Factors Predicting Consumer-AI Interactions

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Abstract

The involvement of Artificial intelligence (AI) in the everyday life of consumers has important implications on the way consumer and AI interact. AI and robots can have different roles in the interaction with consumers, from simple transactional exchange relationships to more complex empathetic ones. The present research focuses in finding the constructs that affect these consumer-AI relationships, by analyzing acceptance, trust, interaction quality, empathy, attachment, anthropomorphism, self-disclosing behavior, loyalty. Based on literature review, we focused on pointing out the factors that predict and affect consumer-AI interactions. In the first part of the paper the role of trust was analyzed, while in the last part we focused in defining the way in which attachment and gender characteristics affect the relationship between consumer and AI. Our research shows that there are different types of relationships depending on the context, depending on trust, attachment, empathy, loyalty and gender characteristics. These results have important implications in the way robots and AI will be integrated in the shopping experience of consumer. Depending on the closeness of the relationship between consumer-AI, there will be different activities and roles that the AI will take over. For this reason, it is important to understand all facets of this relationship in order to implement it in an optimal way.

Keywords

Artificial intelligence, consumer, consumer-AI interactions, gender, parasocial relations

Introduction

Since the mid-50s, artificial intelligence has been defined in various ways, while its developments (AI) has been strictly related to research in engineering, physics, informatics and biogenetic (Nagy & Hadju, 2021). Due to the fact that the spread and development of artificial intelligence has taken an alert pace, it will involve both ethical and moral aspects that may endanger its social acceptance. Another important factor that makes the acceptance of artificial intelligence by consumers reluctant, is when artificial intelligence technologies are applied in enterprises and are used to influence the purchase decision of products and services. For this reason, the most important acceptance characteristic of artificial intelligence is trust (Gursoy et al., 2019; Anica-Popa et al., 2021). This feature depends a lot on the way consumers adopt and use artificial intelligence, but also on the way manufacturers showcase artificial intelligence services to society.

In this paper we focus on defining the interactions between consumer and AI by taking into consideration the warmth and empathetic behavior as well as the role of gender characteristics. Based on a literature review, we aimed to identify the main topics related to consumer-AI interactions and the role of AI characteristics in enhancing this interaction. Previous research has shown that interaction quality, empathy and attachment are important predictors for trust and acceptance of AI devices (Pelau et al., 2021). Starting from these previous results, we aimed in identifying the roles AI play in the relationship to consumers and the influence gender characteristics have on the attachment in the consumer-AI relations. Previous research has shown that men and women have similar approaches for functional and transactional aspects, but there are differences in the emotional attachment and attraction towards AI (Pelau et al., 2022). In order to

understand this relationship, we have investigated several studies that define interactions and relationships between consumers and AI.

Characteristics of consumer-AI interactions

Warmth is an emotional quality that includes being kind and having empathy for others. Warmth is mostly linked to emotion rather than thought. When the level of warmth necessary to complete a task is strong, a suitable AI device must be able to express sentiments or emotions (Pelau et al., 2022). Nevertheless, a growing number of smart objects (e.g. Amazon Alexa) can interact with humans and transform the consumer experience. However, when a task requires intense sensations or emotions, consumers still choose human workers over AI (Rust & Huang, 2021). Customers trust people more than artificial intelligence (AI) when proposing a love match or forecasting jokes' comedic value, for instance. In addition, people prefer to consult with other people rather than machines when attempting to decipher the emotions depicted in images (Peng et al., 2022). Additionally, it is currently thought that humans are better at handling emotions than things, even AI. Many researchers assume that AI replies are not influenced by AI's genuine intents since they are aware that AI is built and programmed by humans (McLean et al., 2021). People's enjoyment of engaging in emotional relationships with AI may be hampered if they believe that AI does not fully comprehend feelings the way that humans do.

Nowadays, the widespread opinion is that humans are still better at handling emotions than AI. Thus, it is thought that when it comes to warmth, humans outperform AI. Although user interactions with AI assistants can take many different forms, all of these interactions have one thing in common: users give their AI helpers commands, and the assistants carry out these commands to the best of their abilities (Peng et al., 2022). This is comparable to a powerful person telling a weaker person to do what the powerful person desires. In this way, vocal interactions with AI assistants might give consumers a sensation of authority. Human behaviour is strongly influenced by power (Hu et al., 2022).

Because of the omnipresence of smartphones, users may interact with AI technology in ways that are distinct from their interactions with all other technologies (Guzman, 2019). Traditional human-computer interaction is evolving because of virtual assistants. They are largely changing how users receive information about services from websites and applications. Users are no longer required to have any (or minimal) physical connection with their gadgets, which results in a more human-like experience. As a result, virtual assistants are facilitating a simple way for people to communicate with service providers (Alepis & Patsakis, 2017). Furthermore, when people get used to interact with an artificial embodiment as they would with normal people, they begin to develop a relationship with the robotic assistant (Cerekovic et al., 2017).

Those who have previously worked with a certain 'helpful' computer to complete a task wish to work with the same computer again in the future, although an identical computer can complete the same task. People who work on the same computer have a stronger work ethic and a stronger connection. Since the initial set of interactions with computers, people have essentially reciprocated or matched the computer's engagement (Kim et al., 2022; Pelau et al., 2021).

There is a wide variety of consumer-AI interactions. Social networks, mobile apps, live chat, and chatbots, rely mainly on text-based consumer interactions. Virtual assistants function via voice communication, lowering the barriers for engaging with brands and their content at a time that is convenient for the customer (McLean et al., 2021). A helpful strategy for encouraging social engagement is to give technology a voice (Nass and Brave, 2005).

Customers frequently interact differently with human service agents according to how they see their role (e.g., assistant or companion) (Turel et al., 2013). According to the "robot assistant" viewpoint, AI technology makes it possible for practical machines to aid people in carrying out activities. A virtual assistant might be able to track the arrival time of an Uber ride or an Amazon.com package, for instance. Traditional examples also include helping a disabled person in their home (e.g., wheelchair robotics). Technology serves as an aid in these capacities. The communication that takes place with an assistant is typically more formal, task-focused, and dedicated to achieving certain functional goals (Chattaraman et al., 2019). Due to their professional demeanour, consumers consequently prefer to view "assistants" as intelligent (Sundar et al., 2017).

Opposed to "robot assistant", the "robot companion" emphasizes the way AI technology may help users emotionally (Sundar et al., 2017). Contrary to its name, a virtual assistant is not seen as an assistant or a servant in this job; rather, it is seen as a reliable, attentive personal companion in regular, everyday

circumstances. A person can chat with a virtual assistant about music or food, for instance, just as they would with a real person. AI VAs' highly sophisticated natural language processing gives the technology the ability to behave like a human (Guzman, 2019), which in turn affects the technology's appeal to society (McLean et al., 2021).

Individuals engage with computers in the same manner as they interact with other humans, using social rules. Respondents demonstrated that their virtual assistants gave the impression that someone was present. So, offering a friend to chat with, learn from, perform activities with, and seek social comfort is important (Venkatesh et al., 2012). For example, when they get home from work and no one else is there, the respondents chat with the virtual assistant and ask him/her different information. She aggregates all of the top stories for them and runs them through. Because of the high degree of interactivity, it might be more entertaining to interact with the virtual assistant than with friends and family.

The relationship between individuals and AI assistants has become more intense. By being present in the everyday life of consumers, the AI assistant knows more about the human owner, their preferences, their schedule and even some of their closest friends and family members. Using the intelligent assistant, they can organize their schedule, look up recipes, keep track of their orders and even go shopping (Dawar, 2018). This demonstrates the existence of a social entity as well as the virtual assistants' intellect in understanding and characterizing its human owner. People appear to be building connections and relationships with the intelligent assistant as a result of this permanent interaction. In consequence, this raises the social appeal of using technology for interaction. The ability of virtual assistants to interact socially and engage in conversation, as well as their capacity to supply the user with reliable information, seem to be used to measure their intelligence. Occasionally, people are looking for entertainment in their interactions with the intelligent assistants.

In spite of the good communication with the AI system, individuals are concerned about the security of the data collected by the AI system. Despite these trust issues regarding both privacy and security of personal data, individuals still use AI systems for the advantages they bring for an increased quality of life. For instance, for shopping, consumers still provide personal information and access to payment information to the AI system. Consumers trust the AI, but there are still issues and risks. Whereas trust is, in a risk scenario, an individual's anticipation that their vulnerabilities will not be abused (Corritore et al., 2003), trust issues stem from consumer concerns about the privacy of their interactions and the possibility of their personal information being stolen. Despite these concerns, they continued to connect with the intelligent assistant, providing personal information as well as financial information (McLean et al., 2021). Customers experience interactions with human counterparts rather than a piece of technology. Users are also likely to expect less from AI assistants in terms of a sense of community and satisfaction with social needs.

Gender characteristics at AI and robots

The communion between humans is based on knowing each other, communication, interaction and the feeling of trust. The following pattern is becoming more and more eloquent in building a relationship with an artificial intelligent technology (Youn & Jin, 2021). The materialization of AI is growing faster in a world with an increasing number of different needs. Humans seek to build healthy relationships based on communication and trust. If this specific need is not fulfilled, they are searching this kind of affection in the nearby and convenient artificial assistants. Starting with the voice of the intelligent assistants and ending up with a human like appearance, AI is seeking to create an intimate bound with its followers (Nass and Brave, 2005; Guzman et al., 2019). The latest type of development in the AI world encourages seeking social interaction by converting digital appearance into anthropomorphism. The appearance is based on the culture of the targeted group of customers. The Asian Hupo is the reflection of an anime character, embodying a look alike of a female Asian woman (Leo-Liu, 2023). This kind of appearance is targeting man customers as well as fans of the anime world. This conducts to satisfying human needs, such as interaction, by replacing the partner with AI. Great concern is being generated, by the fact of its accessibility for a large range of customers, regarding its mass production and low price of purchase. It also addresses a vulnerable part of the human perception, such as loneliness and physical attraction. The question of gender ethics has risen specifically for woman like AI, by objectifying females, creating the illusion of a dream girlfriend or wife, satisfying the needs and expectations of their partners. Motivation to interact with the AI human look alike in the offered by the feeling of control and anticipation of the AI in the relationship and also by the human vulnerability to construct healthy relationships. The interaction with AI could emerge to the feeling of loving it (Leo-Liu, 2023). This is what companies are also targeting, being dependent of a

specific type of product by identifying with it and beginning to actually love it (McLean & Osei-Frimpong, 2019).

But not only love would be created in a repetitive interaction between humans and AI, but also the feeling of creating a relationship that would last in the future, by the offered support and understanding of the AI to the human. This drives the consumer to feel the illusion of embracing the future together with its artificial friend. AI is hidden under the umbrella of helpers or supporters in the daily activities, because of the hectic life that the average population is experiencing (Guerreiro & Loureiro, 2023). Other research shows that the use of artificial intelligence in retail can reach the top 1% of customers who are worth 18 times more to retailers than the average customer. This fact arises through targeted personalization and increased emotional self-commitment based on behavioral data (Solis, 2017). Establishing an affective commitment between the AI and the customer creates a long-term, predictable relationship that can lead to smooth strategy formation. Important for the description of the interaction of a consumer with a virtual assistant is the relationship that can develop between them. Once voice assistants have established such a relationship with their users, the consequences are equally important. These can be loyalty, willingness to spend constantly and word-of-mouth propaganda.

When a consumer trusts a technology, a long-term relationship develops between them, which in most cases is associated with loyalty. Loyalty is a consequence of the positive assessment of AI and it is deeply rooted in consumer attitudes. Tucker conducts a study that reveals the characteristics of loyal customers. Some customers will remain brand loyal even if there is no concise difference to other AI. Loyalty can therefore be based on a trivialization, since one cannot necessarily say why one is loyal to a certain AI. In addition, customer decisions are made on the basis of exploratory customer behavior (Tucker, 1964). What this refers to and what effects it has was researched by Fournier (1998). She had named the brand as a partner. In a relationship there are interdependencies between the two partners. Everyone tries, through their actions, to strengthen the bond and build trust. This bond must ensure a dyadistic, developed structure between the two actors, in which they will be dependent on each other. The products or services that a company offers are mostly perceived as inanimate objects (Fournier, 1998). In order for a relationship to emerge, various characteristics are attributed to these inanimate objects in order to bring them to life in the eyes of the consumer (Gilmore, 1919). Such as the bound between appearance and cognitive attributes. Consumers are responding different to a certain type of AI appearance such as in a normal relationship. Studies show that a more mature physical interface can lead the consumers to purchase high involvement services to the detriment of low involvement services. The physical appearance is shown as an important characteristic in how a consumer examines the authority or knowledge of its discussion partner (Yim, 2022).

It is easy for people to create different attributes to the brands and the technology they love. In recent years, with the help of technological developments, cars have also been equipped with artificial intelligence. This approaches the pyramidal needs of people, namely security needs. With every ride together with the new equipment, one feels more secure and organizationally recognized by the brand. The car will be a family member. The degree of humanization of a brand is crucial for establishing the brand-customer relationship (Aaker, 1997). This theory of "animism" can be achieved in various ways so that a product can approximate the characteristics of humans. Animism is found also in the expectations of the consumers regarding the phycological state of mind of their tech partner. People in general tend to strive having control over their interhuman relationships in order to feel comfortable or well. The AI strives to offer its consumers the feeling of belonging and trust by positioning them in the pole position of the relationship, creating the illusion of control over the AI (Pitardi, 2023).

Conclusions and future research directions

The results of our research show that the relationships between consumers and AI are complex and several aspects have to be taken into consideration in order to fully understand them. On one hand there are the personality and values of the consumer. It depends a lot of a consumer in how far he/she is willing to use and to interact with the AI. Introverted people will be probably more likely to attach to AI devices, while extroverted people will need the social interaction with other people. On the other hand, there is the context in which consumer and AI interact. There are transactional relations, in which warmth and empathy are less required, while there are communal relationships, in which empathy and attachment play a crucial role. Moreover, there are gender characteristics that might affect this relation, that should be investigated in more detail.

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