REDEFINING CONSUMER RELATIONSHIPS THROUGH VOICE TECHNOLOGIES

Matteo Montecchi (matteo.montecchi@kcl.ac.uk)[1*]

Kirk Plangger (kirk.plangger@kcl.ac.uk)[1]

Anouk de Regt (a.deregt@uu.nl)[2]

Adam Mills (ajmills@loyala.edu)[3]

* Corresponding Author: Matteo Montecchi, King's Business School

King's College London, 30 Aldwych, London, WC2B 4BG,

United Kingdom

Email: matteo.montecchi@kcl.ac.uk

ABSTRACT

Voice technologies are becoming pervasive in consumers' lives, offering brands a wide range of opportunities to develop deeper, para-social consumer relationships that engender brand loyalty. Much of the growing popularity of voice technologies is due to characteristics that closely mirror human-to-human interactions. By examining how consumers interact with voice technologies, we delineate their core functionalities (searchability, actionability, and sociability) and explain how these functionalities prompt consumers to anthropomorphize the technologies' mechanisms and outputs. This process can result in the attribution of human traits of warmth and competence to voice technologies, leading to the formation of para-social relationships. By leveraging voice technologies, brands can potentially develop more intimate consumer relationships and enhance brand loyalty.

Keywords: Voice technology; Anthropomorphism; Para-social relationships; Loyalty; Artificial Intelligence (AI)

INTRODUCTION

In an increasingly digital and socially distanced marketplace, brands are seeking new avenues for developing and maintaining more intimate consumer relationships (Hamilton et al., 2021; Sheth, 2020). Among the broad range of technological solutions that are available to marketers for creating relationship-building touchpoints (Davenport et al., 2020; Grewal et al., 2020; Tong, Luo and Xu, 2020), voice technologies offer unparallel opportunities to design hyper-personalized and immersive customer experiences that can enhance brand engagement (McLean, Osei-Frimpong and Barhorst, 2021) and, ultimately, foster brand loyalty (Moriuchi, 2019). While Amazon's Alexa and Google's Home dominate this market space (Statista, 2020a), several companies are developing branded versions of voice digital assistants designed to provide highly customizable services. Consider, for example, the premium beauty brand Estée Lauder that recently launched Liv, a beauty advisor that can be activated with voice on Google Home. This voice-enabled assistant, powered by artificial intelligence, dispenses suggestions on beauty routines, offers tips on combining different products, and allows customers to make purchases in real-time. Liv represents Estée Lauder's strategic ethos of creating personalized educational and informational experiences while developing a strong emotional bond with their consumers (Estée Lauder, 2019).

As voice assistants such as Estée Lauder's Liv become equipped with more sophisticated digital skills (Fernandes and Oliveira, 2021), and the penetration of smart speakers and other smart devices continues to grow globally (Statista, 2020b), an understanding of the relationship-building potential of these technologies becomes imperative for brands. In particular, the human-like traits that characterize voice technologies could represent a significant asset to earn additional consumer trust and further engender commitment (Morgan and Hunt, 1994), thus resulting in a stronger and deeper para-social relationship between consumers and these technologies. Reflecting on these important trends, this chapter examines how voice technologies can be successfully deployed to foster closer relationships with customers in real-time that contribute to strengthening brand loyalty.

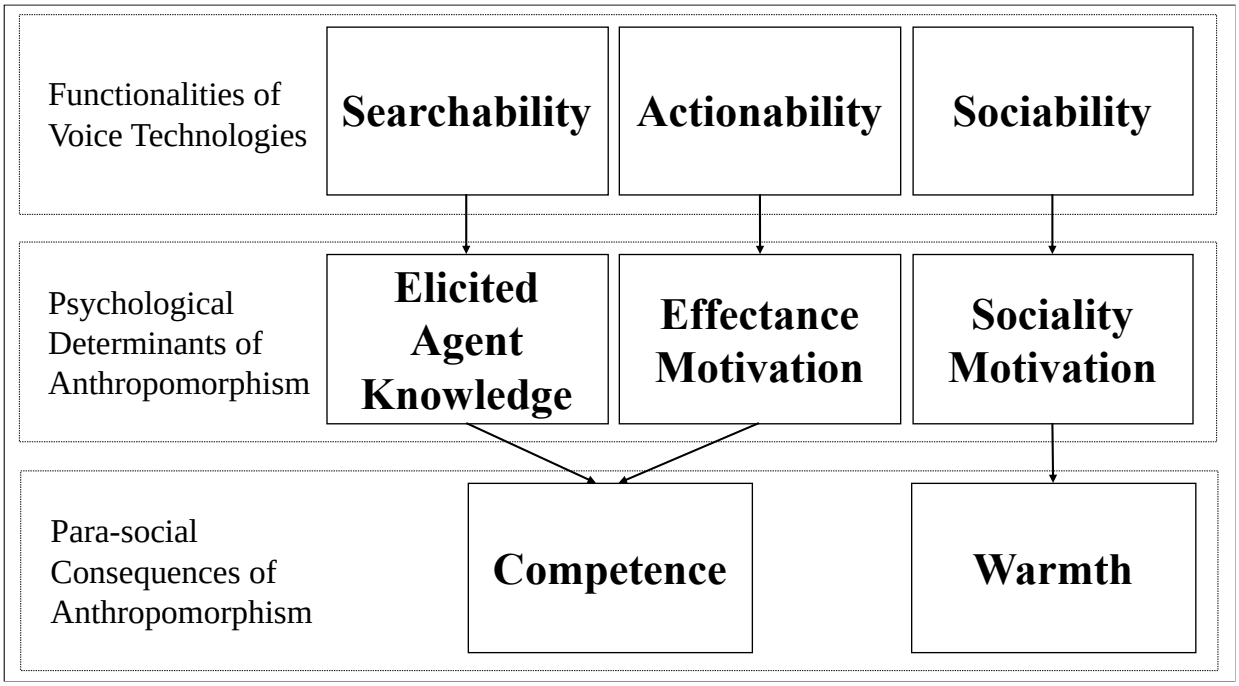
Voice technologies can be defined as technological infrastructures that enable synchronous, non-manual, and remote human-machine interactions by leveraging auditory prompts and feedback that emulate natural language conversations (Guzman, 2019; McLean, Osei-Frimpong and Barhorst, 2021). In their basic form, these technologies support the control of internet-connected devices through artificial intelligence voice assistants (Taylor, Reilly and Wren, 2020). More advanced applications, which are at the cusp of mainstream commercial availability, include voice- and motion-enabled robots (e.g., Pepper Robot), and product-within-product voice control interfaces (e.g., hands-free automotive control). Through speech activation and the use of natural language instructions, these technologies facilitate more rapid and convenient interactions. Specifically, the auditory control features of voice technologies push the usefulness boundaries of different types of smart devices, thus increasing device access convenience and ease of use for

consumers (Balakrishnan and Dwivedi, 2021; McLean and Osei-Frimpong, 2019).

The strategic potential of voice technologies lies in their capability of engaging consumers at an almost social level, often in private places, through personalized dialogic exchanges that resemble natural communications (Dellaert et al., 2020). The ability to emulate human-to-human interactions through natural language and speech sets voice technologies distinctly apart from other automated communication systems. As consumers have a tendency to attribute human traits to non-human entities that imitate humans in their processes or outputs, voice technologies become easily anthropomorphized, leading to attributions of warmth and competence (Kim, Schmitt and Thalmann, 2019). As such, voice technologies possess an ideal set of traits to foster more intimate para-social relationships with consumers (Lim et al., 2020; Rubin, Perse and Powell, 1985; Youn and Jin, 2021).

By examining the relationship-building potential of voice technologies, this chapter offers several important contributions to the relationship marketing literature. First, it identifies three distinctive voice technology functionalities that enable effective and convenient human-machine interactions: namely, searchability, actionability, and sociability. Second, the chapter delineates the relationships between these functionalities, the key psychological determinants of anthropomorphism, and the resulting judgments of warmth and competence that consumers form as a result of their interactions with these technologies (see Figure 1). Third, the chapter discusses how brands can leverage the functionalities of voice technologies to develop stronger relationships with their consumers that translates to sustained brand loyalty.

Figure 1: A relationship perspective on voice technology



THE FUNCTIONALITIES OF VOICE TECHNOLOGIES.

The heterogeneous set of software applications and hardware infrastructures that can be activated through voice commands are reshaping the way consumers interact with technology (McLean and Osei-Frimpong, 2019). These voice technologies provide distinct functionalities that can be categorized by the outcomes experienced by consumers in three broad groups – namely, searchability, actionability, and sociability functionalities.

Searchability arises from the capability of voice technologies to give convenient access to search commands that address consumers' diverse informational needs (Natale and Cooke, 2020). Convenient, efficient, and contextual information search is the foundational purpose of many voice technologies, particularly in the case of in-home virtual assistants such as Amazon Alexa or Google Home (Dellaert et al., 2020). Natural voice commands facilitate a more personal, assistant-like relationship between the consumer and the technology. In doing so, these voice technologies enhance the conventional contact-based search functionalities of Internet-connected personal devices such as smartphones or laptop computers. The learning curve that characterizes this type of human-machine interaction is reversed. While, traditionally, humans had to learn how to understand machines in order to operate them efficiently, voice technologies 'learn' how to understand and service humans via natural language processing and automatic speech recognition software programs (Balakrishnan and Dwivedi, 2021).

Actionability occurs when human-machine interactions involve facilitating processes that generate tangible changes to the functions, outputs, or states of a software or hardware infrastructure. Voice technologies provide actionability by allowing consumers to delegate operations to the technology through intuitive, action-oriented voice commands. Examples include scheduling a calendar appointment, setting an alarm or reminder, calculating a math problem, or adding items to a virtual shopping cart (Sun et al., 2021). Furthermore, these actionability functionalities enable consumers to translate speech into textual output, thus replacing the need for manually typing strings of text when creating instant messages, emails, or notes. More advanced actionability applications can trigger Internet-of-Things connected devices to alter the physical state of the consumer's environment. For example, consumers are able to play music, control lighting, or alter the temperature of a room through simple, intuitive commands.

Sociability extends the discrete nature of searchability and actionability outputs of voice technologies by engaging consumers in a series of interlinked human-machine exchanges. These exchanges occur when the technology is able to re-engage consumers by asking questions and then listening for further commands, thus closely mimicking bi-directional human-to-human interactions (Hsieh and Lee, 2021; Knote et al., 2021). For example, asking a digital assistant to schedule a calendar appointment might be followed by a query of whether a consumer would like to schedule a reminder or be notified of potential traffic delays ahead of time. If a consumer requests that the lights are turned off late at night, the device could follow up by asking if the consumer was going to bed. With an affirmative answer, the device might automatically verify that the home is secure, the

alarm system is activated, and an appropriate wake-up call is set.

By interacting with voice technologies and experiencing their searchability, actionability, and sociability functionalities to assist in everyday tasks, consumers may develop relationships with the technology, which are brought on by their tendency to anthropomorphize non-human entities (Pitardi and Marriott, 2021). The following section examines the main drivers behind this tendency.

EXPLORING CONSUMERS' ANTHROPOMORPHIC TENDENCIES

Anthropomorphism and technology

Individuals humanize all kinds of non-human entities, from pets to God to natural events to brands to technologies. Social scientists have termed this inclination anthropomorphism and described it as the projection of human traits, including characteristics, motivations, and affective states, to non-human entities (e.g., Epley, Waytz and Cacioppo, 2007; Waytz, Cacioppo and Epley, 2010; Golossenko, Pillai and Aroean, 2020). Anthropomorphism is a cognitive process that can help individuals make sense of their environment by relating it to familiar human experiences in a literal, partial, or accidental manner (Guthrie, 1993).

In the field of human-computer interaction, researchers find that individuals tend to anthropomorphize technologies that imitate humans in their processes or outputs (Kim, Schmitt and Thalmann, 2019). This phenomenon, known as the Eliza effect (Hofstadter, 1995; Weizenbaum, 1967), occurs when anthropomorphism cognitively diminishes the salience of the technology's limitations due to its programming. This implies that the operational performance is not attributed to the technology's engineering; rather it is explained by drawing similarities between humans' and the technology's behaviors (Kim, Schmitt and Thalmann, 2019).

When individuals engage in anthropomorphic processes, they activate category schema, specifically human trait schema, and relate these pre-defined and commonly understood perceptions to non-human entities (Lloyd and Woodside, 2013). This cognitive process, which is often performed on an unconscious level, regulates individuals' subsequent evaluations and behavior towards the non-human entity (Aggarwal and McGill, 2007). Anthropomorphic processes can predict the degree to which an individual will afford moral care and concern to a non-human entity (Aggarwal and McGill, 2012), the amount of responsibility and trust placed on the entity (Benlian, Klumpe and Hinz, 2020), as well as the extent to which the entity serves as a source of social influence on a person (Waytz, Cacioppo and Epley, 2010). Thus, in a consumption context, anthropomorphism contributes to explain the relationships consumers form with the brands, products, services, and, of course, technologies they use (Chen and Lin, 2021; Whang and Im, 2021).

The key psychological determinants of anthropomorphism

An individual's tendency to anthropomorphize non-human entities can be based on three main psychological determinants: elicited agent knowledge, effectance motivation, and sociality motivation (Epley, Waytz and Cacioppo, 2007). *Elicited*

agent knowledge refers to the accessibility and applicability of anthropomorphic knowledge (Wang, 2017). Inferences about the nature of non-human entities can be made by using the knowledge that is accessible to the perceiver at the time of judgment. As humans, a knowledge that is often readily accessible is the self-knowledge of being human. Therefore, the accessibility of this self-knowledge makes anthropomorphism a likely starting point when reasoning about a non-human entity (Damiano and Dumouchel, 2018). As individuals perceive some similarity between the non-human entity and themselves (or another human), they rely on these similarities to draw inferences on the nature of the non-human entity (Borau et al., 2021).

Within the context of human-technology interaction, consumers employing voice devices to find information (i.e., searchability) are likely to project their own human experience of accessing information themselves within their memory. This projection of human mental processes on a voice device results in users attributing human-like traits to that device. For example, the first daily interaction that many consumers have with their voice technology involves asking for news and weather updates. Consumers might feel pleasantly surprised with the technology's competence in providing local political news and the exact timing of weather events.

Effectance motivation represents individuals' tendency to anthropomorphize non-human entities to make sense of the social world around them and reduce uncertainty (Bartz, Tchalova and Fenerci, 2016; White, 1959; Yang, Aggarwal and McGill, 2020). Effectance motivation explains the tendency to see human-like religious agents as guiding weather patterns, human-like figures in constellations, and human-like ghosts causing all sorts of dysfunctions (Epley, Waytz and Cacioppo, 2007). Attributing human characteristics to the actions of non-human entities has several benefits for individuals. First, it reduces the uncertainty associated with the interaction with the non-human entity by allowing individuals to make sense of its very existence. Second, it increases the ability to make sense of non-human entities' actions that do not fit simple cause-and-effect predictions. Third, it increases the confidence with which individuals can predict or control future behaviors of non-human entities (Epley, Waytz and Cacioppo, 2007).

Effectance motivation can trigger consumers' anthropomorphic processes when interacting with voice technology (Sheehan, Jin and Gottlieb, 2020). When consumers task voice technologies to operate other connected devices (e.g., lights, thermostats, TVs, vacuums, etc.) in their physical environment (i.e., actionability), they are likely to associate that action with how humans naturally change their environment. In an analogous way to ordering a coffee from a barista and receiving that coffee, this association may result in consumers attributing human-like service intentions to the voice device.

Sociality motivation explains anthropomorphic processes as means to satisfy individuals' need for social connections (Wang, 2017). Being shunned or ostracized from other humans has historically been equivalent to the death of one's genetic lineage, as individuals are unable to reproduce or are unlikely to survive on their own. As a result, humans possess a strong drive to establish and maintain social connections (Axelrod and Hamilton, 1981).

When individuals become isolated from other humans, they are motivated to engage in anthropomorphism in order to fulfill their need for human relationships and contact. Individuals who are chronically lonely, socially disconnected, or have fewer attachments to other humans are likely to imbue human-like characteristics onto the non-human entities around them to find comfort by forming imaginary relationships and companionship (Chen et al., 2015; Koike et al., 2020). This psychological driver can explain individuals' high level of attachment with two of the most commonly anthropomorphized non-human entities: pets and religious figures (Epley, Waytz and Cacioppo, 2007).

While information seeking and action-oriented tasks can be fairly one-way in terms of human-machine interactions, individuals who engage in conversations with voice technologies (i.e., sociability functionalities) are likely to perceive these interactions as similar to natural human-to-human exchanges. Much like when engaging in humor (e.g., jokes) or other forms of entertainment (e.g., skill competitions, collaborative games, etc.) with others, social interactions with voice devices pander to individuals' need for social connection. For example, consumers might feel amused at Alexa's ability to engage in whisper-like conversations, pretending to tell them a secret. These enjoyable interactions can reduce the social distance (Hamilton et al., 2021) between consumers and their voice technologies.

THE PARA-SOCIAL CONSEQUENCES OF ANTHROPOMORPHISM

Consumers' tendency to anthropomorphize voice technologies can lead to the formation of human-machine para-social relationships. Originally conceptualized in media studies (e.g., Rubin, Perse and Powell, 1985), para-social relationships with media personas are the outcome of a viewer's repeated involvement with a media personality resulting in friendship perceptions that are not reciprocated or realized by that personality. Research into the para-social relationships that consumers develop with celebrities (e.g., Chung and Cho, 2017; Kim and Song, 2016) and social media influencers (e.g., Hwang and Zhang, 2018; Lee and Watkins, 2016) shows that consumers often seek brand recommendations and consumption advice from para-social others. This advice-seeking behavior operates in a similar vein to word of mouth (WOM) sought from social connections and can be motivated by consumers' perceptions of warmth and competence of the para-social other (Fiske, Cuddy and Glick, 2007; Wojciszke, 1994).

Warmth plays a primacy role in cueing consumers' judgments of a para-social other and influencing their valence (i.e., whether the judgment would be positive or negative). These judgments are influenced by perceived traits such as friendliness, helpfulness, and sincerity, which inform the evaluation of a party's behavioral intentions (Fiske, Cuddy and Glick, 2007; Wojciszke, Bazinska and Jaworski, 1998). In the context of voice technologies, attributions of warmth can emerge from individuals experiencing multiple encounters with the sociability functionalities of these technologies that mirror human-to-human social interactions. For example, the Dutch retail website, Bol.com, developed a branded voice experience based on Google Assistant. When consumers ask, "Hey Google… Praat met bol.com [Talk to Bol.com]," they are welcomed

by a friendly consumer service digital assistant that will answer their queries, offer daily discounts, and update them on previous orders.

Competence judgments are based on characteristics such as intelligence, ability, and efficacy of the skills possessed by an individual (Fiske, Cuddy and Glick, 2007). Within the context of voice technologies, competence judgments are likely to be influenced by the searchability and actionability functionalities that expose consumers to the advanced digital skills that this type of technology possesses. For example, the Houndify voice AI platform enables Mercedes drivers to activate and set the navigation system (actionability) and to investigate the weather or restaurant options in their destination (searchability) by using natural conversation. Competence can affect the strength of the perceptions formed about the para-social other (Fiske, Cuddy and Glick, 2007).

As warmth and competence are key building blocks to form para-social relationships, the next section explores how brands can leverage voice technologies to foster or strengthen brand loyalty.

DEPLOYING VOICE TO FOSTER BRAND LOYALTY

Brand loyalty is often conceptualized as the combination of repeated purchases from a brand that are supported by strong positive internal dispositions towards the brand (Day, 1969; Dick and Basu, 1994; Fournier and Yao, 1997). As such, true brand loyalty is comprised of a behavioral component and an attitudinal component. Behavioral loyalty is based on repeated consumers' patronage behavior. Attitudinal loyalty comprises consumers' positive holistic evaluation of the brand. Consumers using voice technologies can develop true loyalty towards a brand that is nurtured by word-of-mouth-like recommendations (attitudinal loyalty) partnered with repeat purchase suggestions (behavioral loyalty). In what follows, we unpack how brands can leverage the functionalities of voice technologies to build, maintain, and strengthen brand loyalty through developing para-social relationships with these technologies.

Leveraging searchability functionalities

As the basic functionality of voice technologies, searchability offers consumers an easy way to discover information that can be tailored and personalized by brands. Brands using voice technologies as a communication medium could leverage the searchability functionality to endorse products or services, to suggest innovative ways to better use products, or to remind consumers of their past purchases. The competence judgments that consumers have regarding voice technologies are likely to be transferred to the brands that are able to use the technology to increase convenience. This further reduces consumers' effort in the early stages of the consumer journey when customers are forming and evaluating their consideration set, thus stimulating consumer (repeat) purchase behaviors and more favorable attitudes.

Leveraging actionability functionalities

Brands could leverage the action-oriented competence of voice technologies to introduce innovative solutions that could make consumers' lives simpler or more comfortable. Moreover, brands can reinforce their connection with the requested action by requiring consumers to vocalize the brand name as part of

the voice command. For example, the popular robot vacuum brand Roomba requires consumers to say, "Alexa, tell Roomba to start cleaning," thus reinforcing the association between the brand and the action. Actionability functionalities can greatly expand the range of useful skills that consumers can experience and provide access to more personalized services. For example, common actions that voice technologies can facilitate for consumers are booking a medical appointment, requesting headache medicine, and ordering their favorite comfort food, all from the comfort of their sofas. Consumers' competence judgments formed when using voice technologies' actionability functionalities are likely to transfer to brands that increase convince in the later stage of the consumer journey. As consumers become ready to purchase, brands can further stimulate conversion by offering consumers convenient access to voice-enabled distribution channels.

Leveraging sociability functionalities

Brands can leverage the sociability functionalities of voice technologies by creating branded virtual assistants that, similarly to Estée Lauder's Liv or Bol.com voice services, embody personality traits that cue perceptions of warmth. Through simulated interpersonal interactions with a branded assistant that is perceived as sincere and friendly, consumers are likely to form positively valanced judgments about the brand itself, which can lead to repeat purchases and sustained preferences for a trusted "brand voice." These functionalities are only just emerging as voice technologies advance, offering brands immense possibilities to enhance relationships with consumers in the near future.

CONCLUSIONS

Voice technologies are becoming essential companions to many consumers. Their functionalities enable consumers to access relevant and personalized information, to make changes to the physical environment, and to delegate daily tasks to assistants that learn from past choices how to intuitively suggest improvements. Consumers can take advantage of these functionalities through natural language and speech commands that render the experience of using these technologies convenient and, in many instances, enjoyable.

The success of voice technologies can be attributed to a large extent to their human-like characters and qualities. While the idea of speaking out loud to a small speaker that is designed to hide in the corner of the room might feel unnatural, the functionalities that characterize these technologies reverse this feeling by triggering consumers' anthropomorphic tendencies. As consumers try to make sense of how Google Home can find a perfect recipe or why Alexa's jokes are "hilarious," they begin to perceive these technologies as very similar to other fellow humans. In doing so, consumers begin to attribute traits of competence and warmth to voice technologies and form para-social relationships with them. In this chapter, we introduce a conceptual framework that explains how this process unfolds by outlining how voice technologies' core functionalities cue consumers' judgments of competence and warmth traits by stimulating the motivational drivers of anthropomorphism.

Finding the right "voice" has always been crucial for brands in their advertising and promotions. The growing popularity and

adoption of voice technologies add to this challenge, yet also provide new opportunities to engage consumers within intimate environments. This chapter has delineated how brands can develop and strengthen consumer relationships, and the resulting loyalty, by leveraging voice technologies in innovative ways to both engage and delight consumers.

REFERENCES

Aggarwal, P. and McGill, A.L. (2012) 'When Brands Seem Human, Do Humans Act Like Brands? Automatic Behavioral Priming Effects of Brand Anthropomorphism', *Journal of Consumer Research*, 39(2), pp. 307–323.

Aggarwal, P. and McGill, A.L. (2007) 'Is That Car Smiling at Me? Schema Congruity as a Basis for Evaluating Anthropomorphized Products', *Journal of Consumer Research*, 34(4), pp. 468–479.

Axelrod, R. and Hamilton, W.D. (1981) 'The Evolution of Cooperation', *Science*, 211(4489), pp. 1390–1396.

Balakrishnan, J. and Dwivedi, Y.K. (2021) 'Conversational Commerce: Entering the Next Stage of Ai-Powered Digital Assistants', *Annals of Operations Research*, Ahead-of-print.

Bartz, J.A., Tchalova, K. and Fenerci, C. (2016) 'Reminders of Social Connection Can Attenuate Anthropomorphism: A Replication and Extension of Epley, Akalis, Waytz, and Cacioppo (2008)', *Psychological Science*, 27(12), pp. 1644–1650.

Benlian, A., Klumpe, J. and Hinz, O. (2020) 'Mitigating the Intrusive Effects of Smart Home Assistants by Using Anthropomorphic Design Features: A Multimethod Investigation', *Information Systems Journal*, 30(6), pp. 1010–1042.

Borau, S., Otterbring, T., Laporte, S. and Wamba, S.F. (2021) 'The Most Human Bot: Female Gendering Increases Humanness Perceptions of Bots and Acceptance of AI', *Psychology & Marketing*, 38(7), pp. 1052–1068.

Chen, K.-J. and Lin, J.-S. (2021) 'Revisiting the Effects of Anthropomorphism on Brand Relationship Outcomes: The Moderating Role of Psychological Disposition', *European Journal of Marketing*, Ahead-of-print.

Chen, K.-J., Lin, J.-S., Choi, J.H. and Hahm, J.M. (2015) 'Would You Be My Friend? An Examination of Global Marketers' Brand Personification Strategies in Social Media', *Journal of Interactive Advertising*, 15(2), pp. 97–110.

Chung, S. and Cho, H. (2017) 'Fostering Parasocial Relationships with Celebrities on Social Media: Implications for Celebrity Endorsement', *Psychology & Marketing*, 34(4), pp. 481–495.

Damiano, L. and Dumouchel, P. (2018) 'Anthropomorphism in Human–Robot Co-evolution', *Frontiers in Psychology*, 9(468), doi: 10.3389/fpsyg.2018.00468.

Davenport, T., Guha, A., Grewal, D. and Bressgott, T. (2020) 'How Artificial Intelligence Will Change the Future of Marketing', *Journal of the Academy of Marketing Science*, 48(1), pp. 24–42.

Day, G. (1969) 'A Two-Dimensional Concept of Brand Loyalty', *Journal of Advertising Research*, 9(September), pp. 29–35.

Dellaert, B.G.C., Shu, S.B., Arentze, T.A., Baker, T., Diehl, K., Donkers, B., Fast, N.J., Häubl, G., Johnson, H., Karmarkar, U.R., Oppewal, H., Schmitt, B.H., Schroeder, J., Spiller, S.A. and Steffel, M. (2020) 'Consumer Decisions with Artificially Intelligent Voice Assistants', *Marketing Letters*, 31(4), pp. 335–347.

Dick, A.S. and Basu, K. (1994) 'Customer Loyalty: Toward an Integrated Conceptual Framework', *Journal of the Academy of Marketing Science*, 22(2), pp. 99–113.

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.

Estée Lauder (2019) *Virtual Beauty Advisor, Liv, Offers Estée Lauder Uk Consumers Personalised*

Experience Anywhere, Anytime Through Google Assistant Powered Devices., *Estée Lauder Companies* Available at: https://www.elcompanies.co.uk/en-gb/news-and-media/newsroom/press-releases/2019/02-12-2019 (Accessed: 17 May 2021).

Fernandes, T. and Oliveira, E. (2021) 'Understanding Consumers' Acceptance of Automated Technologies in Service Encounters: Drivers of Digital Voice Assistants Adoption', *Journal of Business Research*, 122 (January 2021), pp. 180–191.

Fiske, S.T., Cuddy, A.J. and Glick, P. (2007) 'Universal Dimensions of Social Cognition: Warmth and Competence', *Trends in Cognitive Sciences*, 11(2), pp. 77–83.

Fournier, S. and Yao, J.L. (1997) 'Reviving Brand Loyalty: A Reconceptualization Within the Framework of Consumer-Brand Relationships', *International Journal of Research in Marketing*, 14(5), pp. 451–472.

Golossenko, A., Pillai, K.G. and Aroean, L. (2020) 'Seeing Brands as Humans: Development and Validation of a Brand Anthropomorphism Scale', *International Journal of Research in Marketing*, 37(4), pp. 737–755.

Grewal, D., Hulland, J., Kopalle, P.K. and Karahanna, E. (2020) 'The Future of Technology and Marketing: A Multidisciplinary Perspective', *Journal of the Academy of Marketing Science*, 48(1), pp. 1–8.

Guthrie, S.E. (1993) *Faces in the Clouds: A New Theory of Religion*. New York: Oxford Univ. Press.

Guzman, A.L. (2019) 'Voices in and of the Machine: Source Orientation Toward Mobile Virtual Assistants', *Computers in Human Behavior*, 90, pp. 343–350.

Hamilton, R., Ferraro, R., Haws, K.L. and Mukhopadhyay, A. (2021) 'Traveling with Companions: The Social Customer Journey', *Journal of Marketing*, 85(1), pp. 68–92.

Hofstadter, D.R. (1995) *Fluid Concepts and Creative Analogies: Computer Models of the Fundamental Mechanisms of Thought*. New York, NY, US: Basic Books.

Hsieh, S.H. and Lee, C.T. (2021) 'Hey Alexa: Examining the Effect of Perceived Socialness in Usage Intentions of Ai Assistant-Enabled Smart Speaker', *Journal of Research in Interactive Marketing*, Ahead-of-print.

Hwang, K. and Zhang, Q. (2018) 'Influence of Parasocial Relationship Between Digital Celebrities and Their Followers on Followers' Purchase and Electronic Word-of-Mouth Intentions, and Persuasion Knowledge', *Computers in Human Behavior*, 87, pp. 155–173.

Kim, J. and Song, H. (2016) 'Celebrity's Self-Disclosure on Twitter and Parasocial Relationships: A Mediating Role of Social Presence', *Computers in Human Behavior*, 62, pp. 570–577.

Kim, S.Y., Schmitt, B.H. and Thalmann, N.M. (2019) 'Eliza in the Uncanny Valley: Anthropomorphizing Consumer Robots Increases Their Perceived Warmth but Decreases Liking', *Marketing Letters*, 30(1), pp. 1–12.

Knote, R., Janson, A., Söllner, M. and Leimeister, J.M. (2021) 'Value Co-Creation in Smart Services: A Functional Affordances Perspective on Smart Personal Assistants', *Journal of the Association for Information Systems*, 22(2).

Koike, M., Loughnan, S., Stanton, S.C.E. and Ban, M. (2020) 'What Factors Attract People to Play Romantic Video Games?', *PLOS ONE*, 15(4).

Lee, J.E. and Watkins, B. (2016) 'Youtube Vloggers' Influence on Consumer Luxury Brand Perceptions and Intentions', *Journal of Business Research*, 69(12), pp. 5753–5760.

Lim, J.S., Choe, M.-J., Zhang, J. and Noh, G.-Y. (2020) 'The role of wishful identification, emotional engagement, and parasocial relationships in repeated viewing of live-streaming games: A social cognitive theory perspective', *Computers in Human Behavior*, 108, p. 106327.

Lloyd, S. and Woodside, A.G. (2013) 'Animals, Archetypes, and Advertising (A3): The Theory and the Practice of Customer Brand Symbolism', *Journal of Marketing Management*, 29(1–2) Routledge, pp. 5–25.

McLean, G. and Osei-Frimpong, K. (2019) 'Hey Alexa … Examine the Variables Influencing the Use of Artificial Intelligent In-Home Voice Assistants', *Computers in Human Behavior*, 99, pp. 28–37.

McLean, G., Osei-Frimpong, K. and Barhorst, J. (2021) 'Alexa, Do Voice Assistants Influence Consumer Brand Engagement? – Examining the Role of Ai Powered Voice Assistants in Influencing Consumer Brand Engagement', *Journal of Business Research*, 124, pp. 312–328.

Morgan, R.M. and Hunt, S.D. (1994) 'The Commitment-Trust Theory of Relationship Marketing', *Journal of Marketing*, 58(3), pp. 20–38.

Moriuchi, E. (2019) 'Okay, Google!: An Empirical Study on Voice Assistants on Consumer Engagement and Loyalty', *Psychology & Marketing*, 36(5), pp. 489–501.

Natale, S. and Cooke, H. (2020) 'Browsing with Alexa: Interrogating the Impact of Voice Assistants as Web Interfaces', *Media, Culture & Society*, p. 1-17.

Pitardi, V. and Marriott, H.R. (2021) 'Alexa, She's Not Human but… Unveiling the Drivers of Consumers' Trust in Voice-Based Artificial Intelligence', *Psychology & Marketing*, 38(4), pp. 626–642.

Rubin, A.M., Perse, E.M. and Powell, R.A. (1985) 'Loneliness, Parasocial Interaction, and Local Television News Viewing', *Human Communication Research*, 12(2), pp. 155–180.

Sheehan, B., Jin, H.S. and Gottlieb, U. (2020) 'Customer Service Chatbots: Anthropomorphism and Adoption', *Journal of Business Research*, 115, pp. 14–24.

Sheth, J. (2020) 'Impact of Covid-19 on Consumer Behavior: Will the Old Habits Return or Die?', *Journal of Business Research*, 117, pp. 280–283.

Statista (2020a) *Virtual Assistants, Statista*, Available at: https://www.statista.com/study/67633/virtual-assistants/ (Accessed: 10 June 2021).

Statista (2020b) *Global Smart Speaker Installed Base 2020, Statista*, Available at: https://www.statista.com/statistics/878650/worldwide-smart-speaker-installed-base-by-country/ (Accessed: 10 June 2021).

Sun, C., Shi, Z.J., Liu, X., Ghose, A., Li, X. and Xiong, F. (2021) 'The Effect of Voice AI on Consumer Purchase and Search Behavior', *Marketing Science Institute Working Paper Series*, Available at: https://www.msi.org/wp-content/uploads/2021/04/MSI_Report_21-114.pdf (Accessed: 10 June 2021).

Taylor, M., Reilly, D. and Wren, C. (2020) 'Internet of Things Support for Marketing Activities', *Journal of Strategic Marketing*, 28(2), pp. 149–160.

Tong, S., Luo, X. and Xu, B. (2020) 'Personalized Mobile Marketing Strategies', *Journal of the Academy of Marketing Science*, 48(1), pp. 64–78.

Wang, W. (2017) 'Smartphones as Social Actors? Social Dispositional Factors in Assessing Anthropomorphism', *Computers in Human Behavior*, 68 (March 2017), pp. 334–344.

Waytz, A., Cacioppo, J. and Epley, N. (2010) 'Who Sees Human?: The Stability and Importance of Individual Differences in Anthropomorphism', *Perspectives on Psychological Science*, 5(3), pp. 219–232.

Weizenbaum, J. (1967) 'Contextual Understanding by Computers', *Communications of the ACM*, 10(8), pp. 474–480.

Whang, C. and Im, H. (2021) '"I Like Your Suggestion!" the Role of Humanlikeness and Parasocial Relationship on the Website Versus Voice Shopper's Perception of Recommendations', *Psychology & Marketing*, 38(4), pp. 581–595.

White, R.W. (1959) 'Motivation Reconsidered: The Concept of Competence', *Psychological Review*, 66(5), pp. 297–333.

Wojciszke, B. (1994) ‘Multiple Meanings of Behavior: Construing Actions in Terms of Competence or Morality’, *Journal of Personality and Social Psychology*, 67(2), pp. 222–232.

Wojciszke, B., Bazinska, R. and Jaworski, M. (1998) ‘On the Dominance of Moral Categories in Impression Formation’, *Personality and Social Psychology Bulletin*, 24(12), pp. 1251–1263.

Yang, L.W., Aggarwal, P. and McGill, A.L. (2020) ‘The 3 C’s of Anthropomorphism: Connection, Comprehension, and Competition’, *Consumer Psychology Review*, 3(1), pp. 3–19.

Youn, S. and Jin, S.V. (2021) ‘“In A.I. We Trust?” The Effects of Parasocial Interaction and Technopian Versus Luddite Ideological Views on Chatbot-Based Customer Relationship Management in the Emerging “Feeling Economy”’, *Computers in Human Behavior*, 119 (June 2021), p. 106721.