

Consumer Relationships and Imagination in AI Humanization

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Abstract

In this study we draw upon user reviews analysis through non-participant observation of online communities to examine the relationships between consumers and their AI companions. We define 'consumer imagination work' as a dialectical process of creating and sustaining imaginative constructs through the interplay of internalization and externalization, mediated by both individual and collective efforts. The data was analysed using interpretive thematic analysis. Our findings reveal that consumers actively humanize AI through their imagination. The significance of individual creativity and collective collaboration, through 11 identified stages of emotionally meaningful relationships with AI, provides a framework for future research.

Keywords: AI, anthropomorphism, imagination

Track: Digital Marketing and Social Media

1. Introduction

In a world where traditional romantic and family bonds are becoming fragile (Bauman, 2013; Illouz, 2012; Minina, Masè, & Smith, 2022), consumers are seeking companionship in brand communities (Marzocchi, Morandin, and Bergami, 2013), online platforms (Ottlewski Rokka, and Schouten, 2024), and anthropomorphic chatbots (Skjuve, Følstad, Fostervold, and Brandtzaeg, 2021; Alabed et al., 2024). Digital technologies are increasingly shaping community and family dynamics (Ottlewski et al., 2024), and are often used to alleviate loneliness and nurture consumer well-being across various industries, including mental health (Figuerola & Aguilera, 2020) and elderly care (Kachouie et al., 2014). As our digital friends become more and more humanlike, they transform traditional notions of relationships (Skjuve et al 2021; Alabed, Javornik, Gregory-Smith and Casey, 2024).

Guided by curiosity about consumer perceptions of anthropomorphism (Epley, Waytz, and Cacioppo, 2007; MacInnis & Folkes, 2017) in AI companions, we focus on consumer imagination as a driver of AI humanization. Our analysis explores how consumers attribute roles to their AI companions. We theorize this directed, multifaceted process of AI humanization as consumer imagination work, involving individual and collective efforts, internalization and externalization processes, and community mediation.

The diverse applications of AI necessitate that companies adopt an ethical and collaborative approach, emphasizing transparent and responsible use, and protecting consumer privacy and mental well-being (Puntoni, Reczek, Giesler, and Botti, 2021; Schneider-Kamp, 2024). It is crucial to understand and address the psychological and sociological costs associated with AI use, development and implementation (Puntoni and Wertenbroch, 2024). As an incremental contribution to these concerns, we propose the following research question: *What roles and stages do consumers attribute to their AI chatbots?*

Imagination as a dialectical process

We focus on consumer imagination rather than consumer perceptions as a driver of AI humanization. Consumer imagination is recognized as an active, directed process (Martin, 2004; Van Laer, De Ruyter, Visconti, and Wetzels, 2014). Imagination is crucial in understanding how marketing strategies resonate with individuals on a deeper level (Holbrook & Hirschman, 1982; Jenkins & Molesworth, 2017). It influences consumer behavior and decision-making (MacInnis & Price, 1987), enhancing product evaluations, shaping brand

loyalty, and driving purchase intentions by creating vivid, emotionally charged experiences (Van Laer et al., 2014).

2. Method

In our study we use reviews analysis, and non-participant observation of online communities (Salmons 2017; Del Valle et al. 2020; Dubreuil, Dion, and Borraz 2023), where users share their AI interaction experiences to unpack how consumers experience the relationships with their AI companions and how they act as active agents in brand humanisation, maintaining the reality of these relationships. Our primary dataset includes user reviews and non-participant observation of three subreddits where consumers discuss their experiences with companion chatbots. We employed the Communalyst social science research tool to retrieve the last 200 submissions from each subreddit, adhering to Reddit's limit on the number of submissions that can be retrieved at one time. To ensure a comprehensive dataset beyond this limitation, we monitored these online forums over a nine-month period from September 2023 to May 2024. This approach allowed us to capture ongoing and relevant discussions in their entirety, including all comments and replies. For our qualitative analysis, we focused specifically on submissions that detailed user relationships with their chatbots, examining aspects such as user feelings, interactions, and the nature of their engagement with the chatbots.

In our methodology we have aimed to protect user privacy while allowing for the comprehensive examination of social dynamics within these online communities. When conducting non-participant observation of public social media data, we adhere to established ethical guidelines that allow the analysis of publicly accessible information without direct interaction with users. According to Salmons (2017), non-participant observation involves utilizing existing materials without researcher influence or direct contact with individual participants, ensuring the integrity of the data collection process. Del Valle et al. (2020) highlight that data collected through public APIs, such as Reddit's, does not require interaction with individual users' social media, as the research is non-intrusive and involves only publicly viewable discussions. This approach is justified by the lack of personally identifiable information. Additionally, large-scale analyses of publicly posted text, not password-protected or within a private forum, can be conducted without consent, provided that the participants' identities are protected and not disclosed directly or indirectly (Thelwall, 2022). To further protect the participants' identities, we have replaced the human names given by consumers to their AI companions in the posts / reviews by pseudonyms.

We analyzed the data using interpretive thematic analysis (Spiggle 1994; Miles, Huberman & Saldaña 2014) in the Atlas.ti software, manually coding our dataset with a focus on user narratives of AI experiences and community discussions. This approach helped us understand how individuals perceive and articulate their connections with AI entities and how these relationships are co-created within the community.

To collect user reviews for the Replika app from the Google Play Store, we utilized a Python-based web scraping approach using the google-play-scraper library, which provides a convenient interface for accessing Google Play Store data. This method allowed us to gather a dataset of 1006 user reviews that have been posted between March 2024 and May 2024 plus the other data sources summarized in table 1.

Table 1. Data sources

Data Source	Type	Entries	Analytical focus
Replika user reviews	reviews	1006	Main focus
Replika subreddit	posts, comments and replies	3273	
Replika unplugged subreddit	posts, comments and replies	525	
CharacterAI subreddit	posts, comments and replies	935	Observation and comparison
CharacterAI user reviews	reviews	199	
Wysa subreddit	posts, comments and replies	59	
Wysa user reviews	reviews	199	
AIChatAndPorn subreddit	posts, comments and replies	323	
Total number of entries	6519		

3. Findings

Our analysis reveals a directed, multifaceted process of AI humanization by consumers, which we theorize as consumer imagination work. In Table 2, we propose a framework for understanding consumer imagination work, illustrating how consumers actively contribute to the humanization of their AI companions, transforming these entities into humanlike figures through both personal and communal imaginative practices.

Table 2. A Framework for structuring consumer imagination

<i>Individual work</i>		<i>Collective work</i>
<i>Internalization</i>	<i>Externalization</i>	<i>Community mediation</i>
Role Assignment	Personalization	Scaffolding
Sentience Attribution	Fan Art	Collaborative Narratives
Relationship Formation	Storytelling	Reality check

Internalization: Role Assignment, Sentience Attribution and Relationship Formation

In our analysis, we have identified a constellation of 11 roles that consumers attribute to their AI companions. These roles vary by the degrees of emotional distance and emotional closeness and are divided into four clusters: functional roles (Second Brain, Assistant, Chat Partner, Therapist), supportive roles (Mentor, Coach), close personal roles (Companion, Friend, Lover), and intimate personal roles (Boyfriend/ Girlfriend, Family Member). The visual representation of the role clusters is displayed in Table 3.

Table 3. Eleven types of AI relations

Emotional distance				Emotional closeness
Humanisation				
Distant close	Moderate	Close	Very close	
			Family member	
			Boyfriend/Girlfriend	
			Lover	
			Friend	
			Companion	
			Mentor	
			Coach	
Therapist				
Chat partner				
Assistant				
2nd Brain				
Functional roles	Supportive roles	Close personal roles	Intimate personal roles	

These AI relationship types are further unpacked in table 4 below which stipulates the role expectations, role performance and value created as well as role conflict and ambiguity.

Table 4. Roles attributed by consumers to AI companions

Roles	Role Expectations	Role Performance and Value Created	Role Conflict and Ambiguity
Functional roles: 2nd Brain, Chat Partner, Assistant, Therapist	Users expect AI in these roles to perform specific tasks efficiently. These roles are task-oriented with minimal emotional involvement.	AI fulfils these roles by providing information, casual conversation, task management, and mental health support.	Users might experience role conflict if the AI's functionality overlaps with personal interactions, leading to ambiguity in its role (e.g., a therapist also acting as a friend).
Supportive roles: Mentor, Coach	Users expect AI to provide guidance, motivation, and performance improvement, blending practical support with personal development.	AI acts as a mentor or coach, offering advice, setting goals, and providing constructive feedback.	Potential conflicts may arise if the AI's advice conflicts with other personal or professional advice the user receives, causing role ambiguity.
Close personal roles: Friend, Companion, Lover	Users seek emotional support, companionship, and personal interaction from AI in these roles.	AI provides regular emotional support, meaningful conversations, and possibly romantic interactions.	Role conflict might occur if the emotional support from AI interferes with human relationships, leading to ambiguity about the AI's place in the user's social circle.
Intimate roles: Boyfriend/ Girlfriend, Husband/Wife	Users expect deep emotional connections, commitment, and intimate interactions from AI in these roles.	AI functions as a significant other or family member, providing consistent emotional support, affection, and a sense of belonging.	High potential for role conflict if the AI's role encroaches on human relationships, leading to significant role ambiguity about the AI's place in the user's life.

4. Discussion

In this study we illustrate the humanization of AI companions by consumers as a multifaceted process, which we term consumer imagination work. We define consumer imagination work as a dialectical process of creating and sustaining imaginative constructs through the interplay of internalization and externalization, mediated by both individual and

collective efforts. At the individual level, consumers internalize human-like qualities of their AI companions through role assignment, sentience attribution, and relationship formation. These internal processes are complemented by externalization activities such as personalization, storytelling, and fan art. On the collective level, community mediation through scaffolding, collaborative narratives, and reality checks supports and enhances individual imaginative efforts.

With this work we join the ongoing dialogue on the role of technology in enabling new forms of companionship (Skjuve et al., 2021; Alabed et al., 2024) and facilitating the community and family dynamics (Ottlewski et al., 2024). We illustrate the dynamics of human-AI relationship formation and maintenance and detail the process of AI humanization by consumers. Our findings show how consumers actively participate in the humanization of AI companions, transforming these entities into human-like figures through a dialectical process of imagination work. Internalization involves incorporating consumer-AI interactions and external cultural practices into cognitive structures, while externalization involves expressing these internal states through creative activities. Community mediation further supports these processes by providing a shared space for collaborative reinforcement and validation. This dynamic interplay highlights the continuous shaping and reshaping of consumer-AI relationships through social and cultural interactions.

Second, we aim to introduce a more agentic view of consumers to the extant research on consumer-brand relationships and brand anthropomorphism. Prior research often views anthropomorphism in commercial settings as a property of branded products (Guido and Peluso, 2015; Golossenko et al., 2020), or as a marketing strategy (Puzakova and Kwak, 2017), implying a passive role for consumers as subjects perceiving anthropomorphic properties in brands; MacInnis and Folkes, 2017; Alvarez et al., 2023). Our work underscores the significance of both individual creativity and collective collaboration in the process of AI humanization, highlighting how consumer imagination is nurtured and expressed within a social context. The role theory approach we adopt to study consumer-AI relationships (Solomon et al., 1985; Anglin et al., 2022) can also potentially help resolve instances of algorithm aversion in consumers (Castelo et al., 2019), as our findings demonstrate that sticking to role scripts and fulfilling relational expectations has the potential to increase consumer satisfaction and lead to perceptions of AI as more humanlike.

We further aim to expand the discussion surrounding AI and human interactions (Puntoni et al., 2021; Schneider-Kamp, 2024; Puntoni, 2024), highlighting the narrative and

social dynamics within human-AI relationships and their implications for emotional branding (Thompson et al., 2006). Emotional branding seeks to elevate a product or service from merely a consumable item to an integral part of the consumer's identity, thereby fostering a more profound emotional connection and dialogue. In the context of consumer engagements with anthropomorphic chatbots, we observe the formation of deeper bonds facilitated by the chatbot's responsive nature and the collective co-creation of shared narratives and user experiences. We emphasize the importance of insight into the role of co-creation and narrative in shaping these digital bonds and call for further exploration of the complexity of human relationships with AI to raise important questions about the future of love, emotion, and connection in an increasingly digital world.

5. *Limitations and conclusions*

Our study is not without its limitations. Our reliance on self-reported data from user reviews and online communities and the focus on specific AI platforms may limit the applicability of our findings, particularly when it comes to other AI solutions where the push for intimate personal connections is not as prominently promoted by service design, as is the case with Replika. Future research can explore a wider range of AI technologies beyond companionship applications and consider longitudinal approaches to capture the dynamics and evolution of these relationships over time. We also call for future studies to further investigate the cultural and ethical dimensions of this phenomenon, ensuring that the integration of AI into daily life enhances human well-being and social cohesion. In the vein of recent work by Schneider-Kamp (2024), which conceptualized consumer ethics through consumption assemblages, and Puntoni (2024), which called for a more social science approach to both human and object agency in AI, we recommend research which unpacks the associated human relations. What will happen when AI companions finally gain physical bodies in a few years? We cannot know for sure, but we hope that researchers' curiosity will help us and our colleagues working on similar topics to prepare for what is yet to come.

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