# Do AI-Based Voice Assistants Influence Brand Continuous Usage? The Mediating Role of AI-Driven Customer Experience

**George Cudjoe Agbemabiese**
**University of Professional Studies, Accra**

**Michael Boadi Nyamekye**
**University of Professional Studies, Accra**

**Juliana Aku Shika Andoh**
**University of Professional Studies, Accra**

**Mohammed Muniru Husseini**
**University of Professional Studies, Accra**

*This study aimed to assess the influence of artificial intelligence (AI) voice assistant (VA) on customer experience, resulting in the continuous use of mobile brands. Specifically, this article assesses the role of hedonic, utilitarian, and social benefits provided by AIVA on customer experience and continuous usage of a mobile phone brand. Using a primary data collection instrument, the quantitative approach was adopted to examine the study's variables. Data from 348 valid responses were used for the analysis based on structural equation modeling (SEM) with AMOS version 23. Three main factors were identified to influence customer experience, which results in continuous usage of a mobile phone brand. These factors are social benefits, hedonic benefits, and utilitarian benefits. In conclusion, a significant and positive relationship exists between AI-enabled customer experience and brand continuous usage. It recommended that mobile brands consider and research their prospects' and customers' social, hedonic, and utilitarian needs to provide them with desired products and experiences.*

*Keywords: artificial intelligence, AI-based voice assistants, customer experience, continuous usage, mobile phone brand*

## INTRODUCTION

Since 2008, the smartphone industry has experienced continuous growth, marked by an expanding market and an increasing number of brands, models, and manufacturers (Laricchia, 2023). With technological advancements, manufacturers of smartphones are consistently introducing new devices to keep up with the evolving industry trends and customer demand for more modern devices (Seduram, Perumal, & Shaari, 2016; Kim et al., 2020a, b). In 2022, global mobile phone subscriptions rose from 8.4 billion to 8.6 billion, surpassing the global population of 7.9 billion as of 2022 (Petroc, 2023). The mobile

phone penetration rates of some countries like the US, UK, Australia, Cameroon, and Kenya exceed 100% (Petroc, 2023).

Many individuals use multiple smartphones, resulting in more subscriptions than actual users. Also, many consumers replace their smartphones every 1 or 2 years (Hsiao & Chen, 2015). According to Sunnebo (2018), smartphones are short-lived devices; in China, the United States and European markets, their average lifespan is 22 months and 24 months in Brazil. Hence, smartphone brands must allocate substantial marketing efforts to retain their existing customer base. Moreover, the smartphone sector has matured, intensifying brand competition among manufacturers in the global market (Zaidi et al., 2019; Liao et al., 2021). Hence, understanding the factors that affect consumers' continuous brand usage has become an urgent concern for smartphone brands.

A study on mobile phones (Christino et al., 2020) identifies the significance of manufacturers prioritizing user experience as a strategic necessity when boosting satisfaction among existing customers and attracting dissatisfied consumers from competing brands. In the face of this high competition, manufacturers continually innovate and invest in technologies that improve the customer's mobile phone experience. One such technology is artificial intelligence (AI)-powered voice assistants (VA), like Google Assistant and Siri, which enables users to interact with their mobile phones using everyday language, enabling hands-free operation and providing fast and convenient access to information and services (Ameen et al., 2021; Osbourne & Arora, 2022). Artificial intelligence voice assistant (AIVA) can perform many tasks, such as setting reminders, playing songs, surfing the web, making phone calls, sending messages, and answering queries.

Furthermore, the machine-learning capabilities of AIVA enable these devices to dive to learn new "skills" (or tasks) through the utilization of application programming interfaces (API), which offer limitless potential and functionality to mobile gadgets (Amazon.com, 2020). Moreover, AI for personalization allows businesses to provide exceptional customer experiences by offering precise customization that relies on real-time data (Huang & Rust, 2018, 2020). However, the AIVA literature focuses on its adoption and use (McLean and Osei-Frimpong, 2019; Balakrishnan et al., 2021; Fernandes & Oliveira, 2021; Pitardi & Marriott, 2021; Pawar et al., 2023). So far, none of the existing research untaken to the beginning of this study was devoted to understanding the influence of AIVA on customer experience and continuous usage of mobile phone brands; hence, this is the gap this study endeavors to address.

Moreover, according to Sheng and Teo (2012), literature has established that the choice of a mobile brand is influenced by two distinct yet complementary factors: the product's qualities and the customers' experience. Product qualities encompass both utilitarian and hedonic benefits. Customer experience encompasses the various customer interactions intending to facilitate the attainment of utilitarian and hedonic benefits (Sheng & Teo, 2012; Chen et al., 2020). Therefore, this study adopts the Use and Gratification Theory (UGT), explaining the utilitarian and hedonic benefits AIVA can offer mobile users. Moreover, UGT can also help define an additional benefit from IAVA, known as the social benefit, which we included in this study. Hence, it explores the motivations driving their intent to use AIVA. Specifically, this article assesses the role of hedonic, utilitarian, and social benefits provided by AIVA on customer experience and the continuance intention to use mobile phone brands. Understanding the factors that affect individuals' continuous use of a mobile phone brand will help marketing managers deliver an ideal and popular strategy for success.

The rest of the study is organised: Section 2 reviews the existing literature in this domain, hypotheses, and research model. Section 3 outlines the methods and data collection process. The analysis of data and results are presented in Section 4. Finally, Section 5 encompasses the discussion, implications, limitations, and directions for future research.

## THEORETICAL FOUNDATION AND HYPOTHESES DEVELOPMENT

We can use the UGT to explain how AI, e.g., voice assistant, affects customer experience. This holds that consumers employ technology that satisfies their desires. UGT emphasizes why people choose media or technology to fulfil their needs (Athwal et al., 2019). According to the UGT (Katz et al., 1974), people

are goal-oriented and select media technology to meet their demands. Herzog (1940) established the foundation for the UGT and identified four distinct forms of appeals seen in radio programs: sporting appeals self-rating, educational, and competitive. According to Herzog (1940), each category offers unique gratifications to listeners. Subsequently, she found that individuals engage with daytime serials due to the provision of emotional release, advice, and personal enjoyment gratifications (Herzog, 1944).

However, despite its origins in the era before the digital boom, the UGT has undergone substantial advancements in recent decades due to the advances in media technology. Scholars have put forth numerous theoretical frameworks to interpret the UGT and examine diverse media forms within distinct socio-cultural settings (Xie et al., 2022). Hence, it has been employed in traditional media, such as newspapers, broadcast television and radio broadcasting (Leung & Wei, 1998 a, b; Dou et al., 2006) and new media, such as the World Wide Web and Internet (Ruggiero, 2000), social networks site (Korhan & Ersoy, 2016; Dhir & Tsai, 2017), online games (Camilleri & Falzon, 2021), and video streaming platform (Menon, 2022). Leung and Wei (2000) and Van der Wurff (2011) assert that the UGT offers a user-centric perspective on the various social and psychological motivations individuals seek from a given medium.

According to Sheng and Teo (2012), individuals' need for utilitarian and hedonic value affects customer experience using mobile phones. Research on Alexa (McLean & Osei-Frimpong, 2019) and chatbots (Xie et al., 2022) using the UGT explains that individuals' adoption of AIVA is based on utilitarian and hedonic value benefits. Therefore, since the influence of AI technologies on users' experience has become a widely debated subject due to its increasing applicability, the UGT can offer an interesting theoretical standpoint to understand the motivations for using AIVA on mobile devices. From a utilitarian standpoint, users have the potential to employ AIVA on their mobile phones to accomplish a specific task. Individuals may use AIVA to experience enjoyment or satisfaction from a hedonistic perspective.

Moreover, AIVA assistant offers an additional benefit, namely, social benefits, "referring to the idea that individuals use specific media for social needs" (McLean & Osei-Frimpong, 2019, p. 30), which is not a product attribute of a non-AI enable VA mobile phone device (Sheng & Teo, 2012). Previous studies added social benefits when applying U&GT in understanding AIVA adoption, such as Alexa (McLean & Osei-Frimpong, 2019) and chatbots (Xie et al., 2022). McLean and Osei-Frimpong (2019) and Xie et al. (2022) found that individuals were motivated to use AIVA because of the social benefit. Thus, using the UGT, we propose that three categories may influence individuals' experience with using AIVA: (1) utilitarian benefits, (2) hedonic Benefits, and (3) Social Benefits. Our rationale is argued below.

**Utilitarian Benefits and Hedonic Benefits**

Utilitarian benefits describe the advantage of using the product to complete a task. For instance, AIVA offers users an easy, helpful, and convenient way of performing tasks such as setting alarms, sending messages, and sending out crucial notifications, as well as for information gathering, product search, and task completion (McLean & Osei-Frimpong, 2019). Ease of use describes how simple it is for a user to use AIVA and all its other features (Davis, 1989). This benefits users as it makes it easier to execute tasks and increases productivity (Chau & Lai, 2003). Consequently, task-oriented users prioritise utilitarian value when searching for products (Hong & Tam, 2006; Wang et al., 2023). Hedonic benefits relate to users' personal emotional experiences, such as the enjoyment and pleasure of using AIVA (Yang and Lee, 2010; Schuitema, Anable, Skippon, & Kinnear, 2013). Research shows that the significance of AI assistants to users is linked to the benefits they derive, such as problem-solving abilities and emotional appeal (Yuan, Zhang & Wang, 2022). Furthermore, Yuan et al. (2022) have proposed that both utilitarian and hedonic benefits are positively associated with AI devices in terms of transactional and relational services. Given the ability to use AIVA hands-free, without the need for interaction through a physical user interface (but rather a voice interface), and the emotional experiences gained from its use, we posit that the usefulness, pleasure, enjoyment, and convenience offered by AIVA will significantly contribute to its utility.

**Social Benefits**

In this study, social benefits refer to the notion that people employ specific forms of media to satisfy their needs for social interactions (McLean & Osei-Frimpong, 2019). Hoy (2018) noted that humans have

shown a keen interest in conversing with computers ever since the introduction of the first commercial computer. Hence, the social-oriented interaction style provided by digital assistants results in superior social benefits (i.e., increased perceptions of two-way interactivity and trust) (Chattaraman et al., 2019). The phenomenon described above is prominently observed in the scholarly contributions of Nass and Moon (2000), which offer valuable insights into how individuals perceive and interact with computers as though they possess social qualities.

According to Moon (2000), it is posited that individuals have a social inclination, leading them to adopt social roles when engaging with technology. This includes politeness and courtesy during contact, akin to their behaviour when talking with fellow humans. Lombard's (1995; 2000) research found that the ability of computers to imitate human-like features, such as speech, through AIVA has been found to elicit social responses by acting as cues. Based on the analysis above, it is posited that the human-like characteristics exhibited by AIVA serve as stimuli for eliciting social responses, hence enabling persons to fulfil their social requirements. Cerekovic et al. (2017) stated that when individuals reach a level of comfort in engaging with an artificial personification, they establish a relationship with the artificial helper comparable to their interactions with other human beings. We expect that individuals might obtain social benefits from the interaction with AIVA.

**AIVA Customer Experience**

Due to the importance of understanding consumer-related outcomes, customer experience has attracted much interest in marketing (Moore et al., 2022; Nicolescu & Tudorache, 2022). For this study, customer experience refers to an individual's subjective reactions to interactions with AIVA stimuli (Liu-Thompkins et al., 2022). Van Doorn et al. (2017) note that the infusion of technology transforms customers' experiences. We believe that customer service experiences will be shaped by the benefits provided by technology. Ameen et al. (2021) indicated that technologies like AI assistance have elevated the customer experience, enabling businesses to access information on their target market's shopping preferences and behavioural patterns.

Additionally, customers' ability to conduct individualised searches is one of the ways artificial bits of intelligence are used to provide a good customer experience. Customers can find their top priorities among the items available and streamline their user experiences thanks to artificial intelligence's machine learning and language processing capabilities. This is feasible because of previous patterns in online shopper search and viewing behaviour (Cummins, 2021). This assertion is supported by existing literature on self-service technologies (SSTs) (Moon & Lee, 2022; Yang et al., 2023). However, some existing SSTs (e.g., self-service terminals in banks) do not provide utilitarian, hedonic, and social benefits. Based on the above, we can argue that technologies that can give utilitarian, hedonic, and social benefits will have substantial implications for customers' experiences. Thus, we hypothesise.

***H1:*** *Utilitarian (H1a), hedonic (H1b), and social benefits (H1c) obtained positively relate to the user experience of AIVA.*

**AIVA Customer Experience and Continuous Usage**

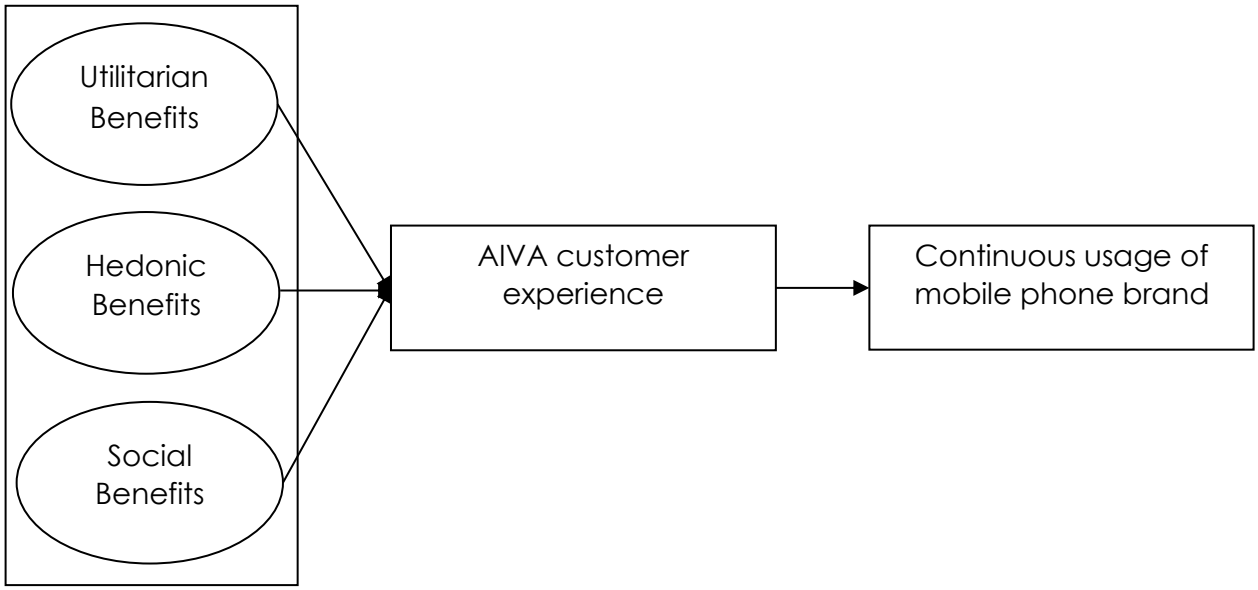
Existing research (Zhou, 2011; Wang et al., 2019; Lee et al., 2021) shows that consumers' post-adoption confirmation is achieved by their satisfaction with the usage experience. Thus, the foundation for desired behavioural outcomes, such as continued use of a service or technology, is an exceptional and rewarding experience. Customers frequently have preconceived notions about how a service or sound should be provided. They develop perceptions and feelings about the brand based on their numerous contacts with it, from the time before they make any purchases to the time after they use it. Their experiences are shaped by these contacts with the brand (Mixon, 2020). If a customer has a bad experience, they will most likely not return. In the same way, they are more inclined to refer or return if they have a good experience. When it comes to mobile brands, they will probably keep using the company and even newer product iterations. Customers' experiences will be satisfied if they live up to their expectations. Customers will be incredibly happy or delighted when their expectations are fulfilled (Dobrota et al., 2012).

Therefore, adverse experiences may result in the brand losing clients, while satisfying pleasant ones may result in continued usage. It is, therefore, hypothesised.

***H2:*** *AIVA-enabled customer experience positively influences the continuous usage of a mobile phone brand.*

***H3:*** *AIVA-enabled customer experience mediates the effects of utilitarian (H3a), hedonic (H3b), and social benefits (H3c) on continuous usage of a mobile phone brand.*

**FIGURE 1**
**CONCEPTUAL FRAMEWORK**




## MEASUREMENT

This study adapted items empirically validated in the extant literature to identify factors influencing users' continuous usage of a mobile brand. The measures for assessing utilitarian and hedonic benefits were adopted from the work of Hsu and Lin (2016). The measurement items for social benefits were adapted from McLean and Osei-Frimpong (2019). Also, items measuring AI-enable customer experience were adapted from Ameen et al. (2021), whereas those for continuous usage were adapted from Balakrishnan and Dwivedi (2021) and Qing and Haiying (2021). All the items were measured on a 5-point Likert scale (anchored at 1 = "Strongly disagree," and 5 = "Strongly agree").

### Participants

The data for testing the relationships was collected using Qualtrics, an online questionnaire platform. The study was restricted to the AIVA users in Ghana due to the high mobile phone penetration rate. The survey was disseminated across multiple university platforms to leverage the prevalence of AI utilization and mobile device adoption among the youth. At the beginning of the questionnaire, participants were asked a screening question with a "yes or no" answer (i.e., do you use the mobile voice assistant service of your mobile phone?) to ensure the respondents have experience using mobile AIVA. If respondents replied that they had not used mobile AIVA assistants before, they would be taken to the thank you for your participation page and their responses removed automatically. When the respondents answered yes, they were sent to the next page to indicate the brand of their mobile device and the corresponding AIVA. Those whose brand

corresponded rightly to the AIVA were used for the analysis—for example, the iPhone and the corresponding AIVA Siri. After data cleansing and eliminating replies with missing values, the sample size was reduced to 348 valid participants. Table 1 provides an overview of the study's respondents.

**TABLE 1**
**DEMOGRAPHIC PROFILE OF RESPONDENTS**

| Details | | Frequency | Per cent |
|---|---|---|---|
| Gender | Male | 159 | 45.7 |
| | Female | 189 | 54.3 |
| Level of education | Undergraduate | 329 | 94.5 |
| | Postgraduate | 16 | 4.6 |
| | Others | 3 | 0.9 |
| Voice assistant | Amazon Alexa | 9 | 2.6 |
| | Amazon Echo | 5 | 1.4 |
| | Siri | 155 | 44.5 |
| | Bixby | 14 | 4 |
| | Google Assistant | 158 | 45.4 |
| | Cortana | 7 | 2 |
| | Total | 348 | 100 |
| Years of usages | 1 year | 115 | 33 |
| | 2 years | 99 | 28.4 |
| | 3 years | 53 | 15.2 |
| | 4 years | 33 | 9.5 |
| | 5 years | 48 | 13.8 |
| **Total** | | **348** | **100** |

## DATA ANALYSIS

### Measurement Model Assessment

We employed AMOS version 23, utilizing structural equation modeling (SEM) techniques to analyze our data. We examined the reliability and validity of the measurement items using factor loadings, Cronbach's alpha (α), composite reliabilities (CR), and average variance extracted (AVE) (Hair et al., 2014; Collier, 2020). All factor loadings exceeded the suggested threshold of 0.7 (Hair et al., 2014; Collier, 2020), indicating a strong association between the measurement items and their respective constructs. The constructs showed high internal consistency, as indicated by α and CR exceeding the threshold of 0.7 for each construct (Kalkbrenner, 2023). Additionally, the AVE values for all constructs surpassed the required threshold of 0.5 (Dash & Paul, 2021), indicating that the constructs accounted for a significant section of the variance in their respective measurement items (see Table 2). Furthermore, the results of the CFA show

acceptable goodness of fit: $\chi 2/df = 118.769/74 = 1.605$ is significant ($p < 0.05$), RMSEA= 0.040, SRMR= 0.037, CFI= 0.985, NFI= 0.961, IFI= 0.985, TLI= 0.978.

**TABLE 2**
**RESULTS OF THE MEASUREMENT MODEL ASSESSMENT**

| Construct and measurement items | Loadings | α | CR | AVE |
|---|---|---|---|---|
| **Utilitarian benefits** | | 0.917 | 0.916 | 0.733 |
| Performing tasks with voice assistants is easy for me | 0.816 | | | |
| The voice assistant is functional | 0.890 | | | |
| The voice assistant is useful | 0.907 | | | |
| The voice assistant is practical | 0.807 | | | |
| **Hedonic benefits** | | 0.748 | 0.751 | 0.602 |
| I find the use of voice assistants enjoyable | 0.823 | | | |
| The actual activity of using voice assistants is pleasant | 0.726 | | | |
| **Social benefits** | | 0.849 | 0.85 | 0.587 |
| It is almost more enjoyable talking to my voice assistant than to friends and family | 0.728 | | | |
| I feel like I have built a relationship with my voice assistant | 0.775 | | | |
| I refer to my voice assistant as a friend | 0.734 | | | |
| I feel like my voice assistant understands me better than anyone | 0.823 | | | |
| **Customer Experience** | | 0.831 | 0.83 | 0.62 |
| I am satisfied with the mobile phone experience | 0.787 | | | |
| The mobile phone experience is precisely what I needed | 0.813 | | | |
| This mobile phone experience has worked out as well as I thought it would | 0.762 | | | |
| **Continuous usage of mobile brand** | | 0.83 | 0.83 | 0.709 |
| I intend to use this brand of mobile phone again | 0.847 | | | |
| I will use the latest version of this mobile phone brand in the near future. | 0.837 | | | |

Following the CFA, discriminant validity was also examined. This was assessed to determine the distinctiveness of the constructs by calculating the inter-construct correlations and comparing them with the square roots of the AVEs (Table 3). The results reveal that the diagonal elements in the table represent the square roots of the AVEs for which each construct is greater than the corresponding inter-construct correlations. This indicates that the AVEs explain a larger proportion of the variances in their respective constructs than the shared variances with other constructs. These findings provide evidence that the constructs in the study are distinct and measure different aspects of the phenomenon. Hence, all constructs demonstrate satisfactory discriminant validity.

**TABLE 3**
**THE CORRELATION COEFFICIENT AND SQUARED ROOT OF AVE**

| | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | **Utilitarian benefits** | **0.856** | | | | |
| 2 | **Hedonic benefits** | 0.475*** | **0.776** | | | |
| 3 | **Social benefits** | 0.166** | 0.271*** | **0.766** | | |
| 4 | **Customer experience** | 0.424*** | 0.392*** | 0.433*** | **0.788** | |
| 5 | **Continuous usage** | 0.311*** | 0.319*** | 0.197** | 0.453*** | **0.842** |

**Note:** The bold diagonal is the squared root of AVE, and the others are correlation coefficients.

Before hypothesis testing, we assessed common method bias (CMB) and multicollinearity using the Variance Inflation Factor (VIF). The findings show that constructs were below the threshold of 3.3 (Diamantopoulos & Siguaw, 2006). Examining VIFs reveals that the results fall under the established threshold, suggesting no CMB issues with our data.

**Structural Model Assessment**

The hypotheses were analysed using the structural equation model (SEM). The fit indices obtained for the SEM were as follows: $\chi 2/df = 34.232/15 = 2.282$ is significant ($p < 0.05$), RMSEA= 0.058, SRMR= 0.065, CFI=0.963, NFI= 0.937, IFI = 0.964, TLI= 0.931. The results indicate that the fit for SEM was within acceptable limits.

Table 4 provides the findings of the hypotheses testing. The findings suggest that utilitarian benefits ($\beta = 0.3$, *p*-value = 0.001), hedonic benefits ($\beta = 0.187$, *p*-value = 0.001), and social benefits ($\beta = 0.376$, *p*-value = 0.001) have statistically significant positive effects on customer mobile phone usage experience, supporting H1. H2 is also supported, indicating that customer mobile phone usage experience significantly influences the continuous use of mobile phone brands ($\beta = 0.528$, *p*-value = 0.001).

Additional control variables were included in the analysis. The findings show that gender ($\beta = 0.117$, *p*-value = 0.008) significantly positively affects the continuous use of mobile phone brands. In contrast, the level of education ($\beta = 0.022$, *p*-value = 0.622) and current mobile brand ($\beta = 0.005$, *p*-value = 0.9) do not significantly influence the continuous use of mobile phone brands.

**TABLE 4**
**HYPOTHESES TEST RESULTS**

| | **Direct path** | | | **Estimate** | **T-value** | **P-value** |
|---|---|---|---|---|---|---|
| H1a | Utilitarian benefits | ---> | Customer experience | 0.3 | 6.363 | *** |
| H1b | Hedonic benefits | ---> | Customer experience | 0.187 | 3.818 | *** |
| H1c | Social benefits | ---> | Customer experience | 0.376 | 9.023 | *** |
| H2 | Customer experience | ---> | Continuous usage | 0.528 | 12.17 | *** |
| | **Controls** | | | | | |
| | Gender | ---> | Continuous usage | 0.117 | 2.662 | 0.008 |
| | Level of education | ---> | Continuous usage | 0.022 | 0.494 | 0.622 |
| | Current mobile brand | ---> | Continuous usage | 0.005 | 0.125 | 0.900 |

**Mediation Analysis**

The findings from the mediation analyses employing a bias-corrected bootstrapping technique, with a sample size of 5,000, revealed that customer experience serves as a statistically significant mediator. The outcomes of the notable indirect impacts are displayed in Table 5.

**TABLE 5**
**RESULTS OF MEDIATION ANALYSIS**

| Indirect Path | Estimate | Lower | Upper | P-Value |
|---|---|---|---|---|
| H3a Utilitarian benefits --> customer experience --> Continuous usage | 0.159*** | 0.105 | 0.218 | 0.001 |
| H3b Hedonic benefits --> customer experience --> Continuous usage | 0.099*** | 0.057 | 0.161 | 0.001 |
| H3c Social benefits --> customer experience --> continuous usage | 0.199*** | 0.123 | 0.214 | 0.001 |

We examined the coefficient of determination ($R^2$) to determine the variance in customer mobile phone usage experience and intention to continue using a specific mobile phone brand that our model can explain. The model explains 41.6% of the variance in customer mobile phone usage experience and 29.4% of the desire to continue using a specific mobile phone brand. These findings indicate that our model has moderate explanatory power for these outcome variables.

## DISCUSSION AND CONCLUSION

This study addressed the need for more research on individual behavior factors driving consumer mobile brand continuous usage intention. The empirical findings of this research provide a clear theoretical understanding of how customers' gratifications of AIVA influence mobile brand continuous usage intention.

The findings show that utilitarian benefits significantly influence customer experience (H1a), consistent with previous research (e.g., Sheng & Teo, 2012; Stein & Ramaseshan, 2020; Ponsignon, 2023). This finding suggests that the benefits associated with using AIVA to assist users in efficiently completing task influence their experience. Similarly, the results show that hedonic benefits positively influence customer experience (H1b), consistent with prior studies (e.g., Sheng & Teo, 2012; Bilgihan et al., 2016; Hamouda, 2021). This implies that the enjoyment and pleasure of using AIVA influence customer experience. Another revelation from the results is that social benefit (H1c) has a positive relationship with customer experience. This result indicates that the social benefits of social interactions to reduce loneliness enabled by AIVA influence customer experience (Song et al., 2018). Hence, the higher the benefits customer derive from using AIVA on their mobile phone, the better their overall experience with the device.

The results of this study supported H2, which hypothesized that user experience significantly influences continuance intention to use a mobile phone brand. The findings suggest that user experience is an essential determinant of whether users will stick with the brand. In line with this finding, our results revealed that the benefits derived from using AIVA indirectly influence continuance intention via the mediation effects of user experience. This means that the benefits of using AIVA influence user experience, and it's this user experience that, in turn, affects users' intentions to continue using AIVA.

### Theoretical Implications

This research contributes to the existing UGT research in the following ways. Our study aims to enhance the existing UGT by examining the many gratification benefits of integrating AI into business operations, specifically focusing on applying AIVA. These gratification benefits may be categorized into three primary categories: social, hedonic, and utilitarian. The results investigate the influence of different types of benefits (utilitarian, hedonic, and social) on customer experience and enrich the literature on user behavior in continuous mobile brand usage determinants. The findings of this study validate and reinforce prior research on the impact of utilitarian and hedonic benefits on customer experience. This confirmation strengthens existing theories in the field and underscores the importance of these benefits in shaping user perceptions and behavior.

Furthermore, the study delves into the relatively less explored area of social benefits in the context of technology usage. Demonstrating that social benefits positively influence customer experience opens up new avenues for research on the role of social interactions and connectivity in shaping user attitudes and continuous mobile brand usage. The mediation analysis in this study provides a nuanced understanding of the underlying mechanisms through which benefits influence continuous usage intention. It highlights the pivotal role of customer experience as an intermediary variable, emphasizing that the benefits indirectly impact usage intention through this channel. This adds depth to existing knowledge about the factors influencing continuous mobile brand usage.

**Practical Implications**

This finding of the study provides several practical implications. Research (Huang, 2017; Lou & Xie, 2021; Molinillo et al., 2022) shows that positive user experiences can foster brand loyalty. If users are satisfied with their experience, they are likelier to remain loyal to the brand and continue using their products. Brands that invest in improving user experiences may gain a competitive advantage in the mobile phone market. If their products provide a better user experience, they are more likely to retain customers. Managers of mobile phone brands must focus on enhancing the aspects of the user experience that matter most to their customers. Focusing on improving customer experience should be a central objective for businesses in the mobile technology industry. This may involve refining user interfaces, enhancing product functionalities, and incorporating features facilitating social interactions through their platforms. The study suggests a better user experience can translate into higher brand retention rates.

Firms can tailor their marketing campaigns to emphasize the benefits that resonate most with their target audience. For example, if a brand's research shows that its users highly value hedonic benefits, they can create marketing content emphasizing their product's enjoyment and pleasure. Understanding the mediating role of customer experience in the relationship between benefits and continuous usage intention allows companies to develop more effective brand loyalty strategies. They can work on enhancing user experience as a means to increase user retention and loyalty. The study implies that user segments may prioritize different benefits. Firms can use this insight to segment their market and develop tailored products and services for each piece. For instance, a segment that values social benefits might be interested in features that facilitate social interactions and connections through the mobile brand.

**Limitations and Directions for Future Research**

The findings of this research are, to some extent, constrained by some limitations, providing an avenue for future researchers to conduct further research. The results of this study cannot apply to other geographical locations, especially where they are more developed and technologically advanced, since it was strictly conducted in Ghana. Therefore, future researchers could consider conducting this research in other countries where they are more technologically advanced. Additionally, this research was limited to AIVAs within the smartphone industry. However, future research could be conducted on other uses of AI within the smartphone industry. Moreover, the present study focused on AIVA of mobile phone users. Future investigations may explore the impact of non-verbal engagement with a voice-enabled virtual assistant on the sustained adoption of a specific mobile phone brand.

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