

# Crafting the Digital Frontline: An Exploration of How Firms Shape the Visual Identity of Virtual Service Agents

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# **Crafting the Digital Frontline: An Exploration of How Firms Shape the Visual Identity of Virtual Service Agents**

## **Abstract:**

This study explores how firms craft the visual identity of virtual service agents (VSAs) as part of the digital frontline. Drawing on in-depth interviews with marketing managers across industries, we examine current VSA applications, desired persona attributes and key decision uncertainties. Findings show that VSA visual design is not a purely technical or aesthetic task but a strategic branding decision. Managers share a clear view of where VSAs belong in the service landscape and which interpersonal qualities they should signal, yet face ambiguity when translating these into concrete visual choices. We surface tensions between generic warmth/competence and distinctive brand personality, between VSA brand persona fit and customer persona fit, and between implementation of single versus multiple customizable VSAs. These insights offer a practice-based foundation for future research and more robust guidance for firms navigating VSA design.

*Keywords: Virtual Service Agents, Brand Personality, Customer Experience*

*Track: Digital Marketing & Social Media*

## 1. Purpose and Objectives

As AI becomes more prevalent in consumer interactions, firms have started to install *virtual service agents* (VSAs) in form of avatars and chatbots for customer journey enrichment and brand personality management. Overall, the term “VSA” refers to a visually embodied AI representative that interacts with customers in digital environments (Sands et al., 2022). For example, companies like Deutsche Telekom or Kiehl’s are replacing human representatives with such VSAs to enhance customer experience and enable availability as well as brand representation around the clock (UneeQ, n.d.; Deutsche Telekom, n.d.). VSAs as “virtual frontline employees” (Lin et al., 2021) are installed to assist in customer journeys and to enhance brand experience (Accenture, 2024; Cheng & Jiang, 2022; Sirianni et al., 2013).

To ensure brand consistency, firms must create VSAs whose personas match the brand's identity and personality. Since VSAs emulate the functions of human frontline staff, research insights on human service interactions provide a valuable foundation. According to service encounter theory, every customer-employee interaction is a vital "moment of truth" that influences consumers' perceptions of service quality, satisfaction, and, ultimately, the brand itself (Bitner, 1990). Additionally, research on branded service encounters shows that when an employees’ behavior, tone, and appearance are aligned with the brand’s personality, it enhances brand evaluations and brand equity (Sirianni et al., 2013). Complementing these findings, extensive research in the service domain has validated the Stereotype Content Model (SCM) as a useful framework for understanding how customers evaluate service employees and brands. The model proposes that people judge others primarily along two fundamental dimensions, warmth and competence, which collectively determines affective, cognitive, and behavioral responses such as satisfaction, commitment, and purchase intention. Research on SCM has already demonstrated how observable cues, like gender, affect warmth and competence (Fiske et al., 2002; Güntürkün et al., 2020).

More recent research focuses on actual VSA-human interaction and introduced anthropomorphism as a pivotal factor influencing user reactions, i.e. humanlike attributes can enhance social presence, trust, and emotional involvement, but may also elicit discomfort or privacy apprehensions when agents exhibit excessive human likeness or high competence (e.g., Ciechanowski et al., 2019; Greilich et al., 2025). In line with the SCM, studies on VSAs have extensively examined the influence of gender stereotypes on perceptions of attributes such as warmth and competence (Nickel & Meyer, 2025; Feine et al., 2019). Emerging

reviews note that existing studies often treat the appearance design of VSAs in isolation, offering limited integration with business/brand application in mind. Collectively, these developments depict a field that recognizes the persuasive and brand enhancing potential of VSAs yet still lacks systematic understanding concerning the influence of different design choices beyond gender design on firm-related outcomes (Greilich et al., 2025). In this regard, little is known about how VSA design can be conceptualized and implemented to influence brand communication, brand perception, customer engagement or purchase behavior (Liu et al., 2024).

Additionally, while existing research on human agents provides a solid foundation for research on VSAs, there are two aspects which set them apart from their human counterparts: Firstly, while a human sales employee will naturally vary in their personality and appearance, VSAs, in contrast, can and must be designed, giving brands greater control over how the VSAs and thus the brands present themselves to customers. This necessity provides opportunities for maintaining a consistent brand personality as well as challenges, e.g. brands must discern which representations most accurately reflect their identity and resonate effectively with their customers. Secondly, VSA design encompasses a range of representations beyond human forms, allowing for variations in dimension (2D/3D) and levels of anthropomorphism. This flexibility enables VSAs to include lifelike humans, animals, mascots, and other imaginative characters. Interestingly, first research suggests the potential of non-human avatars in brand management (e.g., Liu et al., 2024). However, research on the design options of VSAs and their impact on consumer behavior is still in its early stages.

The aim of this research is to understand how companies make decisions regarding the visual design of VSAs. Consequently, we will identify and prioritize relevance-driven research gaps. This study therefore addresses the following research questions:

**RQ1:** How are companies currently using VSAs, and how do they view their future relevance in customer-facing services?

**RQ2:** What attributes do organizations seek to convey through VSAs, and how do they intend to express them through visual design?

**RQ3:** What are uncertainties in the decision-making for visual VSA design?

## **2. Methodology**

Due to the novelty of the subject, we performed exploratory expert interviews with marketing managers from various sectors, including electronics, FMCG, fashion, medtech, education, and online marketplaces, each lasting approximately 60 minutes, to gain an in-depth understanding of a company perspective on VSA deployment and design. The criteria for participation in the interview included experience in digital marketing and/or e-commerce as well as employment at a large or mid-sized B2C company with an online presence (e.g., its own website) or at an agency servicing such companies. While eight experts came from large firms, two were affiliated with mid-sized firms. After the tenth interview, we reached theoretical saturation, prompting us to cease further inquiries.

To ensure a focused, in-depth exploration of VSAs and their design, the interviews were semi-structured and designed to elicit expectations, design priorities, uncertainties and strategic tensions. The interviews also addressed deeper subjects such as inclusivity, emotional engagement, and the degree to which brands permit creative autonomy in VSA design. Ultimately, we constructed a coding tree informed by Braun & Clarke (2006) to accurately assess the interview findings and employed MaxQDA 24 for the implementation of this coding. This procedure resulted in 63 codes and 8 thematic dimensions.

## **3. Findings**

From the interviews, a few clear patterns emerged. All participants believe VSAs will become prevalent in e-commerce, particularly in product consulting, where customer guidance and persuasion matter most. Five experts reported that their companies already make use of VSAs in form of chatbots at key customer touchpoints and one expert reported to do so with the use of an avatar. All interviewees voiced that VSAs would eventually replace much of the digital customer service currently handled by humans. This expected transition was motivated by increased efficiency in repetitive tasks and by the support for human service employees to allocate their time to more complex duties. Other reasons mentioned for the transition towards VSAs were VSA's continuous availability around the clock, cost reduction and consistency in communication. Furthermore, eight interviewees reasoned that VSAs have the potential to extend the brand's personality and identity to become brand representatives on the company's own website, especially in early customer interactions. The area of product consultation was believed to have most potential for the effectiveness of VSAs, as it was seen

as emotionally low-risk, repetitive in nature, and often approached with a more open mindset by customers, in comparison to interactions during problem solving scenarios. Specifically, managers explained that customers are more open to interacting with VSAs when browsing or seeking product guidance, whereas complaint resolution or problem-solving often carries emotional weight and brand risk, making human agents the preferred option. One participant also mentioned the necessity of human interactions in brand-consumer interactions for brand love: “We get a lot of messages [...] saying things like, ‘[Brand] has been with me my whole life [...]’. People get [...] tattoos and show them to us, so you can't underestimate how deep this love goes. I also think, both positively and negatively, that you don't want to show your tattoo to a chatbot. So, if you need that kind of human connection, I think a chatbot is the wrong place to look.”

When asked about VSA personality, all experts agreed that they design an agent that behaves and appears empathetic, competent and reliable. Additional traits covered include trustworthiness, dependability, approachability, and alignment with brand values. Empathy was regarded as critical for fostering emotional comfort and making the customer feel understood, while a competent appearance was intended to improve service satisfaction and lead to the perception of receiving reliable recommendations. Projecting trustworthiness, on the other hand, was seen as a requirement for meaningful customer-agent interaction. Several participants also highlighted the necessity for VSAs to align with the company's tone and values to maintain authenticity and brand consistency. One expert summarized it as follows: “[...] In principle, it should reflect the company's values in some way, authenticity, trust, reliability, assurance, [and appear] on an equal footing [...].”

However, uncertainty arose when the discussion turned to the visualization of VSAs. Experts were unsure about how to apply personality traits and brand personas to a VSA's visual design. One manager expressed “You have to appear as a confident explorer. The only question then is, what is a confident explorer?”. Opinions varied on the effective use of age, gender, and appearance. Participants stated that professional authority and competency was captured by designing the representation of a stereotypical demographic or job with most product experience: “[Like] the jeans store salesperson [...]. [Someone] that reflects the image people have of a consultant.”. Projection of customer understanding on the other hand was pursued by mirroring the target groups' demographic. One expert defined it by saying “Based on our target group demographics, I would guess it's a woman. Somewhere between 40 and 50, who strongly represents the opinion of our consumers, so to speak.”.

In terms of freedoms of VSA dimension and degree of anthropomorphism, the findings show that brands are increasingly open to experimentation. In this regard, one participant noted the exclusionary risk of gendered design, pointing out that choosing a male or female VSA may alienate the opposite sex or non-binary users: “[...] I think it's wrong to decide and say we're male because, [...] if we launch something like that as a brand, then we're kind of a bit like the avatar. That means we would automatically say we are male or we are female [...]. And then we would exclude a large part of the population, right? [...] And that's why I would behave in a gender-neutral way.” Specifically, eight interviewees stated that VSAs do not have to look human and could take on animal, fantasy, or abstract forms depending on brand context. One expert was fond of the idea to use an animal design for their brand's VSA, emphasizing “animals generally work quite well for me because they are not human, and I associate almost all animals with something positive. [...] Humans always have the problem that a) they have a gender and b) they also have a certain [...] level of attractiveness.”. Similarly, nine interviewees were open to 2D or cartoon-style VSAs, if these proved more effective in interaction. Despite this openness, interviewees acknowledged gaps in guidance and uncertainty around the “right” design choices, pointing to a need for further research on how design features affect brand perception and persuasion.

When asked directly whether VSAs should resemble brand personality or customer persona (VSA design - brand persona fit and VSA design - customer persona fit), most interviewees focused on brand personality fit. VSA design - customer persona fit, in contrast, led to more polarized opinions. One expert expressed concerns that designing VSAs to fit young customers could backfire and appear forced or dishonest. Others highlighted that customer persona fit can increase perceived similarity and social closeness, making customers feel both that their concerns are addressed appropriately and that their broader needs are genuinely considered.

Another area of uncertainty and opposition addressed whether customers should be allowed to choose between multiple agents, i.e. VSA personalization. Some experts favored flexibility to better address customer preferences, saying “You should leave a choice for the respective target group.” Others emphasized the importance of brand consistency, explaining “If you have one AI avatar that represents your brand, you should stick with it. [...] When I come back as a user, I want to recognize it.”. These quotes highlight a strategic tension: Should VSAs primarily adapt to heterogeneous customer preferences or serve as singular, consistent representation of the brand?

#### **4. Implications and Future Research**

Theoretically, our research reveals the potential to extend service encounter theory (Sirianni et al. 2013) into the digital realm and to expand on stereotype content theory (Fiske et al., 2002) by applying it to the “limitless” design options of VSAs, including stylized or non-human representations like mascot-depictions. The tension between singular brand representation and VSA customization adds a new dimension to service encounter theory, pointing to an unresolved duality between brand representation and customer-centric relatability. It also challenges branding theory to keep up with the freedom of customizable VSAs.

The insights derived from this research give strong impulse for quantitative follow-up studies on how a VSA’s visual design (e.g., demographic cues, stylistic design, non-human design or VSA design - brand persona fit and customer persona fit) influence consumers’ brand perceptions and willingness to buy a recommended product; with a mediated focus on trust, competency and warmth.

Companies are on the edge of major change in how they design their VSAs. As brands prepare to deploy VSAs more widely, they’ll need frameworks to help navigate choices about design, tone, and context. This research is an early step in building those frameworks, grounded in both real-world expertise and academic theory. It will be the goal of future research to give actionable guidance to companies, based on their identified core needs and uncertainties in this new field.

#### **5. Conclusions**

This study examines how firms craft the “digital frontline” by designing the visual identity of VSAs. We investigate how companies currently employ VSAs and assess their future relevance, which attributes they seek to convey and how these are translated into visual design, as well as which uncertainties and strategic tensions arise in this process. Taken together, the findings portray VSAs as an emerging but strategically loaded touchpoint at the intersection of automation, branding, and customer experience.

Across interviews, firms appear clear on what they want VSAs to express but far less certain how specific visual features map onto those goals. Managers consistently described their ideal agent as empathetic, competent, and aligned with brand values. However, when asked to translate these abstract expectations into decisions about age, gender, and

appearance, confidence declined. Some favored the depiction of a stereotypical expert to convey competence and consultation-fit, while others argued for mirroring target group demographics to foster empathy and customer understanding. Concerning depiction of VSA dimensions and level of anthropomorphism, many respondents were open to using non-human or non-realistic VSAs, if it fit the brand context. Yet, the expected effects of these options on trust, expertise, and persuasion remain uncertain.

Finally, three strategic tensions emerged as particularly central. (1) firms face trade-offs between endowing VSAs with universally desirable traits like warmth and competence and expressing a sharply profiled brand personality that may conflict with these qualities, (2) VSA visual design is shaped by a tension between brand persona fit and customer persona fit. (3) firms need to decide on personalization options of VSAs, i.e. whether to provide a single, stable agent or to offer multiple agents and thereby accommodate heterogeneous customer preferences.

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