



## Voice Shopping: User-Voice Assistant Parasocial Relationship Perspective

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**Introduction.** One emerging platform for future retail is voice assistants, voice-controlled smart devices designed to provide personal assistance for user's daily activities. Well-known examples include Amazon Echo and Google Home. Consumers can now make orders from online retailers by giving voice commands to these voice assistants. This new shopping method is called voice shopping. Although voice shopping is relatively new, large retailers such as Walmart and Best Buy have already partnered with Amazon and Google to sell products via voice assistants. As a result, the voice shopping commerce is expected to grow to a \$40 billion market by 2022 (OC&C Strategy Consultants, 2018). More importantly, several consumer survey reports suggest the increasing impact of voice assistants in consumers' lives. It is estimated that 19% of 1,600 consumers had already made a purchase using voice assistants (Walker Sands, 2007), and clothing purchase comprises the fourth largest category for voice shopping (OC&C Strategy Consultants, 2018). Despite the growing use of voice shopping and voice assistants, research on the impact of this new device and the shopping method is still in its infancy.

**Literature review and Hypotheses** According to the anthropomorphism literature, individuals perceive an object as humanlike when the object possesses typical human attributes (Epley et al., 2007). Voice, whether it is a pre-recorded human voice or a synthetic voice, is a powerful cue to trigger anthropomorphism (Nass & Yen, 2011). Because voice assistants interact with consumers using voice, users are likely to anthropomorphize voice assistant unlike other shopping channels such as websites (**H1**). When voice assistants are perceived as humanlike agent, the likelihood of forming a pseudo-human relationship with voice assistants is expected to increase. Parasocial interaction theory (Horton & Wohl, 1956) posits that people can form a pseudo-social relationship (i.e., parasocial relationship) through an imagined interaction with others (i.e., parasocial interaction). For example, although people never met celebrities in person, they can form a parasocial relationship with celebrities by watching them on TV for some time. Researchers found that people also form a parasocial relationship with non-human agents such as avatars and chatbots because these non-human agents create an illusion of two-way human-to-human interaction (Hartmann, 2008). Similarly, consumers are likely to form parasocial relationships with voice assistants through repeated interactions that mimic human-to-human interaction (**H2**). Previously, researchers found that consumers are influenced by the media figures when they form parasocial relationship with. For example, people will make impulse purchases when they are in a parasocial relationship with the shopping host (Park & Lennon, 2006). Similarly, because consumers build parasocial relationship with voice assistants, they are likely to be influenced by what voice assistants recommends during voice shopping (**H3**). However, this effect will be qualified by the kind of interaction consumers make with voice assistants. Previous studies suggest different interaction styles (i.e., task-oriented and socially-

oriented) influences the formation of relationship. Because socially-oriented interaction is associated with greater relationship involvement (van Dolen et al., 2007), consumers engaging in socially-oriented interactions (vs. task-oriented) with voice assistants are more likely to accept what voice assistants recommends (**H4**).

**Method** A 2(Device: web/voice assistant) x 2 (Interaction: task/social) between-subjects lab experiment was conducted. A total of 66 millennials who have experiences using voice assistants were recruited from a mid-western university. Millennials were chosen because voice assistants were more widely used among them. Participants were randomly assigned to one of the 4 conditions. Interaction type was manipulated by instruction that describe the interactions participants were asked to do (either task-oriented activities (e.g., product search) or social-oriented activities (e.g., playing games)). Participants were first asked to use either Amazon Echo (voice assistant) or Amazon.com (website) for 10 minutes carefully following the instruction. Then, participants viewed a video simulating a shopping situation with either a voice assistant or a website. In the video, a product was recommended to them. The participants evaluated the recommended product and the device.

**Results and Discussion** Manipulation of the interaction type was successful ( $p < .05$ ). Contrary to the hypothesis, the website was perceived as more humanlike than the voice assistant (**H1**;  $p < .05$ ), and had stronger parasocial relationship (**H2**;  $p < 0.01$ ). Also, consumers were persuaded more when the product was recommended by the website than the voice assistant (**H3**;  $p < 0.01$ ). These results may be attributed to consumers' strong bond with Amazon website that has been accumulated for years. Although Amazon Echo uses the same Amazon services, participants' limited experience with Amazon Echo could have made it difficult to connect the voice assistants with other Amazon services. Moreover, consumers were persuaded more when they had task-oriented interactions rather than socially-oriented interaction (**H4**;  $p < 0.05$ ). The task-oriented interaction could have lead people to perceive a voice assistant and a website to have qualification to perform the role as a shopping assistant.

**Implication** This study is one of the first studies investigating the role of voice assistants as a shopping assistant. The results showed that a same product is evaluated differently depending on where and how it is shown. Although websites remain as a more persuasive agent than voice assistants, the results indicate that voice assistants could perform better as a shopping agent when they are prominently used to complete various tasks. Future research should investigate how individuals' characteristics may affect how consumers form relationship with voice assistants.

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