

Voice Commerce: Exploring Consumer Expectations of Smart Speakers for Shopping

Jee-Sun Park, Incheon National University; Sejin Ha, University of Tennessee;
and So Won Jeong, Inha University

The technological advances in Internet of Things (IoT) and Artificial Intelligence (AI) have opened the new era of e-commerce, introducing a new retail channel such as voice commerce. Voice commerce refers to commercial transactions executed by computerized voice technologies such as speech recognition, voice identification, and text-to-speech (Dennis & Harris, 2003; Galanxhi-Janaqi & Nah, 2004). Voice commerce enables customers to purchase products through the application and integration of virtual assistants based on smart speakers such as Amazon Echo and Google Home. For example, Amazon Alexa, a voice assistant, will assist consumers during their shopping journey when they research product information, make a purchase, and check the status of orders. The demand of this innovative retail channel is likely to increase. Statistica reported that the smart speaker users who had made at least one purchase reached to 18.3 million in 2019 and predicted that the number of smart speaker buyers in US would reach almost 23.5 million in 2021 (Sabanoglu, 2020). Despite the increasing adoption of voice technologies in retail, the literature is limited in examining this new trend. The extant literature has focused on the use or acceptance of smart speakers or voice assistants (Canziani & MacSween, 2021), ignoring smart speakers for voice shopping in particular. Accordingly, this study aims to explore what consumers expect from voice assistants for shopping.

The current study employed a qualitative approach of focus group discussions (FGDs), which allowed participants to respond to and address a specific topic of interest within the group. Four groups of seven people, who have experience of using smart speakers for shopping-related activities in Korea, were recruited through a professional research company in Korea. A total of 27 smart speaker users between 25 and 49 years old participated in the discussions in June 2021. In each group, discussions were led by a moderator in a semi-structured discussion of topics of smart speakers and their shopping via the speakers. Each discussion was recorded and transcribed with the average discussion lasting approximately 90 minutes. Transcript-based analysis was used independently by all authors. Constant comparison analysis was used to determine emerged themes reached saturation for all groups. Then authors engaged in discussion to reach an agreement.

The current study identifies eight significant themes that explicated the consumer expectations from smart speakers when shopping: (1) personalization, (2) convenience, (3) efficiency, (4) hedonism, (5) social agency, (6) limited visual information, (7) controllability, and (8) technical maturity. The first five themes represent positive benefits and expectations from while the latter three themes capture challenges faced in voice shopping via smart speakers. The first theme, personalization, relates to smart speakers' capabilities of providing personalized information and contents recommended by AI-based algorithms based on users' preferences, personal

characteristics and other relevant data retrieved from other devices and users. Since personalized information matches a user's preferences, it is more persuasive and generates positive attitudes of the user (Rhee & Choi, 2020). Our participants also expressed that they would expect AI-based smart speakers to alert them for new and personalized information on products and brands of their interest. The second theme identifies that convenience is another key characteristic of using smart speakers for shopping. The participants articulated that speaking to smart speakers to operate devices and to shop for products is considered easier and faster requiring less mental effort than clicking and going through a series of procedures for online or mobile shopping. Third, efficiency represents hands- and eyes-free use of smart speakers, which allow users to do shopping via smart speakers while doing other things. The fourth theme, hedonism, identifies hedonic characteristics of using voice shopping such as speaking to speakers for fun. The fifth theme, social agency, highlights the importance of social benefits of smart speakers (McLean & Osei-Frimpong, 2019), supporting the perspective of computers as social actors (Reeves & Nass, 1996). The sixth theme, rich visual information, comes from the current visual information restrictions of smart speakers. While the characteristic of eyes-free use provides users with a certain level of convenience, the participants expressed that visual information is desired for comparing multiple products and for skimming through a large quantity of written information. The seventh theme, controllability, concerns expectations to cope with the risks of miscommunication and misuse. The last theme, technical maturity, is associated with technical errors such as the failure of connection and speech recognition.

Voice shopping has grown in popularity over recent years and is expected to grow over the coming years. Thus, it is important to understand this new shopping context through what consumers expect from smart speakers when shopping for products. From the FGIs, eight themes are identified in this study. There are positive factors that could stimulate the voice commerce since smart speakers are capable of providing personalized information, convenience, efficiency, hedonism, and social feelings to users. Furthermore, some challenges are also noted. One of the reasons why most of our participants expressed that they would only involve shopping for low-involvement products is in the limited visual information that current smart speakers can provide. This highlights the need for visual displays attached to the speakers or for easy connections to other devices such as computer monitors and television.

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