size, typical of qualitative research, limits generalisability, suggesting that a larger sample in future studies could improve validity. The focus on e-commerce restricts applicability to other industries with differing customer interactions. Additionally, conducting the study within a single geographical region may overlook cultural variations in expectations. Finally, time constraints prevented longitudinal data collection, which could provide deeper insights into how customer satisfaction evolves over time.

6.3 Future Direction

This research shows that customer expectations and satisfaction with chatbots and human agents vary by interaction complexity. Future studies should examine these interactions across industries beyond e-commerce, where customer needs differ, such as in healthcare or finance. Including cross-cultural comparisons could reveal regional differences in expectations, while longitudinal studies could track satisfaction changes as AI technology advances. Combining quantitative with qualitative methods would further validate and generalise these findings. Additionally, future research could test the comparative elements identified here through experiments to quantitatively confirm the relationships among customer expectations, characteristics, and disconfirmation.

6.4 Conclusion

This research study has contributed to the understanding of how customer expectations and satisfaction vary between interactions with AI chatbots and human live-chat agents in e-commerce, viewed through ECT. The first research question identified specific customer expectations for chatbots versus human agents, while the second examined how confirmation or disconfirmation of these expectations affects satisfaction. Findings show that chatbots meet expectations efficiently for routine tasks, while human agents are preferred for complex, empathy-driven interactions. These insights offer practical recommendations for e-commerce businesses to balance AI and human agents, improving customer experiences and satisfaction.

Bibliography

ADAM, M., WESSEL, M. and BENLIAN, A., 2020. AI-based chatbots in customer service and their effects on user compliance. *Electronic Markets,* **31**(2), pp. 427–445.

ADAMOPOULOU, E. and MOUSSIADES, L., 2020. Chatbots: History, technology, and applications. *Machine Learning with Applications,* **2**, pp. 1–18.

ADAMS, W.C., 2018. Conducting Semi-Structured Interviews. *Handbook of Practical Program Evaluation.* Wiley, pp. 492–505.

AGARWAL, A., MAIYA, S. and AGGARWAL, S., 2021. *Evaluating Empathetic Chatbots in Customer Service Settings*, Cornell University.

AKTER, S., D'AMBRA, J. and RAY, P., 2013. Development and validation of an instrument to measure user perceived service quality of mHealth. *Information & Management,* **50**(4), pp. 181–195.

AMBAWAT, M. and WADERA, D., 2019. A Review of Consumers' Attitudes Towards Chatbots Adoption. *International Journal of Science Technology and Management,* **8**(8), pp. 15–23.

ARAÚJO, T. and CASAIS, B., 2020. Customer Acceptance of Shopping-Assistant Chatbots, 2020, Springer, pp. 278–287.

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,* **54**, pp. 1–17.

ASSAKER, G., HALLAK, R., ASSAF, A.G. and ASSAD, T., 2015. Validating a Structural Model of Destination Image, Satisfaction, and Loyalty Across Gender and Age: Multigroup Analysis with PLS-SEM. *Tourism Analysis,* **20**(6), pp. 577–591.

AZUNGAH, T., 2018. Qualitative research: deductive and inductive approaches to data analysis. *Qualitative Research Journal,* **18**(4), pp. 383–400.

BALAKRISHNAN, J. and DWIVEDI, Y.K., 2021. Role of cognitive absorption in building user trust and experience. *Psychology & Marketing,* **38**(4), pp. 643–668.

BAXTER, L. and BRAITHWAITE, D., 2024. Expectancy Violations Theory and Interaction Adaptation Theory: From Expectations to Adaptation. *Engaging Theories in Interpersonal Communication: Multiple Perspectives.* SAGE Publications, Inc., pp. 1–16.

BELANCHE, D., BELK, R.W., CASALÓ, L.V. and FLAVIÁN, C., 2024. The Dark Side of Artificial Intelligence in Services. *The Service Industries Journal,* **44**(3-4), pp. 149–172.

BELL, E., BRYMAN, A. and HARLEY, B., 2022. Qualitative Data Analysis. *Business Research Methods.* 6 edn. Oxford University Press, pp. 527–549.

BISWAS, C., OMAR, H. and RASHID-RADHA, J.Z.R.R., 2020. The Impact of Tourist Attractions and Accessibility on Tourists' Satisfaction: The Moderating Role of Tourists' Age. *GeoJournal of Tourism and Geosites,* **32**(4), pp. 1202–1208.

BRODSKY, S., 13 August 2024-last update, AI agents evolve rapidly, challenging human oversight. Available: https://www.ibm.com/blog/ai-agents-evolve-rapidly/ [27 August 2024].

BURGOON, J.K., 2016. Expectancy Violations Theory. *The international encyclopedia of interpersonal communication.* John Wiley & Sons, Inc., pp. 1–9.

BURGOON, J.K., BONITO, J.A., LOWRY, P.B., HUMPHERYS, S.L., MOODY, G.D., GASKIN, J.E. and GIBONEY, J.S., 2016. Application of Expectancy Violations Theory to communication with and judgments about embodied agents during a decision-making task. *International Journal of Human-Computer Studies,* **91**, pp. 24–36.

CASTILLO, D., CANHOTO, A.I. and SAID, E., 2020. The dark side of AI-powered service interactions: exploring the process of co-destruction from the customer perspective. *The Service Industries Journal,* **41**(13-14), pp. 1–26.

CASTILLO, D. and FARRUGIA, L., 2024. *Unveiling Customer Expectations of Chatbot Interactions: A Systematic Literature Review.*

CHANDRA, Y. and SHANG, L., 2019. *Qualitative Research using R: A Systematic Approach.* Springer.

CHANG, M., KIM, T., BEOM, J., WON, S. and JEON, D., 2020. AI Therapist Realizing Expert Verbal Cues for Effective Robot-Assisted Gait Training. *IEEE Transactions on Neural Systems and Rehabilitation Engineering,* **28**(12), pp. 2805–2815.

CHENG, X., ZHANG, X., COHEN, J. and MOU, J., 2022. Human vs. AI: Understanding the impact of anthropomorphism on consumer response to chatbots from the perspective of trust and relationship norms. *Information Processing & Management,* **59**(3), pp. 1–16.

CHUNG, M., KO, E., JOUNG, H. and KIM, S.J., 2018. Chatbot e-service and customer satisfaction regarding luxury brands. *Journal of Business Research,* **117**, pp. 587–595.

COLLIER, J.E. and BIENSTOCK, C.C., 2006. Measuring Service Quality in E-Retailing. *Journal of Service Research,* **8**(3), pp. 260–275.

CROLIC, C., THOMAZ, F., HADI, R. and STEPHEN, A.T., 2021. Blame the Bot: Anthropomorphism and Anger in Customer–Chatbot Interactions. *Journal of Marketing,* **86**(1), pp. 132–148.

CULLEY, K.E. and MADHAVAN, P., 2013. A note of caution regarding anthropomorphism in HCI agents. *Computers in Human Behavior,* **29**(3), pp. 577–579.

DA COSTA LIBERATO, P.M., ALÉN-GONZÁLEZ, E. and DE AZEVEDO LIBERATO, D.F.V., 2019. Digital Technology in a Smart Tourist Destination: The Case of Porto. *Journal of Urban Technology,* **25**(1), pp. 75–97.

DE CICCO, R., DA COSTA E SILVA, SUSANA CRISTINA LIMA and PALUMBO, R., 2021. Should a Chatbot Disclose Itself? Implications for an Online Conversational Retailer. *CONVERSATIONS 2020 – the 4th International Workshop on Chatbot.* Springer International Publishing, pp. 1–15.

DE KEYSER, A., KÖCHER, S., ALKIRE (NÉE NASR), L., VERBEECK, C. and KANDAMPULLY, J., 2019. Frontline Service Technology infusion: conceptual archetypes and future research directions. *Journal of Service Management,* **30**(1), pp. 156–183.

EDWARDS, C., EDWARDS, A., SPENCE, P.R. and SHELTON, A.K., 2014. Is that a bot running the social media feed? Testing the differences in perceptions of communication quality for a human agent and a bot agent on Twitter. *Computers in Human Behavior,* **33**, pp. 372–376.

EPLEY, N., WAYTZ, A. and CACIOPPO, J.T., 2007. On seeing human: A three-factor theory of anthropomorphism. *Psychological Review,* **114**(4), pp. 864–886.

EREN, B.A., 2020. Determinants of customer satisfaction in chatbot use: evidence from a banking application in Turkey. *International Journal of Bank Marketing,* **39**(2), pp. 294–311.

ERIKSSON, P. and KOVALAINEN, A., 2008. Case Study Research. *Qualitative Methods in Business Research.* pp. 115–136.

ERIKSSON, P. and KOVALAINEN, A., 2024a. Ethics in Research. *Qualitative Methods in Business Research.* SAGE Publications Ltd, pp. 2–19.

ERIKSSON, P. and KOVALAINEN, A., 2024b. Qualitative Research Materials. *Qualitative Methods in Business Research.* SAGE Publications Ltd, pp. 2–25.

ERIKSSON, P. and KOVALAINEN, A., 2024c. Research Design and Process. *Qualitative Methods in Business Research.* SAGE Publications Ltd, pp. 2–15.

ERIKSSON, P. and KOVALAINEN, A., 2024d. Research Philosophy. *Qualitative Methods in Business Research.* SAGE Publications Ltd, pp. 2–19.

ESCOBAR, A., 2016. The Impact of the Digital Revolution in the Development of Market and Communication Strategies for the Luxury Sector (Fashion Luxury). *Central European Business Review,* **5**(2), pp. 17–36.

FARAN, O., 2024, -08-01. What If Customers Don't Want Your AI Chatbot?. *Forbes*.

FINSTAD, K., 2010. The Usability Metric for User Experience. *Interacting with Computers,* **22**(5), pp. 323–327.

FLICK, U., 2018. *The SAGE Handbook of Qualitative Data Analysis.*

FU, X., ZHANG, J. and CHAN, F.T.S., 2018. Determinants of loyalty to public transit: A model integrating Satisfaction-Loyalty Theory and Expectation-Confirmation Theory. *Transportation Research Part A: Policy and Practice,* **113**, pp. 476–490.

FØLSTAD, A. and BRANDTZAEG, P.B., 2020. Users' experiences with chatbots: findings from a questionnaire study. *Quality and User Experience,* **5**(1), pp. 1–14.

FØLSTAD, A., NORDHEIM, C.B. and BJØRKLI, C.A., 2018What Makes Users Trust a Chatbot for Customer Service? An Exploratory Interview Study, *Fifth International Conference on Internet Science - INSCI 2018* 2018, Springer International Publishing, pp. 1–16.

FØLSTAD, A. and SKJUVE, M., 2019-08-22Chatbots for Customer Service: User Experience and Motivation, *Proceedings of the International Conference on Conversational User Interfacts (CUI 2019)* 2019-08-22, ACM, pp. 1–9.

GEFEN, D., KARAHANNA, E. and STRAUB, D.W., 2003. Trust and TAM in Online Shopping: An Integrated Model. *MIS Quarterly,* **27**(1), pp. 51–90.

GEHMAN, J., GLASER, V.L., EISENHARDT, K.M., GIOIA, D., LANGLEY, A. and CORLEY, K.G., 2018. Finding Theory-Method Fit: A Comparison of Three Qualitative Approaches to Theory Building. *Journal of Management Inquiry,* **27**(3), pp. 284–300.

GHAZALI, E., MUTUM, D.S. and LUN, N.K., 2023. Expectations and beyond: The nexus of AI instrumentality and brand credibility in voice assistant retention using extended expectation-confirmation model. *Journal of Consumer Behaviour,* **23**(2), pp. 655–675.

GIEBELHAUSEN, M., ROBINSON, S.G., SIRIANNI, N.J. and BRADY, M.K., 2014. Touch Versus Tech: When Technology Functions as a Barrier or a Benefit to Service Encounters. *Journal of Marketing,* **78**, pp. 113–124.

GIOIA, D. A., CORLEY K. G. Hamilton, A. L., 2013. Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational research method,* **16**(1), pp. 15–31.

GLASER, B.G. and STRAUSS, A. L., 2017. Theoretical Sampling. *Sociological Methods,* , pp. 105–114.

GNEWUCH, U., MORANA, S., ADAM, M.T.P. and MAEDCHE, A., 2018. Faster is Not Always Better: Understanding the Effect of Dynamic Response Delays in Human-Chatbot Interaction, *Twenty-Sixth European Conference on Information Systems (ECIS2018)* 2018, pp. 1–18.

GO, E. and SUNDAR, S.S., 2019. Humanizing chatbots: The effects of visual, identity and conversational cues on humanness perceptions. *Computers in Human Behavior,* **97**, pp. 304–316.

GRANDEY, A.A., GOLDBERRG, L.S. and PUGH, D.S., 2011. Why and When do Stores With Satisfied Employees Have Satisfied Customers?: The Roles of Responsiveness and Store Busyness. *Journal of Service Research,* **14**(4), pp. 397–409.

GÜMÜŞ, N. and ÇARK, Ö, 2021. The Effect of Customers' Attitudes towards Chatbots on their Experience and Behavioural Intention in Turkey. *Interdisciplinary Description of Complex Systems,* **19**(3), pp. 420–436.

HALLOWELL, R., 1996. The relationships of customer satisfaction, customer loyalty, and profitability: an empirical study. *International Journal of Service Industry Management,* **7**(4), pp. 27–42.

HAN, E., YIN, D. and ZHANG, H., 12-12-2022Chatbot Empathy in Customer Service: When It Works and When It Backfires, *Proceedings of the Twenty-First Annual Pre-ICIS Workshop on HCI Research in MIS*, December 11, 2022 12-12-2022, pp. 1–7.

HILL, J., RANDOLPH FORD, W. and FARRERAS, I.G., 2015. Real conversations with artificial intelligence: A comparison between human–human online conversations and human–chatbot conversations. *Computers in Human Behavior,* **49**, pp. 245–250.

HUANG, D., MARKOVITCH, D.G. and STOUGH, R.A., 2023. Can chatbot customer service match human service agents on customer satisfaction? An investigation in the role of trust. *Journal of Retailing and Consumer Services,* **76**, pp. 1–14.

HUANG, Y. and GURSOY, D., 2024. Customers' online service encounter satisfaction with chatbots: interaction effects of language style and decision-making journey stage. *International Journal of Contemporary Hospitality Management,* **36**(12), pp. 1–18.

INAVOLU, M.S., 2024. *Exploring AI-Driven Customer Service: Evolution, Architectures, Opportunities, Challenges and Future Directions.*

IO, H.N. and LEE, C.B., 2017Chatbots and Conversational Agents: A Bibliometric Analysis, *Proceedings of the 2017 IEEE IEEM* 2017, IEEE, pp. 1–5.

JACKSON, K. and BAZELEY, P., 2019. *Qualitative Data Analysis with Nvivo.* Sage Publications.

JENNEBOER, L., HERRANDO, C. and CONSTANTINIDES, E., 2022. The Impact of Chatbots on Customer Loyalty: A Systematic Literature Review. *Journal of Theoretical and Applied Electronic Commerce Research,* **17**(1), pp. 212–229.

JIANG, H., CHENG, Y., YANG, J. and GAO, S., 2022. AI-powered chatbot communication with customers: Dialogic interactions, satisfaction, engagement, and customer behavior. *Computers in Human Behavior,* **134**, pp. 1–14.

JIANG, T., GUO, Q., WEI, Y., CHENG, Q. and LU, W., 2022. Investigating the relationships between dialog patterns and user satisfaction in customer service chat systems based on chat log analysis. *Journal of Information Science,* , pp. 1–16.

JOHNSON, P. and DUBERLEY, J., 2024. Introduction - the Importance of Epistemology in Management Research. *Understanding Management Research.* SAGE Publications Ltd, pp. 1–11.

KUMAR, A., OLSHAVSKY, R.W. and KING, M.F., 2001. Exploring Alternative Antecedents of Customer Delight. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour,* **14**, pp. 14–26.

KUMAR, R.R., ISRAEL, D. and MALIK, G., 2021. Explaining customer's continuance intention to use mobile banking apps with an integrative perspective of ECT and Self-determination theory. *Pacific Asia Journal of the Association for Information Systems,* , pp. 79–111.

KUMAR, V., RAJAN, B., VENKATESAN, R. and LECINSKI, J., 2019. Understanding the Role of Artificial Intelligence in Personalized Engagement Marketing. *California Management Review,* **61**(4), pp. 135–155.

LANKTON, N.K. and MCKNIGHT, H.D., 2012. Examining Two Expectation Disconfirmation Theory Models: Assimilation and Asymmetry Effects. *Journal of the Association for Information,* **13**(2), pp. 88–115.

LIAO, H., 2007. Do it right this time: The role of employee service recovery performance in customer-perceived justice and customer loyalty after service failures. *Journal of Applied Psychology,* **92**(2), pp. 475–489.

LIAO, Q.V., DAVIS, M., GEYER, W., MULLER, M. and SHAMI, N.S., 2016-06-04. What Can You Do? Studying Social-Agent Orientation and Agent Proactive Interactions with an Agent for Employees, *DIS 2016*, 4-8 June 2016-06-04, ACM, pp. 264–275.

LIEBRECHT, C. and VAN HOOIJDONK, C., 2020. Creating Humanlike Chatbots: What Chatbot Developers Could Learn from Webcare Employees in Adopting a Conversational Human Voice. *Conversations,* , pp. 51–64.

LING, E.C., TUSSYADIAH, I., TUOMI, A., STIENMETZ, J. and IOANNOU, A., 2021. Factors influencing users' adoption and use of conversational agents: A systematic review. *Psychology and Marketing,* **38**(7), pp. 1031–1051.

LUBBE, I. and NGOMA, N., 2021. Useful chatbot experience provides technological satisfaction: An emerging market perspective. *South African Journal of Information Management,* **23**(1), pp. 1–8.

MCLEAN, G. and OSEI-FRIMPONG, K., 2017. Examining satisfaction with the experience during a live chat service encounter-implications for website providers. *Computers in Human Behavior,* **76**, pp. 494–508.

MCLEAN, G., OSEI-FRIMPONG, K., WILSON, A. and PITARDI, V., 2020. How live chat assistants drive travel consumers' attitudes, trust and purchase intentions. *International Journal of Contemporary Hospitality Management,* **32**(5), pp. 1795–1812.

MCLEAN, G. and WILSON, A., 2016. Evolving the online customer experience … is there a role for online customer support? *Computers in Human Behavior,* **60**, pp. 602–610.

MEUTER, M.L., OSTROM, A.L., ROUNDTREE, R.I. and BITNER, M.J., 2000. Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing,* **64**(3), pp. 50–64.

MISISCHIA, C.V., POECZE, F. and STRAUSS, C., 2022. Chatbots in customer service: Their relevance and impact on service quality. *Procedia Computer Science,* **201**, pp. 421–428.

MORSI, S., 2023. Artificial Intelligence in Electronic Commerce: Investigating the Customers' Acceptance of Using Chatbots. *Journal of System and Management Sciences,* **13**(3), pp. 156–176.

MOU, Y. and XU, K., 2017. The media inequality: Comparing the initial human-human and human-AI social interactions. *Computers in Human Behavior,* **72**, pp. 432–440.

MOZAFARI, N., WEIGER, W.H. and HAMMERSCHMIDT, M., 2021. Trust me, I'm a bot – repercussions of chatbot disclosure in different service frontline settings. *Journal of Service Management,* **33**(2), pp. 1–25.

MUNUSAMY, J. and CHELLIAH, S., 2010. Service Quality Delivery and its Impact on Customer Satisfaction in the Banking Sector in Malaysia. *International Journal of Innovation, Management and Technology,* **1**(4), pp. 398–404.

NASS, C. and MOON, Y., 2000. Machines and Mindlessness: Social Responses to Computers. *Journal of Social Issues,* **56**(1), pp. 81–103.

NASS, C., STEUER, J. and TAUBER, E.R., 1994. Computers are Social Actors. *Human Factors in Computing Systems,* , pp. 72–78.

NGUYEN, T.S., 2019. *Potential effects of chatbot technology on customer support: A case study*, Aalto University School of Science.

NICOLESCU, L. and TUDORACHE, M.T., 2022. Human-Computer Interaction in Customer Service: The Experience with AI Chatbots—A Systematic Literature Review. *Electronics,* **11**(10), pp. 1–24.

NORDHEIM, C.B., FØLSTAD, A. and BJØRKLI, C.A., 2019. An Initial Model of Trust in Chatbots for Customer Service—Findings from a Questionnaire Study. *Interacting with Computers,* **31**(3), pp. 317–335.

NOVAK, T.P. and HOFFMAN, D.L., 2018. Relationship journeys in the internet of things: a new framework for understanding interactions between consumers and smart objects. *Journal of the Academy of Marketing Science,* **47**(2), pp. 216–237.

NOWAK, K.L. and RAUH, C., 2007. Choose your “buddy icon” carefully: The influence of avatar androgyny, anthropomorphism and credibility in online interactions. *Computers in Human Behavior,* **24**(4), pp. 1473–1493.

NYIMBILI, F. and NYIMBILI, L., 2024. Types of Purposive Sampling Techniques with Their Examples and Application in Qualitative Research Studies. *British Journal of Multidisciplinary and Advanced Studies,* **5**(1), pp. 90–99.

OLIVER, R.L., 2015. *Satisfaction: A Behavioural Perspective on the Consumer.* 2nd Edition edn. Routledge, Taylor & Francis Group.

OLIVER, R.L., 1980. A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research,* **17**(4), pp. 460–469.

ORDEN-MEJÍA, M. and HUERTAS, A., 2021. Analysis of the attributes of smart tourism technologies in destination chatbots that influence tourist satisfaction. *Current Issues in Tourism,* **25**(17), pp. 2854–2869.

PAPPAS, I.O., PATELI, A.G., GIANNAKOS, M.N. and CHRISSIKOPOULOS, V., 2014. Moderating effects of online shopping experience on customer satisfaction and repurchase intentions. *International Journal of Retail & Distribution Management,* **42**(3), pp. 187–204.

PARASURAMAN, A., ZEITHAML, V.A. and BERRY, L.L., 1994. Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. *Journal of Marketing,* **58**(1), pp. 111–124.

PARASURAMAN, A., ZIETHAML, V.A. and BERRY, L.L., 1985. A Conceptual Model of Service Quality and its Implications for Future Research. *Journal of Marketing,* **49**(4), pp. 41–50.

PIZZI, G., SCARPI, D. and PANTANO, E., 2020. Artificial intelligence and the new forms of interaction: Who has the control when interacting with a chatbot? *Journal of Business Research,* **129**, pp. 878–890.

PORTELA, M. and GRANELL-CANUT, C., 2017-09-25A new friend in our Smartphone? Observing Interactions with Chatbots in the search of emotional engagement, *The XVIII International Conference on Human Computer Interaction* 2017-09-25, ACM, pp. 1–7.

PRASAD, P., 2005. *Crafting qualitative research: working in the postpositivist traditions.* Armonk: ME Sharpe.

RAMADASS, B., 2022, Jan 21. The Truth about Chatbots. *Forbes*.

RESE, A., GANSTER, L. and BAIER, D., 2020. Chatbots in retailers' customer communication: How to measure their acceptance? *Journal of Retailing and Consumer Services,* **56**, pp. 1–14.

RHEU, M., DAI, Y., MENG, J. and PENG, W., 2024. When a Chatbot Disappoints You: Expectancy Violation in Human-Chatbot Interaction in a Social Support Context. *Communication Research,* **51**(7), pp. 1–33.

SAUNDERS, M., LEWIS, P. and THORNHILL, A., 2016. *Research Methods for Business Students.* Seventh Edition edn. Pearson.

SCHUETZLER, R.M., GRIMES, G.M. and SCOTT GIBONEY, J., 2020. The impact of chatbot conversational skill on engagement and perceived humanness. *Journal of Management Information Systems,* **37**(3), pp. 875–900.

SEEGER, A., PFEIFFER, J. and HEINZL, A., 2021. Texting with Human-like Conversational Agents: Designing for Anthropomorphism. *Journal of the Association for Information Systems,* , pp. 1–67.

SHARMA, M. and CHAUBEY, D.S., 2014. An Empirical Study of Customer Experience and its Relationship with Customer Satisfaction towards the Services of Banking Sector. *Journal of Marketing and Communications,* **9**(3), pp. 18–28.

SHAROFF, L., 2008. Critique of the critical incident technique. *Journal of Research in Nursing,* **13**(4), pp. 301–309.

SHAWAR, B.A. and ATWELL, E., 2007. Chatbots: Are they useful? *Journal for Language Technology and Computational Linguistics,* **22**(1), pp. 29–49.

SHEEHAN, B., JIN, H.S. and GOTTLIEB, U., 2020. Customer service chatbots: Anthropomorphism and adoption. *Journal of Business Research,* **115**, pp. 14–24.

SISWI, A.A. and WAHYONO, 2020. The Role of Customer Satisfaction in Increasing Customer Loyalty. *Management Analysis Journal,* **9**(1), pp. 17–25.

SKREBECA, J., KALNIETE, P., GOLDBERGS, J., PITKEVICA, L., TIHOMIROVA, D. and ROMANOVS, A., 2021-10-14Modern Development Trends of Chatbots Using Artificial Intelligence (AI), *62nd International Scientific Conference on Information Technology and Management Science of Riga Technical University (ITMS)* 2021-10-14, IEEE, pp. 1–6.

SUTANTO, J., PALME, E., TAN, C., CHEE, W. and PHANG, 2013. Addressing the Personalization-Privacy Paradox: An Empirical Assessment from a Field Experiment on Smartphone Users. *MIS Quarterly,* **37**(4), pp. 1141–1164.

SYMON, G. and CASSELL, C., 2024a. Doing Template Analysis. *Qualitative Organizational Research: Core Methods and Current Challenges.* SAGE Publications, Inc., pp. 2–28.

SYMON, G. and CASSELL, C., 2024b. Ethical Research Practice. *Qualitative Organizational Research: Core Methods and Current Challenges.* SAGE Publications, Inc., pp. 2–19.

SYMON, G. and CASSELL, C., 2024c. Interviews. *Qualitative Organizational Research: Core Methods and Current Challenges.* SAGE Publications, Inc., pp. 2–20.

SYMON, G. and CASSELL, C., 2024d. Introduction: The Context of Qualitative Organizational Research. *Qualitative Organizational Research: Core Methods and Current Challenges.* SAGE Publications, Inc., pp. 2–12.

SYMON, G. and CASSELL, C., 2024e. Philosophies Underpinning Qualitative Research. *Qualitative Organizational Research: Core Methods and Current Challenges.* SAGE Publications, Inc., pp. 2–22.

TSAI, W.S., LIU, Y. and CHUAN, C., 2021. How chatbots' social presence communication enhances consumer engagement: the mediating role of parasocial interaction and dialogue. *Journal of Research in Interactive Marketing,* **15**(3), pp. 460–482.

TSOUKAS, H. and KNUDSEN, C., 2003. *The Oxford Handbook of Organisation Theory: Meta-Theoretical Perspectives.* Oxford University Press.

TURING, A.M., 1950. Computing machinery and intelligence. *Mind,* **59**, pp. 433–450.

VU, H.T.M., HOANG, V.T., TRAN, H.Q., GHOZALY, S., KHISHIGJARGAL, U. and ENKH-AMGALAN, S., 2022. Exploring the Impact of AI Chatbots on Customer Satisfaction. *IJCIRAS,* **4**(12), pp. 62–69.

WALTHER-MARTIN, W., 2015. Media-Generated Expectancy Violations: A Study of Political Humor, Race, and Source Perceptions. *Western Journal of Communication,* **79**(4), pp. 492–507.

WANG, I. and SHIEH, C., 2006. The relationship between service quality and customer satisfaction: the example of CJCU library. *Journal of Information & Optimisation Sciences,* **27**(1), pp. 193–209.

WIDYASTUTI, N., FERDIANA, R. and NUGROHO, L.E., 2023-12-01A Review Transformation Customer Service with Customer Relationship Management (CRM) Based Chatbots, 2023-12-01, IEEE, pp. 225–230.

WIRTZ, J., PATTERSON, P.G., KUNZ, W.H., GRUBER, T., LU, V.N., PALUCH, S. and MARTINS, A., 2018. Brave new world: service robots in the frontline. *Journal of Service Management,* **29**(5), pp. 907–931.

XIAO, B. and BENBASAT, I., 2007. E-Commerce Product Recommendation Agent Use, Characteristics, and Impact. *MIS Quarterly,* **31**(1), pp. 137–209.

ZAIM, H., BAYYURT, N. and ZAIM, S., 2010. Service Quality and Determinants of Customer Satisfaction in Hospitals: Turkish Experience. *International Business and Economics Research Journal,* **9**(5), pp. 51–58.

ZAMORA, J., 2017-10-27. I'm Sorry, Dave, I'm Afraid I Can't Do That: Chatbot Perception and Expectations, 2017-10-27, ACM, pp. 253–260.

ZAROUALI, B., VAN DEN BROECK, E., WALRAVE, M. and POELS, K., 2018. Predicting Consumer Responses to a Chatbot on Facebook. *Cyberpsychology, Behavior, and Social Networking,* **21**(8), pp. 1–7.

ZEITHAML, V.A., BERRY, L.L. and PARASURAMAN, A., 1993. The Nature and Determinants of Customer Expectations of Service. *Journal of the Academy of Marketing Science,* , pp. 1–12.

ZUMSTEIN, D. and HUNDERTMARK, S., 2017. Chatbots - An Interactive Technology for Personalised Communication, Transactions and Services. *IADIS International Journal on WWW/Internet,* **15**(1), pp. 96–109.

Appendix

Appendix A: Final Interview Guide

Topic	Discussion Questions/Prompts	Literature Source
General Information regarding Chatbot/Live Chat Interactions	• Familiarity with both agents • Why do you interact with both agents?	Belanche, Belk, Casalò et al. (2024)
Chatbot Interactions	• Describe an interaction with both agents • *Prompt: Both positive and negative interactions*	
Chatbot Expectations & (Dis)Confirmation	• Primary Expectation when interacting with each agent • *Prompt: Valence of expectations (positive and negative)* • Ranking these expectations in terms of which bring most satisfaction if met • Thinking back to the experiences you mentioned before, would you say that your expectations were reached? (for both agents)	Burgoon, Bonito, Lowry et al. (2016), Crolic, Thomaz, Hadi et al. (2021), Oliver (2015), Go and Sundar (2019), Lankton and McKnight (2012), Parasuraman, Ziethaml, Berry (1994), Fu, Zhang, Chan (2018), Kumar, Israel, Malik (2018), Novak, Hoffman, Yung (2000)

Chatbot Satisfaction	• Were the expectations you identified prior to the chatbot interaction met? • *Prompt:Did you assess your satisfaction level according to expectation confirmation?* • Most v Least Satisfactory Attribute • Were there any moments of Frustration & Dissatisfaction? • *Prompt: Highlighting specific attributes and if these were satisfactory (e.g., responsiveness, clear information)* • *Prompt: Satisfaction with chatbot + brand trustworthiness, user intention*	Oliver (2015); Eren (2020), Ghazali, Mutum, Lun (2023), Liao (2007), Rheu, Dai, Meng et al. (2024), Jenneboer, Herrando, Constantinides (2022), McLean, Wilson (2016), Siswi, Wahyono (2020), Hallowell (1996)

Part 1 of Interview – Familiarity & Experiences

The first section of the interview will be dedicated to understanding the participant's knowledge on Artificial Intelligence Chatbots and Human Live-Chat, and their opinions. This section is not structured as this will be used to break the ice between the researcher and the interviewee whilst also understanding the background from which they come from. This will last around 10-15 minutes.

Introduction

- Briefly introduce myself and the purpose of the interview.
- Explain the aim of this section.

Questions

- Can you please introduce yourself and provide a brief overview of your background and professional experiences?
- How would you describe your familiarity with Artificial Intelligence Chatbots?
- How would you describe your familiarity with Human Live-Chat Agents?
- Have you ever interacted with an AI Chatbot, and if so, what was your experience like? Can you mention a specific interaction? *(See what they mention first - a positive or a negative interaction and delve deeper).*
- Have you ever interacted with a Human Live-Chat, and if so, what was your experience like? Can you mention a specific interaction? *(See what they mention first - a positive or a negative interaction and delve deeper).*
- In what areas do you think AI Chatbots can be most beneficial, and why?
- In what areas do you think Human Live-Chats can be most beneficial, and why?

Part 2 of Interview – Expectations and Preferences

The second section of the interview will be dedicated to understanding their expectations, both when it comes to interacting with an AI Chatbot and a Human-Live Chat. This will last around 10-15 minutes.

Introduction

- Transition from their experiences to their expectations and preferences.
- Explain that this section focuses on what they expect and prefer when interacting with both systems.

Questions

- What are your primary expectations when interacting with an AI Chatbot? Is it possible for you to rank these expectations?
- What are your primary expectations when interacting with a Human Live-Chat? Is it possible for you to rank these expectations?
- In what scenarios would you prefer to interact with an AI Chatbot rather than a Human Live-Chat Agent? Why?
- Conversely, in what scenarios would you prefer a Human Live-Chat Agent over an AI Chatbot? Why?

This section will answer the first research question - **What are the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website?**

Part 3 of Interview – AI Chatbot Tool Experience

The third section of the interview will be dedicated to the AI Chatbot tool. This tool was built so that participants all have the same experience with a chatbot, ensuring a controlled experience for all participants. This will last around 10-15 minutes.

A fictional technological e-commerce business was invented, Prestige, based on the current business plan and operations of Frank Zampa.

This brief will be given to the participants:

You have recently placed an order for an important item from an e-commerce website. This item is a gift that you need for a special occasion, which is happening tomorrow. Unfortunately, you just received a notification that your order has been delayed and might not arrive on time. You need to resolve this issue as quickly as possible. Your primary goal is to either expedite the delivery or find an alternative solution so that you have the gift in time for the special occasion. You will interact with the AI Chatbot on the e-commerce website to address this issue.

You will need to type in this first prompt:

Hi, I just received a notification that my order has been delayed, and I need it urgently for an event tomorrow. My order number is 12345678. It's a gift, and I need it by tomorrow. Can you help me?

Below are the questions you may ask during the interaction:

1. What is the current status of my order?
2. Why has my order been delayed?
3. Can you confirm the new expected delivery date?
4. Is there any way to expedite the shipping so that it arrives tomorrow?
5. Can I pick up my order from a local store?
6. Do you have a similar item that can be delivered by tomorrow?
7. What compensation can you offer for this delay and inconvenience?
8. Can you provide me with the tracking number?
9. Can you assure me that my order will arrive by tomorrow if I choose expedited shipping?
10. What are my options if the item doesn't arrive on time?
11. Can you help me cancel this order and place a new one with faster shipping?
12. What caused the delay in my order?
13. Is there a way to get a refund if my order doesn't arrive on time?
14. Can you give me a discount on my next purchase due to this delay?
15. Can you connect me to a human representative for further assistance?
16. What are your store hours for the local pickup location?
17. Can you provide directions to the nearest store where I can pick up the item?
18. Is the similar item you mentioned available for immediate shipping?
19. Can I change the delivery address to a location where I'll be tomorrow?
20. Can you notify me immediately if there are any further updates on my order?
21. What is your policy on delayed deliveries?
22. Can you send me a confirmation email with the updated delivery details?
23. Can you guarantee a specific delivery time for tomorrow?

24. Can you provide a direct contact number for the local store?

25. What steps are you taking to ensure this delay doesn't happen again in the future?

The Chatbot will be given a sentence to use as a reply for each of the above questions.

Part 4 of Interview – Satisfaction

The fourth section of the interview will be dedicated to understanding the participant's satisfaction with the AI Chatbot tool they interacted with in the previous section of the interview. This section aims to evaluate their overall experience with the chatbot and compare it with their satisfaction levels when using human live-chat agents. This will last around 10-15 minutes.

Introduction

- Transition from the AI Chatbot tool experience to evaluating satisfaction.
- Explain that this section focuses on their satisfaction with the interaction and compares it with their experiences using human live-chat agents.

Questions

- Overall, how satisfied were you with the AI Chatbot experience?
- Did the AI Chatbot meet your primary expectations? Why or why not?
- Which aspects of the AI Chatbot interaction did you find most satisfactory?
- Which aspects of the AI Chatbot interaction did you find least satisfactory?
- Were there any moments during the interaction where you felt frustrated or dissatisfied? If so, can you describe them?
- How would you rate the responsiveness of the AI Chatbot?
- Did the AI Chatbot provide clear and helpful information?
- Do you feel that the AI Chatbot understood your issue and addressed it effectively?
- How does your satisfaction with the AI Chatbot compare to your past experiences with Human Live-Chat agents?

- If you had the choice, would you prefer to interact with an AI Chatbot or a Human Live-Chat agent for similar issues in the future? Why?
- Do you believe that the AI Chatbot could handle more complex issues? Why or why not?
- What improvements would you suggest for the AI Chatbot?
- Do you think the compensation offered by the AI Chatbot was fair for the inconvenience caused?
- How likely are you to recommend using an AI Chatbot to others based on your experience?
- Is there anything else you would like to add about your experience with the AI Chatbot or how it could be improved?
- How does your satisfaction with this AI Chatbot compare to your experiences with other AI Chatbots?
- Were there any specific features or responses of this AI Chatbot that stood out compared to others you've used?
- Have you had more positive, negative, or similar experiences with other AI Chatbots? Can you provide examples?

This section will answer the second research question - **How do the specific expectations customers have when interacting with AI chatbots compared to human live-chat agents on an e-commerce website influence overall customer satisfaction?**

Part 5 of Interview – Conclusion

- Summarise the participant's feedback in terms of the two research questions.
- Answer any questions they might have.
- Thank the participant for their time and insights.

Appendix B: Consent Form

Link: https://forms.gle/LBwuCNsUVhq7bpuS6

Consent Form for Interview

You have been invited to participate in a research study titled 'From Expectations to Satisfaction: Exploring Customer Interactions with AI Chatbots and Human Agents in e-Commerce'. This study is being conducted as part of a MSc in Strategic Management and Digital Marketing at the University of Malta (FEMA).

If you are willing to participate in this research study by interview, please complete and sign the Google Form below.

Should you have any questions, feel free to contact me on kylie.decelis.20@um.edu.mt.

kylie.decelis.20@um.edu.mt Switch accounts

Not shared

* Indicates required question

Email Address *

Your answer

You agree to the Terms and Conditions for this Interview *

☐ I agree to take part in this interiew, according to these terms and conditions.

Kindly Sign Here by writing your Full Name and Surname *

Your answer

Submit Clear form

Terms and Conditions

Link:
https://docs.google.com/document/d/1EieMyV8z3nTLishzCpkkpFGMH3BVv51LikIeATkZlq8/edit?usp=sharing

Terms and Conditions for this interview being conducted by Kylie Decelis

- I confirm that I am over the age of 18 years old.
- I confirm that I have read and understood the information sheet and have had the opportunity to ask questions.
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.
- I understand that my responses will be kept strictly confidential. I understand that my name will not be linked with the research materials and will not be identified or identifiable in the report(s) that result from the research.
- I agree for this interview to be recorded. I understand that the audio recording made of this interview will be used only for analysis and that extracts from the interview, from which. I understand that no other use will be made of the recording without my written permission, and that no one except the researcher and their supervisor will be allowed access to the original recording.
- I agree that my anonymised data will be kept for future research purposes such as publications related to this study after the completion of the study.