"Hey Alexa, Let's Shop":
Millennials' Acceptance of Voice-Activated Shopping

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ABSTRACT

Millennials quickly adapt to new technologies and have been found to use voice technology daily. This study follows the technology acceptance model (TAM) developed by Davis to explain the relationships between perceived ease of use (PEOU), perceived usefulness (PU), perceived enjoyment (PE), and perceived innovativeness (PI) to behavioral intention (BI) for Millennials. An online survey generated 204 usable responses through Amazon Mechanical Turk. Multiple regression analyses supported the relationship of PEOU to PU, PU, PE, PI to BI, and PEOU was not found to influence BI in this study. The findings of this study indicate that consumers are ready to purchase through voice-activated technologies, but the current platform needs to be adapted so that it is easier to use.

KEYWORDS

Perceived Enjoyment, Perceived Innovativeness, Technology Acceptance Model, Voice-Activated Technology

1. INTRODUCTION

In 2020, it is estimated that half of all online searches will be done through voice-activated technology (Maney, 2017) due to the convenience of speaking the message instead of typing it out (May, 2018). Voice-activated technologies are incorporated into existing devices such as smartphones or computers and are also offered as a standalone speaker. The first voice-activated technology available on the market was Apple's Siri. Afterward, Amazon, Google, Microsoft, and IBM created their own voice assistants, with Amazon Alexa and Google Home being identified as the top sellers. Voice assistants offer personalization, as it can distinguish between users and interact in a human-like way. Each voice assistant has different features, as Amazon Alexa connects with the user's existing account and offers voice shopping (May, 2018). Amazon Alexa can remember the user's shopping habits such as when to replenish the toilet paper or shampoo and have it shipped to their address. In contrast, Google incorporated its search engine into the Google Home, so users can ask the device questions. Additional skills available on most voice-activated devices include shopping, searching the web, playing music, reporting the weather and news, setting alarms and reminders, and controlling smart home devices. Millennials have been found to appreciate voice-activated technology, as it makes their lives easier and they enjoy the personalities of the personal assistants (Moore, 2018). Voice

technologies are changing the way we interact with our devices, as some people have conversations with the personal assistants (Mattin, 2019).

Compared to individuals 45-64, Millennials are twice as likely to use voice-activated technology daily and are known as a tech-savvy generation (Cutler, 2015; Hui & Leong, 2017). A study by Walker Sands Communications (2017) discovered that 37% of Millennial participants preferred to use voice-activated ordering when purchasing items. Millennials have also been found to prefer shopping online, but desire the personalized experience that voice-activated technology can offer ("Walker Sands Communications," 2017). Voice-activated shopping is being adopted mostly by the younger generations, but there is a gap in research of their acceptance of using such technologies when shopping. This study is vital to the times, since the popularity of voice-activated technology is increasing, and numerous companies are starting to realize that they need to implement access to the technology to stay competitive.

Millennials, aged 25-34, represent approximately 26% of virtual assistant users, and older Millennials have been found to use virtual assistants for function over entertainment (Advertising & Marketing, 2017). This generation has been found to spend more money on e-commerce than any other generation despite having lower incomes (Cutler, 2015). This age group also researches products before making purchase decisions, even though they make more frequent and impulsive purchases than Generation X (Lissitsa & Kol, 2016). Overall, the most commonly shopped categories through voice technology are entertainment, electronics, and clothing. Currently, most voice purchases are low consideration goods, which have little financial risk (South China Morning Post, 2018).

As stated by Kääriä (2017), there is a need for additional research on voice-activated technology since the devices and software are constantly improving. Previous literature has only focused on the differences between devices (Lopez, Quesada, & Guerrero, 2017) and the privacy issues (Chung, Iorga, Voas, & Lee, S. 2017; Diao, Liu, Zhou, & Zhang, 2014; Easwara Moorthy & Vu, 2015) involved with the technology always 'listening.' Kääriä (2017) has also researched the acceptance of voice-activated technologies through the TAM with anthropomorphism, human characteristics in an object, as a factor. No specific age group was the focus of Kääriä's (2017) study, thus additional generations must be investigated. Voice-activated shopping could provide similar benefits as online shopping: convenience, access to product information (Ozen & Engizek, 2012), and the luxury of shopping anytime (Mostafavi, Hamedani, & Slambolchi, 2016). Companies are trying to promote the use of voice-activated technologies by offering discounts and are even including free devices with a purchase or membership (e.g. Spotify and Google Home Mini or opening up a banking account).

The purpose of this study was to investigate if Millennials are accepting voice-activated technologies to shop and if they intend to use the technology to shop in the future. This study followed the TAM framework, in which the technology is deemed to have perceived usefulness (PU), perceived ease of use (PEOU), perceived enjoyment (PE), and perceived innovativeness (PI) among Millennials. The relationship between each of these variables with the behavioral intention (BI) to use voice-activated technologies is also explained in this study. To determine these relationships, this quantitative study recruited participants through Amazon Mechanical Turk (MTurk). Responses were collected through Qualtrics and coded for analysis.

2. LITERATURE REVIEW

People are drawn to voice-activated technology as it has the ability to make the user's life more convenient through all the 'skills' offered. The technology uses artificial intelligence to make the devices seem human-like and complete tasks for the user. These voice assistants can help make everyday tasks easier by saying a single command, which can free up time. Voice technology uses machine learning, meaning the software improves the more it interacts with individuals (Stucke & Ezrachi, 2016). The Millennial generation especially enjoys the skills and personality of voice-activated

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