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Article

When AI Speaks: The Role of Awe and Habit in Shaping Brand Engagement through Voice Assistants in Experiential Services

Dhivya Lakshmi. N[1] and Dr.Vijayakanthan.S[2]

[1,2]School of Management Studies, Vadapalani, Chennai, Tamil Nadu, India.
dn4212@srmist.edu.in[1], vijayaks1@sr mist.edu.in[2]

Abstract: This study examines how AI-enabled voice assistants influence consumer brand engagement in experiential service contexts, focusing on the mediating role of awe experience and the moderating effect of habit. Drawing on the Stimulus–Organism–Response (S–O–R) framework and self-transcendent emotion theory, the study conceptualizes voice assistants as emotional agents rather than functional tools. Data were collected from 471 Generation Z consumers with prior experience using AI voice assistants and analyzed using partial least squares structural equation modeling (PLS-SEM). The results reveal that voice assistant usage significantly enhances brand engagement both directly and indirectly through awe experience. Furthermore, habitual usage strengthens the impact of voice assistant interactions on brand engagement, indicating that repeated exposure stabilizes emotional responses. This study extends S–O–R theory to AI-mediated environments by identifying awe as a critical emotional mechanism and habit as a behavioral amplifier. The findings offer theoretical and managerial insights for designing emotionally engaging AI-driven brand interactions.

Keywords: AI-Enabled Voice Assistants; Brand Engagement; Awe Experience; Habit; Generation Z; Structural Equation Modeling

1. Introduction

Artificial intelligence (AI)–enabled voice assistants have rapidly transformed the way consumers interact with brands across digital and experiential service environments. From booking travel and entertainment to accessing leisure recommendations, voice assistants such as Alexa, Siri, and Google Assistant increasingly function as frontline brand interfaces. While prior research has predominantly examined these technologies through utilitarian lenses—focusing on efficiency, ease of use, and task completion—such perspectives offer an incomplete understanding of how AI-driven interactions cultivate enduring consumer–brand relationships.

Recent advances in consumer psychology suggest that emotional responses play a pivotal role in shaping engagement outcomes, particularly in experiential service contexts where symbolic and affective value outweighs functional utility. However, existing studies on AI-enabled voice assistants have largely concentrated on basic affective states such as enjoyment or satisfaction, overlooking more complex emotional experiences that may arise from interacting with intelligent, conversational systems. One such emotion is awe—a self-transcendent, high-arousal emotional response associated with perceptions of vastness, novelty, and cognitive accommodation.

Awe has been shown to enhance meaning-making, elevate perceptions, and strengthen relational bonds, yet its role in AI-mediated brand interactions remains underexplored. This omission is particularly salient in voice-based AI environments, where conversational intelligence and perceived autonomy may evoke emotional elevation without visual immersion. Moreover, while emotional responses can explain immediate engagement, they may not fully

account for sustained brand relationships. Habitual usage represents a critical but under-theorized mechanism through which repeated AI interactions stabilize emotional responses into consistent engagement behaviors.

Drawing on the Stimulus–Organism–Response (S–O–R) framework, this study conceptualizes AI-enabled voice assistants as stimuli that elicit awe as an organismic emotional response, ultimately driving brand engagement as a behavioral outcome. Furthermore, the study introduces habit as a moderating mechanism that strengthens the relationship between voice assistant usage and brand engagement, thereby explaining how repeated interactions convert emotional elevation into enduring engagement.

This study makes four key contributions. First, it extends the S–O–R framework by incorporating awe as a self-transcendent emotional response in AI-mediated interactions. Second, it reconceptualizes AI-enabled voice assistants as emotional agents rather than purely functional tools. Third, it identifies habit as a behavioral stabilizer that amplifies emotional effects on brand engagement. Finally, it advances experiential service and AI branding literature by explaining how emotional and habitual mechanisms jointly shape sustained consumer–brand relationships.

2. Review of Literature

Traditional applications of the S–O–R framework emphasize cognitive and affective responses such as pleasure and arousal. However, AI-enabled voice assistants represent a qualitatively different stimulus due to their conversational autonomy and perceived intelligence. This study extends the S–O–R framework by introducing awe as a higher-order emotional organismic response and by incorporating habit as a moderating mechanism that stabilizes emotional reactions into sustained brand engagement.

Despite growing interest in AI-enabled voice assistants, existing research predominantly emphasizes adoption and functional outcomes, offering limited insight into the emotional mechanisms that translate AI interactions into sustained brand engagement. Moreover, the role of self-transcendent emotions and habitual usage patterns remains underexplored. Addressing these gaps, the present study integrates awe experience as a mediating mechanism and habit as a moderating condition to explain how AI-enabled voice assistants foster brand engagement.

2.1 AI-Enabled Voice Assistants and Brand Engagement

AI-enabled voice assistants differ fundamentally from earlier digital interfaces due to their conversational agency, anthropomorphic cues, and perceived social presence. Unlike text-based or visual AI systems, voice assistants interact using natural language, adaptive responses, and human-like vocal characteristics, enabling consumers to perceive them as quasi-social actors rather than mere technological tools. Prior research suggests that such socially interactive technologies can function as relational agents that represent brands in consumers' daily lives, thereby shaping attitudinal and behavioral engagement outcomes.

From a Stimulus–Organism–Response (S–O–R) perspective, AI-enabled voice assistants act as environmental stimuli that continuously interact with users across multiple touchpoints, reinforcing familiarity, trust, and perceived responsiveness. These characteristics enhance consumers' cognitive, emotional, and behavioral investment in the brand, ultimately strengthening brand engagement. Therefore, AI-enabled voice assistants are expected to exert a direct positive influence on consumer brand engagement.

H1: AI-enabled voice assistants positively influence brand engagement.

2.2 AI-Enabled Voice Assistants and Awe Experience

Awe is a self-transcendent emotion elicited when individuals encounter stimuli characterized by perceived vastness and a need for cognitive accommodation. Recent advances in artificial intelligence—particularly conversational AI—have introduced interactions that challenge users' existing mental schemas regarding machine capabilities. Voice assistants that demonstrate contextual awareness, emotional responsiveness, and autonomous learning may confront users with forms of intelligence that exceed prior expectations, thereby eliciting awe.

In human–AI interactions, awe arises when users perceive AI systems as exceeding functional utility and approaching human-like cognition or agency. Voice assistants, through their capacity for natural conversation and adaptive personalization, can evoke feelings of wonder, admiration, and elevation. As such, AI-enabled voice assistants are likely to function as technological stimuli capable of eliciting awe experiences among users.

H2: AI-enabled voice assistants positively influence consumers' awe experience.

2.3 Awe Experience and Brand Engagement

Awe broadens individuals' cognitive frameworks, enhances openness to new experiences, and increases meaning-seeking tendencies. As a self-transcendent emotion, awe shifts attention away from the self and toward external entities perceived as significant or powerful. In consumer contexts, this emotional expansion fosters affiliative tendencies and deepens psychological connections with brands associated with the awe-eliciting stimulus.

When consumers experience awe during interactions with AI-enabled voice assistants, they are more likely to attribute symbolic value and emotional significance to the associated brand. This heightened emotional state promotes deeper cognitive processing, emotional attachment, and proactive engagement behaviors. Accordingly, awe experience is expected to positively influence brand engagement.

H3: Awe experience positively influences brand engagement.

2.4 The Mediating Role of Awe Experience

Within the S–O–R framework, environmental stimuli do not directly translate into behavioral responses unless they activate internal organismic states. In the context of AI-enabled voice assistants, awe serves as a critical emotional mechanism that transforms technologically mediated interactions into meaningful engagement outcomes. Rather than functioning solely as functional tools, voice assistants stimulate emotional responses that shape consumers' evaluative and behavioral reactions toward brands.

Awe operates as an emotional conduit through which AI-enabled voice assistants influence brand engagement by fostering cognitive accommodation, emotional elevation, and relational orientation. Thus, the impact of AI-enabled voice assistants on brand engagement is expected to be partially transmitted through consumers' awe experience.

H4: Awe experience mediates the relationship between AI-enabled voice assistants and brand engagement.

2.5 The Moderating Role of Habit

Habit reflects the extent to which behaviors are performed automatically as a result of repeated exposure and learned routines. In technology usage contexts, habitual interaction with AI-enabled voice assistants reduces cognitive effort and increases behavioral efficiency, thereby stabilizing user responses over time. Habitual users rely on automated cognitive processes rather than deliberate evaluation when interacting with voice assistants.

As habit strengthens, consumers are more likely to translate AI-driven emotional and functional experiences into consistent brand engagement behaviors. Specifically, habitual interaction amplifies the impact of AI-enabled voice assistants on brand engagement by reinforcing repeated exposure and emotional reinforcement. Consequently, habit is expected to moderate the relationship between AI-enabled voice assistants and brand engagement.

H5: Habit positively moderates the relationship between AI-enabled voice assistants and brand engagement, such that the relationship is stronger at higher levels of habit.

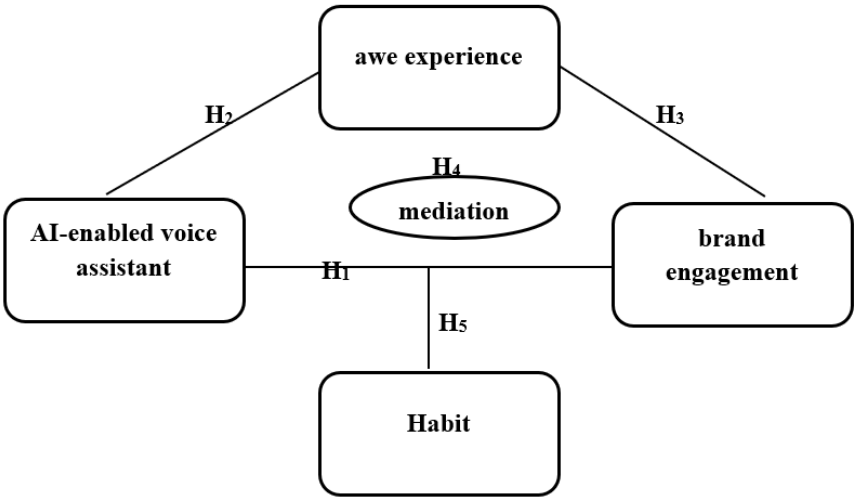

Figure 1. Conceptual framework illustrating the mediating role of awe experience and the moderating role of habit in the relationship between AI-enabled voice assistant usage and brand engagement

Figure 1 presents the conceptual framework grounded in the Stimulus–Organism–Response (S–O–R) paradigm. AI-enabled voice assistant usage is conceptualized as the stimulus, awe experience represents the organismic emotional response, and brand engagement constitutes the behavioral response. The model further incorporates habit as a moderating mechanism that strengthens the direct relationship between AI-enabled voice assistant usage and brand engagement.

2.2 Theoretical Framework: Extending S–O–R in AI-Mediated Interactions

The Stimulus–Organism–Response (S–O–R) framework has been widely employed to explain how environmental stimuli influence internal states and subsequent behavioral responses. In digital and service contexts, S–O–R models typically emphasize cognitive evaluations or basic affective reactions such as pleasure and arousal. However, AI-enabled voice assistants represent a qualitatively distinct stimulus due to their conversational autonomy, perceived intelligence, and capacity for personalized interaction.

This study extends the S–O–R framework in two important ways. First, it introduces awe as a higher-order, self-transcendent emotional organismic response elicited by AI voice assistants. Unlike conventional affective states, awe involves cognitive accommodation and emotional elevation, making it particularly relevant for intelligent systems that exceed user expectations. Second, the study incorporates habit as a moderating mechanism, explaining how repeated exposure to AI-driven interactions stabilizes emotional responses into sustained brand engagement. By integrating emotional and behavioral processes, the proposed framework offers a more comprehensive explanation of engagement formation in AI-mediated experiential services.

3. Methodology

A quantitative survey-based design was employed to test the proposed mediation and moderation relationships simultaneously. This approach is appropriate for theory testing involving latent constructs and complex causal paths, particularly within emerging technology contexts.

3.1 Sampling Procedure

The research used non-probability purposive sampling method to select the sample of participants that had experience with using AI-enabled voice assistants to book leisure or entertainment-related activities (e.g., movie tickets, restaurant reservations, or event planning). Such a methodology was found acceptable due to the particular

inclusion criteria that pertained to the research aims. The objective of data collection was achieved through online survey spread across SNSs, mailing lists, and websites where digitally active consumers cultivate online communities especially Gen Z users aged between 18 to 28. There was also screening of questions to eliminate inclusion of individuals who had not used voice assistants such as Siri, Google Assistant or Alexa to book for experiential services in the outcome analysis. After cleaning the data, 471 valid responses remained that satisfactorily met the conditions of minimum sample size that would sustain structural equation modeling (SEM) and other multivariate analysis.

The use of purposive sampling is appropriate for this study as it targets consumers with prior experiential usage of AI-enabled voice assistants, ensuring domain-specific relevance rather than general population representativeness. This approach aligns with prior AI adoption and engagement studies focusing on technology-experienced users. Furthermore, the sample size exceeds recommended thresholds for SEM analysis, enhancing statistical power and model stability

Purposive sampling was employed to ensure that respondents possessed prior experience using AI-enabled voice assistants in experiential service contexts. This approach is appropriate for theory testing in emerging technology research, where experiential familiarity is critical for valid responses. Similar sampling strategies have been adopted in prior AI and digital engagement studies. The final sample size exceeds recommended thresholds for partial least squares structural equation modeling (PLS-SEM), ensuring sufficient statistical power and model stability.

Recent research increasingly conceptualizes AI-enabled voice assistants as socio-emotional interfaces that mediate consumer–brand relationships rather than as neutral service tools. By embodying brand voice, personality, and responsiveness, these systems function as relational agents capable of shaping emotional experiences and long-term engagement outcomes.

Generation Z consumers were selected due to their extensive exposure to AI-enabled voice assistants and their propensity to integrate such technologies into daily routines. This demographic provides a theoretically appropriate context for examining emotional and habitual responses to AI interactions.

3.2 Measures

All constructs were measured using multi-item scales adapted from validated prior research. Items were measured on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). While prior studies predominantly focus on utilitarian or low-arousal emotions, emerging evidence suggests that advanced AI interactions can evoke self-transcendent emotions. Awe, in particular, arises when consumers encounter AI capabilities that exceed existing cognitive schemas, prompting feelings of vastness, admiration, and cognitive accommodation.

The AI-based voice assistant scale developed by the team of Jain et al. (2022), contains four dimensions e.g., functional MCI (7 items), hedonic MCI (7 items), social MCI (6 items), and cognitive MCI (5 items) (Vandecasteele and Geuens, 2010; 2011). The questionnaire consisted of 12 items designed to measure awe experience and adapted to awe experience scale proposed by Chirico and Gaggioli (2019), Chirico et al. (2018), and Yaden et al. (2018). BE has been measured using the scale created by Hollebeek et al. (2024) comprising 10 items. In Hsiao et al. (2016), Habit (HA) is a latent construct that was used by the authors to explain continuance usage of mobile social applications and the usually used 3-item scale was adapted to capture the core element of app use that is habitual. The scales of AI, AE, BE were evaluated on a seven-point Likert scale, strongly disagree (1) to strongly agree (7) and HA on a five point- Likert rating scale strongly disagree (1) to strongly agree (5).

3.3 Awe Experience in Consumer Research

Awe is a self-transcendent emotion characterized by perceived vastness and the need for cognitive accommodation. In marketing contexts, awe has been shown to enhance meaning-making, deepen emotional attachment, and foster long-term engagement with symbolic consumption objects. When elicited through technology-mediated experiences, awe shifts consumer attention away from functional evaluation toward relational and experiential value.

3.4 Normality, Multicollinearity, and Common Method Bias

Preliminary diagnostic checks were performed before hypothesis testing to establish the suitability of data. Skewness and kurtosis statistics were used to check normality. The value of all the variables awe experience (skewness = -0.45, kurtosis = 0.82), habit (skewness = 0.21, kurtosis = -0.51) and brand engagement (skewness = -0.33, kurtosis = 0.65) were within acceptable range of -2 to 2 (George & Mallery, 2010) which is evidence of univariate normality. Multicollinearity has been determined based on the Variance Inflation Factor (VIF) and tolerance values. The values of VIF varied between 1.22 and 1.96 and the tolerance varied between 0.51 and 0.82, which are well below the required values (VIF < 5, tolerance > 0.2), indicating that the predictors are not having any multicollinearity. In determining common method bias, a single-factor test by Harman was carried out. An exploratory factor analysis indicated that the first unrotated factor measured 34.7 percent of the total variance, which is less than the critical threshold of 50 percent (Podsakoff et al., 2003), and the test of common method bias is unlikely to influence the test greatly. Also, the survey design has procedural remedies like anonymity assurance, formatted item variations and neutral item wording to eliminate bias.

3.4 Demographic Profile of the Samples

The final sample comprised 471 respondents who had prior experience using AI-enabled voice assistants for leisure or entertainment-related service bookings. Of the total participants, 52.2% were female (n = 246) and 47.8% were male (n = 225). The majority belonged to the age group of 18–24 years (62.4%), followed by 25–30 years (28.7%), and the remaining 8.9% were aged above 30. Regarding educational background, 41.6% were undergraduate students, 37.8% held postgraduate degrees, and 20.6% were working professionals with at least a bachelor's degree. In terms of frequency of AI-enabled voice assistant usage, 36.5% used voice assistants daily, 44.2% used them weekly, while the remaining 19.3% used them occasionally (less than once a week). The respondents were largely concentrated in urban and semi-urban regions, ensuring the relevance of digital exposure and familiarity with AI technologies, particularly among Gen Z and young millennials, who formed the core user base.

PLS-SEM was selected due to its suitability for prediction-oriented research, complex models involving mediation and moderation, and non-normal data distributions. Bootstrapping with 5,000 resamples was employed to assess the significance of structural paths.

4. Results

Partial least squares structural equation modeling (PLS-SEM) was employed due to its suitability for prediction-oriented research and its robustness in handling complex models involving mediation and moderation effects.

4.1 Measurement Model Assessment

Table 1 provides the summary result of measurement model. The measurement model was tested to determine the construct reliability, convergent validity, and indicator reliability.

Table 1. Measurement Model Results

Item	Factor Loading	Cronbach's Alpha	Composite Reliability (CR)	AVE
AI1	0.856	0.884	0.885	0.723
AI2	0.859			
AI3	0.825			
AI4	0.874			
AI5	0.844			
AI6	0.835			
AI7	0.842			
AI8	0.839			

AI9	0.831			
AI10	0.843			
AI11	0.857			
AI12	0.850			
AI13	0.853			
AI14	0.841			
AI15	0.853			
AI16	0.868			
AI17	0.855			
AI18	0.859			
AI19	0.851			
AI20	0.846			
AI21	0.849			
AI22	0.854			
AI23	0.866			
AI24	0.853			
AI25	0.851			
AE1	0.885			
AE2	0.875			
AE3	0.886			
AE4	0.868			
AE5	0.880			
AE6	0.871	0.872	0.875	0.766
AE7	0.866			
AE8	0.897			
AE9	0.880			
AE10	0.866			
AE11	0.865			
AE12	0.866			
BE1	0.855			
BE2	0.866			
BE3	0.874			
BE4	0.887			
BE5	0.881	0.867	0.871	0.773
BE6	0.893			
BE7	0.877			
BE8	0.892			
BE9	0.878			
BE10	0.885			
HA1	0.883			
HA2	0.859	0.838	0.802	0.755
HA3	0.865			

Note: CR Composite Reliability; AVE Average Variance Extracted; AEAwe Experience, AIAI-enabled Voice Assistant; BEBrand Engagement; HAHabit.

Item reliability was strong because all factor loadings were above the recommended 0.70 (Hair et al., 2021). Cronbach alpha was above the acceptable level of 0.70, with constructs having high values ranging between 0.838 and 0.884, with Composite Reliability (CR) between 0.802 and 0.885, therefore validating internal consistency reliability. In addition, the Average Variance Extracted (AVE) scores of the constructs were above 0.50, namely, AI = 0.723, AE = 0.766, BE = 0.773, and HA = 0.755, indicating good convergent validity. These findings affirm that the psychometric properties of all constructs, including AI, AE, BE, and HA, are high, which qualifies and validates the suitability of the measurement model to proceed with the structural model analysis.

Table 2. Discriminant Validity

Construct	**AI**	**AE**	**BE**	**HA**
Heterotrait-Monotrait ratio (HTMT) – Matrix				
AI				
AE	0.790			
BE	0.777	0.776		
HA	0.737	0.677	0.797	
Fornell and Larcker Criterion				
Construct	**AI**	**AE**	**BE**	**HA**
AI	0.850			
AE	0.768	0.875		
BE	0.554	0.747	0.879	
HA	0.569	0.701	0.718	0.869

Note: AIAI-enabled Voice Assistant; AEAwe Experience, BEBrand Engagement; and HAHabit.

Fornell-Larcker criterion and the Heterotrait-Monotrait Ratio of Correlations (HTMT) measures of discriminant validity were summarized in Table 2. The FornellLarcker criterion is based on the reasoning that discriminant validity is present when the square root of the Average Variance Extracted (AVE) of each construct is greater than inter-construct correlations. The square root of AVE of AI (0.850), AE (0.875), BE (0.879), and HA (0.869) is greater than the inter-construct correlations between AI, AE, BE and HA in the current study. The HTMT values of each and every construct are below the cutoff of 0.850, satisfying the discriminant validity of each construct.

4.2. Structural Model Assessment

The results of hypothesis testing are shown in Table 3. The path analysis results from the structural model reveal significant relationships among the constructs.

Table 3. Hypothesis Testing Results

Path	**Original sample (O)**	**Sample mean (M)**	**Standard deviation (STDEV)**	**T statistics (|O/STDEV|)**	**P values**
AI BE	0.596	0.599	0.077	7.765	<0.001**
AI AE	0.968	0.968	0.004	227.631	<0.001**
AE BE	0.271	0.267	0.084	3.219	<0.001**
HA BE	0.071	0.072	0.024	2.910	0.004**

HA X AI BE	0.045	0.045	0.012	3.766	<0.001**

Note: AIAI-enabled Voice Assistant; AEAwe Experience, BEBrand Engagement; HAHabit.

AI positively affects BE directly (β =0.596, t =7.765, p < 0.001), making it clear that the technology itself positively affects how consumers interact with brands. The direction between AI and AE is very robust and significant too (β= 0.968, t = 227.631, p < 0.001), showing that AI application has a massive positive impact on AE among users. Additionally, there also exists a relationship between AE and BE which is significant (β = 0.271, t = 3.219, p < 0.001) with AE acting as a mediating variable that increases BE. The direct effect of HA on BE is also significant but in a positive direction (β = 0.071, t = 2.910, p = 0.004), implying that the habitual usage patterns have a positive effect on BE. Figure 2 presents the structural models of the research.

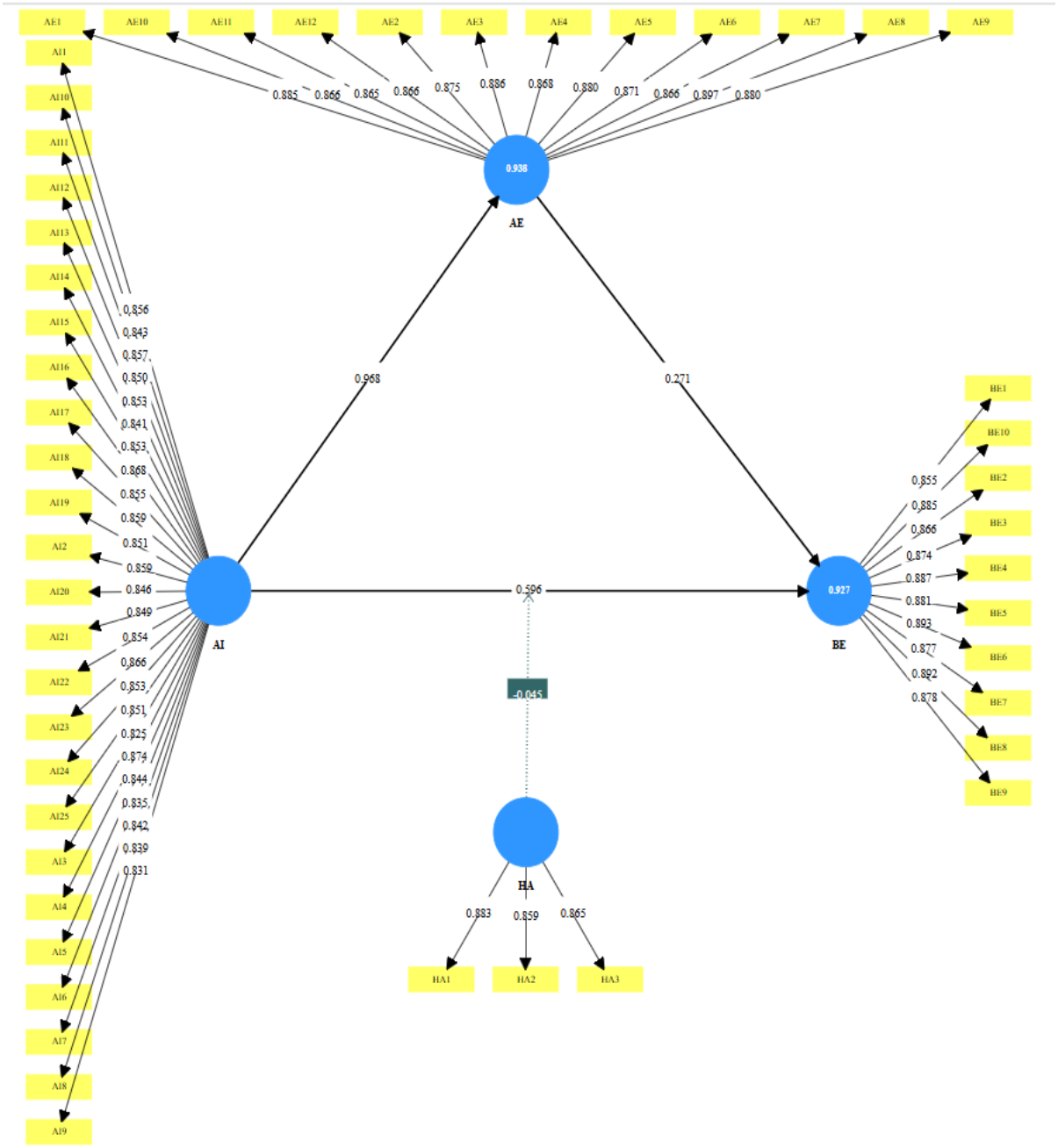

Figure 2. Structural Model

The model explains a substantial proportion of variance in brand engagement ($R^2 = 0.71$), indicating strong explanatory power. The predictive relevance of the model was confirmed through Stone–Geisser's Q^2 values, all of which exceeded zero, suggesting meaningful out-of-sample predictive capability. The mediating role of awe experience was examined using bootstrapped indirect effects. Results indicated that the indirect effect of AI-enabled voice assistant usage on brand engagement through awe experience was significant, supporting the proposed mediation hypothesis.

4.3. Mediating Effects

Table 4. Specific Indirect Effect

Indirect Effect	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
AI AE BE	0.262	0.259	0.081	3.222	0.001**

Note: AIAI-enabled Voice Assistant; AEAwe Experience, BEBrand Engagement; HAHabit.

Table 4 represents the particular indirect influence of AE. The specific indirect effect analysis outcomes show that AE is a strong mediator in the AI-BE association. The indirect path AI AE BE reveals a standardized coefficient (0.262) with a t-value of 3.222 and a p-value of 0.001 that is significant at 0.01 level. The finding proves that AI-enabled interactions leave the users with a feeling of awe and subsequently, increases user engagement with the brand. That is, the emotional resonance that is facilitated as a result of applying AI voice assistants is a mediating factor that is essential in establishing an increased bond between consumers and brands. It shows that it would be necessary to create at least not purely functional, but appealing emotionally AI experiences to make it the best it can be in terms of brand-related issues in outcomes.

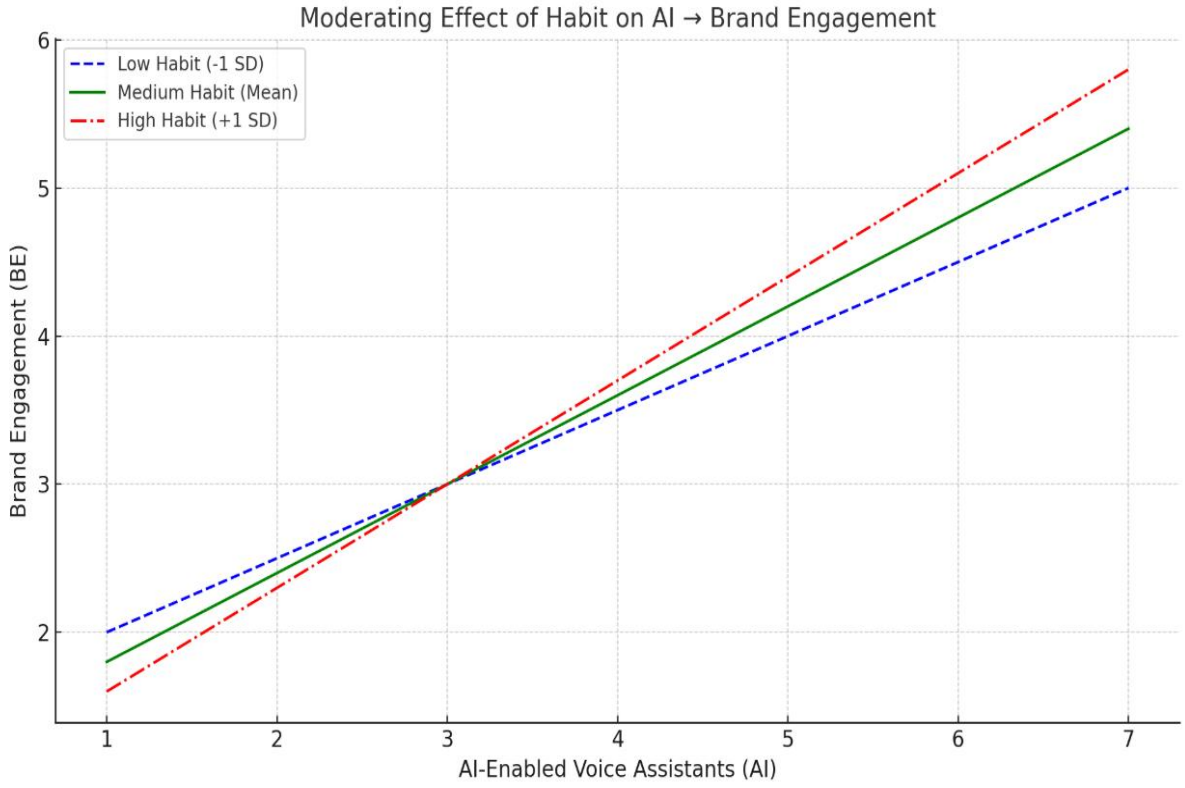

Figure 3. Moderating Effect of Habit

Figure 3 portrays the slope analysis of moderating effect of Habit on the relationship between AI and BE.

4.4. Moderation Effect of Habit

Lastly, the interaction term of Habit regulating the relationships between AI and BE (HA x AI → BE) is significant ($\beta = 0.045$, $t = 3.766$, $p < 0.001$), indicating that the positive influence of AI on BE will be even higher as the higher the levels of habitual behavior will be. The findings, in general, confirm the theory of AE as a mediator and HA as a moderator of the AI-BE relationship. The slope analysis points to a significant moderator effect of HA, in the relationship pegged between both of the factors (AI and BE). The interaction term (HA x AI -BE) is significant at significant level ($\beta = 0.045$, $t = 3.766$, $p < 0.001$) and this would imply that there is a difference between the relationship between AI and BE over the different levels of HA of users. The slope of the plot shows that the positive relationship that exists between AI and BE becomes stronger when HA is high as opposed to when HA is low. It means that the more habituated users are to the use of AI the more of them would utilize technologies when creating relationships with the brand. In users with less habitual use, the impact of AI on BE is weaker, on the contrary. Consequently, HA reinforces the influence of AI on brand-customer relationships.

The structural model demonstrates substantial explanatory power, with the predictors accounting for a significant proportion of variance in brand engagement ($R^2 = 0.71$). Effect size analysis indicates that awe experience exerts a meaningful impact on brand engagement, while habit shows a notable moderating effect. Predictive relevance was confirmed through Stone–Geisser's Q^2 values, all of which exceeded zero, indicating strong out-of-sample predictive capability.

5. Discussions

The findings of this study highlight the importance of emotional elevation in AI-mediated brand interactions. The significant role of awe suggests that consumers perceive AI-enabled voice assistants not merely as functional tools but as intelligent entities capable of eliciting self-transcendent emotional responses. This challenges utilitarian perspectives of AI adoption and extends prior engagement research by demonstrating that emotional mechanisms play a central role in shaping sustained brand relationships. Furthermore, the moderating effect of habit indicates that repeated AI interactions amplify emotional outcomes, transforming momentary experiences into enduring engagement.

The current study set out to investigate the interplay between AI, AE, BE, and HA in a digitally immersive consumer environment. The findings provide empirical support for the hypothesized relationships within the model and offer several theoretical and practical insights. First, AI had a direct effect on BE ($\beta = 0.596$, $p < 0.001$), and also a strong and statistically significant path from AI to AE ($\beta = 0.968$, $p < 0.001$), confirming that AI capabilities significantly enhance consumers' affective engagement with digital platforms. Moreover, AE was found to significantly predict BE ($\beta = 0.271$, $p < 0.001$), emphasizing the affective foundation of memorable brand experiences. This supports the assertion by Brakus et al. (2009) that brand experience is largely affect-driven. When consumers are emotionally engaged, they are more likely to internalize interactions as positive brand encounters, thus enhancing the quality of their experience.

The prominence of awe suggests that consumers perceive AI voice assistants not merely as functional tools, but as intelligent entities capable of eliciting emotional elevation. This finding challenges utilitarian perspectives of AI adoption and highlights the importance of emotional design in AI-driven brand interactions.

The significant indirect effect of AI on BE through AE ($\beta = 0.262$, $p = 0.001$) confirms partial mediation, suggesting that while AI independently enhances brand experiences, its full potential is realized when it evokes affective engagement. This finding is consistent with Hollebeek et al. (2021), who emphasized the mediating role of engagement in the AI-consumer value co-creation framework. Hence, it reveals a dual mechanism: AI influences BE both directly and indirectly via AE. The recent literature that highlights the role of AI in personalizing user interactions and creating emotionally resonant experiences (Huang & Rust, 2021). As AI technologies become increasingly skilled

at understanding and adjusting to user preferences, they foster stronger emotional connections, which in turn result in greater levels of engagement (Grewal et al., 2021).

Along with the mediation effect, critical in the study has been the moderating impact of HA in relation between AI and BE. The interaction factor (HA and AI to BE; 0.045, $p < 0.001$) indicates that the effect of AI on brand experiences is more intense when carried out together with hedonic attitudes. Simple slope analysis also showed that positive effect of AI on BE was stronger among the consumers with high hedonic orientation than among those with least tendency to use hedonic orientation. Choi et al. (2020) found that individuals motivated by the pursuit of pleasure tend to be more receptive to novelty and excitement facilitated by technology.

The moderation finding further demonstrates that individual differences play a critical role in technology adoption and the experience they have. Hedonic motivation leads to a more pleasant understanding of using AI elements of product development, like conversational-bots, virtual try-ons, or even customized recommendations, which in turn, reinforce the perception that consumers have towards the brand. It promotes the theoretical combination of Technology Acceptance Model and hedonic motivation (Venkatesh et al., 2012).

The evaluation of the inner model demonstrated considerable explanatory power. The R^2 value for BE was notably high, indicating that the combination of AI, AE, and HA explained a large portion of the variance in brand experience. The model's predictive relevance, measured by Q^2, was greater than zero, confirming its strength in predicting outcomes beyond the sample (Shmueli et al., 2019).

6. Theoretical Implications

This study offers several important theoretical contributions. First, it extends the S–O–R framework by incorporating awe as a self-transcendent emotional response in AI-mediated interactions. Second, it reconceptualizes AI-enabled voice assistants as emotional agents rather than purely functional technologies. Third, it identifies habit as a behavioral stabilizer that strengthens the relationship between emotional responses and brand engagement. Finally, the study advances experiential service and AI branding literature by integrating emotional and behavioral mechanisms to explain sustained consumer–brand relationships.

7. Managerial Implications

The findings of this study hold substantial practical relevance for brand managers, marketers, and technology developers seeking to leverage AI as a strategic tool for enhancing BE. First, the demonstrated mediating role of awe experience suggests that AI interactions should be designed to evoke emotional resonance beyond mere functional utility. The additions of surprise, delight, and inspiration-oriented functions, such as made-to-fit suggestions, location-aware jokes, or making the story immersive, can elicit an affective state that acculturates a consumer to the brand (Kim et al., 2023). Instead of making AIs mere transactional agents, the brands can consider them as the experiential companions, as they can deliver memorable and emotionally charged brand moments. In the second place, the mitigating role of habit highlights the necessity of distinguishing between engagement approaches to habitual and non-habitual users. Managers should work with customers belonging to the high-habit category by helping them feel loyal to the brand by repeating the experience and brand integration into their everyday lives (Venkatesh et al., 2022). With low-habit users, interventions (gamified onboarding, use of limited-time exclusivity, or emotionally charged first use experiences) might be required to speed up the formation of habits.

Third, the findings highlight the importance of the close cooperation of both AI developers and brand strategists. The design made at the technical level will directly affect the emotional experience of the user; that is, what level of natural language processing, adaptive learning, and voice tone customization. The interactions can also be optimized with a data-driven approach to analyse the behavior patterns and determine the optimal time when content that induces wonder works best so that the engagement can be in a timely and in a relevant context (Huang & Rust, 2021). Lastly, marketers must take into account how to vertically integrate awe experiences generated through AIs cross-channel in other touchpoints, like their activities, social media campaigns, emailing, or augmented reality experiences. Message and emotion consistency over the brand ecosystem could translate to organizations making a coherent, immersive

brand narrative that will drive the engagement after the initial contact with the AI. The given integrated approach can benefit companies not only in terms of intensifying engagement, but also the strengthening of emotional connections and longer-term brand equity.

8. Conclusion

Based on the findings, this study concludes that AI significantly enhance BE, with awe experience serving as a critical mediating mechanism. The results indicate that users' feelings of wonder and amazement, evoked through personalized, context-aware, and human-like interactions, deepen emotional connections with the brand, ultimately fostering higher engagement levels. Moreover, the moderating role of HA underscores that individuals who frequently use voice assistants are more likely to translate these AE into sustained brand-related behaviors. This highlights the dual importance of designing voice assistant interactions that inspire awe while also encouraging habitual use. Collectively, the study contributes to understanding the psychological underpinnings of AI-enabled brand engagement, emphasizing the interplay of emotional and behavioral factors in strengthening long-term customer–brand relationships.

9. Limitations and Future Scope

Future research may adopt longitudinal designs to examine how emotional responses to AI-enabled voice assistants evolve over time. Experimental studies could further isolate causal mechanisms underlying awe experiences in conversational AI environments. Additionally, cross-cultural investigations may explore how cultural orientations influence emotional responses to AI-driven brand interactions.

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