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Social Networking Site Users' Behavioral Responses Toward Travel Destinations Promoted by Virtual Influencers: A Multiple-Model Comparison Approach

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Abstract

Virtual influencers (VIs) are a novel, increasingly popular and successful marketing tool in the digital marketing landscape, specifically in the domain of travel destination marketing. However, how social networking site (SNS) users respond to VI marketing in the travel sector remains underexplored. To address this gap, we systematically identified, empirically tested, and compared nine theories to understand the drivers of social networking site users' visit intentions toward VI-promoted destinations. Using an online survey, we collected responses from 419 active SNS users and analyzed our data using partial least squares structural equation modeling, followed by a qualitative study ($n = 18$). Social power theory and parasocial interaction theory exhibited the highest explanatory power. Our research contributes to travel literature through deepening our understanding of the mechanisms by which VIs can influence visit intention, which is important for travel professionals' understanding of VIs' use in attracting a demographic that immerses themselves in social media.

Keywords

virtual influencers (VIs), visit intention, social networking site (SNS), model comparison, parasocial interaction, anthropomorphism

Introduction

In 2022, the Korean Tourism Organization introduced its virtual influencer (VI), Lizzie Yeo (@lizzie.days), to promote travel to South Korea (Tan, 2022). Kyra (@kyraonig), the first VI in India with almost a quarter of a million followers, was introduced in January 2022, and "she" showcases historical and contemporary travel destination places in India on her Instagram account (Jain, 2022). From these examples, it is clear that VI-based marketing, as a subset of the already very large influencer-based market, is an important element of how travel destinations market themselves online. There is growing evidence that increased investment is pouring into influencer marketing, and more recent trends show marketers have started using virtual agents and artificial intelligence, leading to the development of this new type of influencer, the VI (da Silva Oliveira & Chimenti, 2021; Xie-Carson, Benckendorff, & Hughes, 2023). VIs are computer-generated images of fictitious characters, which, with the help of AI, are embedded through graphics technology on social media platforms (Lou et al., 2023; Mrad et al., 2022). Thomas and Fowler (2021) defined a VI as "a digitally created artificial human associated with Internet fame and using software and algorithms to perform tasks like humans" (p. 12). Employment of VIs offers travel organizations the opportunity to create the "perfect" influencer for their target markets (Meng et al., 2025; Xie-Carson, Magor et al., 2023). Despite the increasing role of VIs in marketing travel destinations, there is very scant evidence from research on how VIs exert influence on potential travelers.

Our study addresses significant gaps in the literature. First, Seçilmiş et al. (2022) argued that there remains a

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lack of understanding on how behavioral intention, in a travel content, is driven by social media, and suggest that more theory-based models are required. Second, a range of different theories have been used to explain VI marketing and there is a need to consider which of theory is more pertinent to explain the impact of VIs on travel behavior. Third, human emotional responses to VI marketing are overlooked, particularly in travel literature. The Pleasure Arousal Dominance (PAD) model (Mehrabian & Russell, 1974) is well known and accepted and although Zhang et al. (2024) reported the effect of the arousal dimension on behavioral responses to a virtual endorser in a streaming context, the impact of the pleasure and dominance dimensions remains under-explored in the scholarship. To address the above-mentioned gaps, using a cross-sectional survey technique followed by qualitative interviews, we gathered empirical evidence about social networking site (SNS) users' behavioral intention toward VI-promoted places and analyzed this data using a range of theories.

While there is emerging VI literature in tourism and travel settings, these studies have focused on issues such as SNS users' engagement with VIs (Xie-Carson et al., 2024; Xie-Carson & Benckendorff, 2024), destination evaluation (F. Li & Zhou, 2023a), the role of VIs on travelers' risk and trust perception (Ameen et al., 2024) and matching influencer type with destination type (Meng et al., 2025). Despite this scholarship, academic literature still lacks a comprehensive understanding of the key VI-related factors that influence travel behaviors, such as visit intention. In synthesizing and adding to this debate, our study advances knowledge about VIs from a behavioral perspective by adopting a multiple-model comparison method based on the method developed by Venkatesh et al. (2003).

Our study makes several significant contributions to existing scholarship. First, our study broadens the body of knowledge on influencer marketing in the travel industry by comparing nine theories to identify the key factors associated with VIs that contribute to SNS users' visit intention. By doing this, we also respond to calls made by Ameen et al. (2024) through showcasing various significant factors of VI marketing toward consumer reactions (i.e., visit intention) based on quantitative and qualitative evidence. Second, according to our understanding, we are one of the very few studies that have utilized the consumer acceptance of technology (CAT) model (Kulviwat et al., 2007) in the tourism-based VI marketing literature to analyze travel behavior. This model concentrates on the integration of both affective (PAD) and cognitive (usefulness and ease of use) responses of humans to new stimuli (Nasco et al., 2008). Very few studies (cf. Cheng & Huang, 2022; S. Li et al., 2018; C. Wang et al., 2019) have applied the affective dimension (PAD) of human emotions to understand travel behaviors. We consider VIs to be a new technological stimulus and probe SNS users' affective and cognitive emotional responses to destinations promoted by VIs. Specifically, our study sheds light on this scholarship by providing empirical evidence of the appropriateness of the CAT model in the VI travel context. Third, although the theory of reasoned action (TRA; Fishbein & Ajzen, 1975) and theory of planned behavior (TPB; Ajzen, 1991) have been extensively applied in the management and marketing literature, due to their high predictive ability, to study individual's behavioral intentions, influencer marketing-based studies have rarely employed these two theories to investigate travel decision-making behavior, such as visit intention. Lastly, past partial least squares structural equation modeling (PLS-SEM) based model comparison studies (Hasan et al., 2019, 2020; Shiau & Chau, 2016), only reported the significant predictors of their outcome variable of interest. By applying Necessary Condition Analysis (NCA) along with PLS-SEM, we not only find the significant factors but also uncover the necessary conditions to achieve the desired level of SNS users' visit intention toward VI-promoted destinations, constituting a methodological contribution to the model comparison approach.

Social Media Influencer Marketing in Travel Tourism

The integration of social networking sites (SNSs) as a marketing tool has become a prominent feature of the travel and tourism industry strategy (Liu et al., 2023) to promote their products and services to their target consumers and trigger travel. Social Media Influencers (SMIs), who are content creators, are considered online celebrities, and with an engaged online fan base, they seem to have substantial power to generate followers' buying behaviors (Kapoor et al., 2022). In tourism and destination marketing campaigns, endorsing and partnering with SMIs have become powerful marketing tools for influencing travelers' behaviors (X. Xu & Pratt, 2018). From the consumer perspective, travel-based SMIs increasingly curate their travel-related information on social media in an enjoyable and easy-to-consume manner, that potential travelers would find difficult to source elsewhere without significant research. This phenomenon has led to a growing body of research, and Table 1 lists a sample of very recent studies of SMI-related research in the travel industry.

VI marketing has been increasingly embraced in the tourism and travel sectors. In terms of similarities between VIs and human influencers, both influencers can develop their own follower networks by generating captivating digital content on SNSs while showcasing their interactive abilities with SNS users (Franke et al., 2023). However, there are some distinctions. Sensory ability has been found to be a differential factor between VIs and human

Table 1. Brief Overview of Recent Studies on Influencer Marketing in the Tourism and Travel Context.

Studies	Influencer type	Study objective	Theory	Key antecedents	Mediators	Moderators	Outcomes	Method
M. Choi et al. (2023)	VIs vs. human influencers	To examine the trust process between Gen Z travelers and purchase intention of tour program offering on Instagram	Trust transfer theory	Trust in the Instagram marketplace	Trust on tour program sellers on Instagram	Type of influencers and their posts	Purchase intention	Qualitative, experiment
Hernández-Méndez and Baute-Díaz (2023)	SMI (human)	SNS users' behavioral attitude toward influencer's posts and travel destination	Source credibility theory	Attractiveness, expertise, trustworthiness, similarity	Attitude toward destination	-	Travel intention	Quantitative (Survey)
F. Li and Zhou (2023a)	Avatar vs. human endorser	How do the interaction effect of endorser types and destination stereotypes contribute to destination evaluation?	Schema congruity theory	Endorser types, destination stereotypes	Schema congruity	Mindset	Destination evaluation	Experiment
F. Li and Zhou (2023b)	SMI (human)	Impact of SMI's humorous content on visit intention	Trust transfer theory	Humor vs. non-humor content	Trust in influencer, destination trust	Physical attractiveness	Visit intention	Experiment
Santateresa-Bernat et al. (2023)	Travel vlogger (human)	How influencers affect travel behaviors	Social identity theory, parasocial interaction, information adoption model	Argument quality, vlogger credibility	Usefulness of vlogger video, parasocial effect, attitude toward video	-	Behavior toward destination, behavior toward vlogger	Survey
Xie-Carson, Magor et al. (2023)	Virtual Influencers	How VI's source and post related attributes affect SNS users' engagement with VIs in tourism	Uncanny valley, elaboration likelihood model	-	-	-	Engagement with VIs	Mixed method
Xie-Carson et al. (2024)	Virtual Influencers (VIs)	How VI's source and post related attributes affect SNS users' engagement with VIs in tourism	Uncanny valley, source credibility theory	-	-	-	Engagement with VIs	Qualitative
Ameen et al. (2024)	Human influencer and VI	How do the type of influencers and psychological factors affect destination visit intention	Theory of sociology of trust and risk	Subjective knowledge	Destination trust, perceived risk	Influencer type, type of information source, psychological factors	Intention to visit new destination	Survey, experiment
Carvalho (2024)	SMI (human)	Impact of influencer marketing on visit intention and purchase intention of tourism products	-	Homophily (attitude, background, value)	Content usefulness, content credibility, content enjoyability	-	Intent to visit place and tourism product	Survey
Kılıç et al. (2024)	Travel influencer (human)	How do travel influencers' content attributes impact travel intent to volunteer tourism	Cognitive response theory	Information on volunteer tourism on content	Information quality, ascribed responsibility, curiosity, positive emotion	Expected transformation	Intent to participate in volunteer tourism	Survey
Shuqair et al. (2024)	Travel influencer (human)	Consumer reactions to travel influencer's endorsement disclosure	Social exchange theory	Travel influencer's sponsorship disclosure	Persuasion resistance	Post type	Consumer responses	Content analysis; Experiment
P. Zhou et al. (2024)	Travel vlogger (human)	Impact vlogger's attributes on travel behavior	Persuasion theory, parasocial interaction, source credibility	Cynicism, attractiveness, expertise, trustworthiness	Parasocial interaction	-	Travel intention	Survey
Meng et al. (2025)	Human influencer and VI	Consumer response to influencer's destination endorsement	Source credibility theory	Influencer type (human vs. VI), destination type (natural vs. cultural)	Credibility, self-referencing	Tourists' unique preference	Travel intention	Experiment

influencers in terms of endorsement, indicating that VIs are perceived to have lower sensory capability than human counterparts (H. Li et al., 2023). In contrasting VI versus human influencer marketing efficacy in destination endorsement, Meng et al. (2025) found that consumers responded more favorably to VI marketing for endorsing cultural destinations (i.e., historical infrastructure), while human influencer endorsements were more effective for natural destinations (i.e., natural landscapes). Virtual endorsers led to more positive destination evaluations for destinations predominantly viewed as competent, whereas for destinations primarily stereotyped as warm, the endorsement effect was more favorable when humans endorsed them (F. Li & Zhou, 2023a). To the best of our knowledge, few studies (cf. Ameen et al., 2024; M. Choi et al., 2023; F. Li & Zhou, 2023a; Meng et al., 2025; Xie-Carson et al., 2024; Xie-Carson, Magor et al., 2023) have explored the influence of VI marketing in the tourism setting with minimal focus on visit intention. To address this gap, this study aims to identify the impact of VI marketing-related factors on users' visit intention by applying a multiple-model comparison approach.

Virtual Influencers: What Do We Know?

As an emerging research category in the influencer marketing literature, academic papers on VIs became more numerous at the beginning of 2020. Early studies described the significant attributes of VIs and their impact on consumer behavior. Among those VIs' attributes, anthropomorphism and attractiveness have received substantial attention. da Silva Oliveira and Chimenti (2021) identified five categories: attractiveness, authenticity, controllability, scalability, and anthropomorphism, as significant VI attributes. Moustakas et al.'s (2020) findings suggest that the humanization of the VI characters and their appealing storytelling ability can be considered a success factor for brands adopting VIs as a marketing strategy. Following an exploratory research approach, Mrad et al. (2022) investigated the relationship between VIs and their followers' perceptions of them. Their results reveal that the anthropomorphic human-like attributes of VIs mainly shape the connection between VIs and their followers. Ahn et al. (2022) examined consumers' attitudes toward one famous VI, Lil Miquela, who sponsored posts on social media and found that her anthropomorphic attributes and perceived level of attractiveness contributed to improving consumers' positive response toward endorsed brands.

H. Kim and Park (2023) indicated the level of a VI's attractiveness did not directly affect SNS users' intent to purchase VI-endorsed products. However, users' brand attachment and mimetic desire were found to mediate the positive relationship between VI's attractiveness and purchase intention. Alboqami (2023) applied qualitative comparative analysis to understand the factors driving online consumers' trust in VIs. His findings imply that the configuration of several factors, namely attractiveness, credibility dimensions, and congruence between the VI, the consumer, and the product, may lead to forming a higher trust level in VIs. When compared to human influencers, VIs were found to be less effective in endorsing a brand because they were not perceived to be credible (Ozdemir et al., 2023) though they received higher levels of engagement (H. Li et al., 2023) and generated higher levels of novelty (Franke et al., 2023). Deng and Jiang (2023) analyzed the level of discontentment and anxiety felt by SNS users based on images posted by human influencers versus VIs. Their results highlight that the images of both human influencers and VIs reflected a higher level of appearance anxiety among the treatment group compared to the control group, who were shown scenic images.

A growing number of studies have noted the differential effectiveness of VIs versus human influencers in understanding consumer behavior. For example, consumers tend to identify more with humans than VIs, and while VIs' recommendations are seen to be more useful with regard to utilitarian products, human influencers' advice appears to be more useful for hedonic products (Belanche et al., 2024). Regarding social media engagement, VIs received more engagement (i.e., likes, comments) than humans from consumers, but consumers showed less positive emotions toward VIs. In terms of brand endorsement, brand attitude and purchase intention were lower for VI endorsement than human counterparts (H. Li et al., 2023). For sensory experience, both VIs and human influencers were believed to possess similar distal sensory capabilities; however, VIs were perceived to have lower proximal sensory capabilities than humans, resulting in lower purchase intention among consumers when VIs endorsed proximal sensory products (X. Zhou et al., 2024). Table 2 outlines recent studies on VI marketing.

Theories Underpinning Behavioral Intention Toward Influencers

There are a variety of theories in the extant literature that have been used to underpin research that considers VI from a behavioral intention perspective. In deliberating on the theories to include in our paper, we used Venkatesh et al.'s (2003) method to assess and compare different behavioral intention-based theories. We focused on those behavior-focused theories pertinent to explaining the VI phenomenon from consumer behavior viewpoint. In past model-comparison studies, researchers tended to select theories based on their own judgment (Davis et al.,

Table 2. Selected Studies on VIs.

Studies	Theory	Key constructs	Mediators/Moderators	Outcome variables	Method	Main findings
Moustakas et al. (2020)	-	-	-	Influencer character	Qualitative	To offer VI as an effective marketing strategy, power storytelling, human attributes and applying VIs beyond fashion industry can be considered critical factors.
da Silva Oliveira and Chimenti (2021)	-	-	-	Influencer character	Qualitative	Attractiveness, authenticity, controllability, scalability, and anthropomorphism were found as VI's attributes that can influence marketing communication.
Ahn et al. (2022)	Anthropomorphism, computers are social actors (CASA)	Anthropomorphism	Social presence, attractiveness of VI	Post and brand attitude	Survey	VI's anthropomorphism positively drives their social presence, which also enhances their social and physical attractiveness to affect consumer evaluation outcomes.
Mrad et al. (2022)	Parasocial, anthropomorphism	-	-	-	Qualitative	CGI influencer's content reflects socio-cultural trends and lifestyle stories, while they are considered fashion icons, trend setters and motivators.
Alboqami (2023)	Complexity theory	Physical attractiveness, homophily, authenticity, expertise, congruence between VI and consumer, congruence between VI and product, congruence between product and consumer		Trust in AI Influencer	Survey	Physical attractiveness, authenticity, homophily, and congruencies between influencer and consumer were found to be useful in reflecting a higher level of trust in AI influencer.
Deng and Jiang (2023)	-	Exposure images/Physical attractiveness (HI vs. VI)	State appearance comparison	State appearance anxiety	Experiment	Participants experienced significantly lower appearance anxiety levels for VI images than for human influencer images.
de Boissieu and Baudier (2023)	Source credibility theory	Attractiveness, expertise, trustworthiness	-	-	Qualitative	The attractiveness feature of VI content triggers escapism and curiosity among SNS users, while VI content is relevant as it relates to the communal norms in the society.
Franke et al. (2023)	Uncanny Valley	Type of endorser (VI vs. HI), congruence between endorser and product	Attitude toward the ad, perceived novelty of the ad, expertise	Brand innovativeness, purchase intention	Experiment	Huma endorser was more effective in generating favorable attitudes toward the brand and ad, while VIs were more useful for ad novelty.
H. Kim and Park (2023)	Source attractiveness model	VI's attractiveness	Mimetic desire, brand attachment, product-endorser fit with the brand product	Purchase intention	Survey	VI's attractiveness feature indirectly impacts purchase intent through the mediating effect of mimic desire and brand attachment.
H. Li et al. (2023)	Sensory capability, mind perception theory	Type of influencer (VI vs. human influencer)	Perceived sensory capability, perceived credibility, sensory cue salience	Purchase intention, brand attitude	Multi-method	Human influencer endorsement reflected more purchase intention than VIs among consumers.
Lou et al. (2023)	Uses and gratification, uncanny valley	-	-	-	Qualitative	The study reports the motivating factors of following VIs: novelty, information, entertainment, surveillance, esthetics, integration, while respondents perceive VIs as fake and uncanny in nature.
Ozdemir et al. (2023)	Source credibility, language expectancy theory	Type of endorser (VI vs. HI)	Perceived credibility, language type (emotional vs. rational)	Attitude toward brand	Experiment	As brand endorser and communication by emotional language, VIs (than human) were found to be less credible, resulting in a less favorable attitude to the endorsed brand.
J. Yang et al. (2023)	Anthropomorphism, source credibility, expectancy violation theory	VI endorser type (cartoon vs. humanlike)	Attractiveness, expertise, trustworthiness, similarity, source-CSR fit (high vs. low)	CSR Engagement, Brand attitude	Experiment	Humanlike VIs can exhibit a higher level of credibility perception among consumers, resulting in higher brand attitudes and CSR engagement intent.
Belanche et al. (2024)	Social identity theory	Type of influencer (VI vs. human influencer), type of product (hedonic vs. utilitarian)	Consumer-influencer identification, the usefulness of the message	Intent to follow advice	Experiment	VI's advocacy is more effective for utilitarian products than human influencers.
Davlembayeva et al. (2024)	Social influence theory	Creativity, uniqueness, authenticity, empathy, sincerity, competence, fairness, interactivity, credibility, warmth and relatedness	-	behavior adoption, purchase intention, compliance, identification, internalization	Multi-method	Different configurational sets of VI related attributes are critical to influencing consumer behavior such as behavioral response and purchase intention.

(continued)

Table 2. (continued)

Studies	Theory	Key constructs	Mediators/Moderators	Outcome variables	Method	Main findings
Dabiran et al. (2024)	Anthropomorphism	Appearance, moral virtue, cognitive experience, conscious emotionality	Perceived credibility, parasocial relationship	Intent to purchase	Survey	VIs' credibility and parasocial relations with consumers positively affect purchase intention, while two sub-factors of anthropomorphism, moral virtue and cognitive experience, impact VIs' credibility and parasocial relations with VIs.
I. Kim et al. (2024)	Theory of avatar marketing, theory of ambivalence	Form realism of VI (low vs. mid vs. high)	Eeriness, coolness, behavioral realism	Purchase intention, follow intention	Mixed method	VIs with high-form realism and high behavioral realism induced low-level eeriness and significant coolness, affecting the purchase and follow intention.
Meng et al. (2024)	Intergroup threat theory, self-affirmation theory	Type of influencer (VI vs. human influencer)	Self-affirmation, realistic threat, social interdependence relationship	Self-improvement product preferences	Experiment	Exposure to VIs (than humans) enhances the self-improvement product preferences of non-self-affirmed consumers through the mediating effect of realistic threats.
Muniz et al. (2024)	Anthropomorphism, expectation theory	Disclosure of VI identity	Anthropomorphism, influencer credibility	Brand trust	Experiment	Disclosure of VI identity as robot negatively impacts anthropomorphism, resulting in lower credibility and brand trust.
X. Zhou et al. (2024)	Sensory marketing, anthropomorphism	Type of influencer (VI vs. human influencer)	Imagery difficulty, perceived sensory capacity of the endorser, type of sensory experience	Purchase intention	Experiment	Regarding proximal sensory experiences, consumers exhibited less purchase intent when VIs promoted the product than humans.

1989; Huh et al., 2009), though Hasan et al. (2019) and Moody et al. (2018) do offer some guidance. Thus, we used the following four indicators to choose our competing models.

Scopus and Google Scholar citations: we considered models with a higher number of citations in both Google Scholar and Scopus databases. We acknowledge the number of citations does not necessarily reflect a research model's quality. Still, a model with a higher number of citations indicates its significance and perhaps its efficacy.

Building on Human Influencer studies: Given the relatively paucity of pure VI studies, we reviewed key theories from the human SMI domain for inclusion as they may have relevance for the VI context.

Pertinency to the VI Perspective. VIs are a relatively new and emerging trend in the influencer marketing domain; therefore, we referred to those research models potentially suitable for our study.

Relevance to the Travel Context: Given that this study is in a travel context, we also reviewed literature on behavior-based models in this domain.

Based on this we considered nine theories for comparison because past scholarship suggests these chosen models illustrate individual behavioral aspects suitable to our research aim. Table 3 provides our justification for the inclusion of each theory with the four headings and a commentary. While the nine theories were selected in early 2023, we have included selected recent references to show the current relevance of these theories for VI scholarship.

Behavioral intention-based research models have remained one of the dominant research streams in the SMI marketing literature. Magrizos et al. (2021) employed TPB to explain consumers' purchase behaviors toward influencers' personally branded products. To understand people's motivation to follow an influencer on social media, the various forms of user gratification needs (Lee et al., 2022) are a popular approach. Source credibility theory (SCT) has remained one of the dominant theoretical lenses for studying consumer behavior toward SMI marketing (Vrontis et al., 2021). Additionally, in line with social power theory, SMIs exhibit different forms of influence over their followers to strengthen desired behavioral outcomes (Cheung, Leung, Aw, & Koay, 2022). In influencer marketing, congruence is crucial because it develops and fosters a higher level of association between the influencer and the target audience (D. Y. Kim & Kim, 2021). The CAT model can also explain users' behavioral responses to VIs because its dimensions have been found to be critical in comprehending consumer reactions toward new technological objects (Nasco et al., 2008). Parasocial interaction theory (PSI) has also been extensively applied to understand how individuals establish pseudo-intimate interactions with media celebrities, such as television celebrities (Stern et al., 2007) or SMIs

Table 3. Indicators for Model Selection.

Models	Number of citations (as of 08 November 2023)		References of selected studies on human social media influencers (SMIs)	References of selected studies on VIs	References of selected studies in the travel and tourism context	Rationale for selecting theories
	Scopus	Google Scholar				
TRA (Fishbein & Ajzen, 1975)	-	81,899	Elmousa et al. (2024), Kareem and Venugopal (2023)	Our study	Ng (2024), Y. H. Kim et al. (2011)	TRA and TPB are two prominent theories that are widely applied to explicate the determinants of individual behavioral intention toward a phenomenon (Shiau & Chau, 2016). Also, several studies applied these theories in travel and tourism perspectives to study different behavioral aspects such as intention to travel (Jordan et al., 2018), visitors' intention to visit off-trail (Goh et al., 2017). Since our aim is to capture SNS users' behavioral intention to VI marketing (i.e., visit intention toward VI-promoted destination), we deem TRA and TRB relevant in our study.
TPB (Ajzen, 1991)	50,640	127,622	Durmaz et al. (2024), Chopra et al. (2021)	Our study	Jordan et al. (2018), Goh et al. (2017)	
UGT (Katz et al., 1973)	1,594	4,903	Alam et al. (2024), Y. Yang and Ha (2021)	Lou et al. (2023)	Geng et al. (2024), Chen et al. (2016)	According to UGT, social media users consume and check influencer's content to satisfy their needs (Cheung, Leung, Yang, et al., 2022; Lou et al., 2023). Moreover, prior research applied this theory to analyze behavioral intention toward VIs (Lou et al., 2023) and travel behaviors such as intention to virtual reality tourism (Geng et al., 2024). Therefore, we applied UGT to unravel users' motivation for visiting VI-promoted destination places.
SCT (Hovland & Weiss, 1951)	1,769	5,556	Alam et al. (2024), Elmousa et al. (2024)	Meng et al. (2025), de Boissieu and Baudier (2023)	Meng et al. (2025), J. Yang et al. (2022)	Past studies have applied SCT to understand consumer behavior to social media influencer marketing (Alam et al., 2024; Shoukat et al., 2023) and to VI marketing (de Boissieu & Baudier, 2023; Meng et al., 2025). Also, SCT has been utilized in tourism and travel literature to explain behavioral intention toward travel destinations (J. Yang et al., 2022). Thus, we considered SCT in our model comparison study.
SPT (French & Raven, 1959)	-	18,072	P. Wang and Huang (2022), P. Wang et al. (2020)	Our study	Mehraliyev et al. (2021, 2020)	According to SPT, SMIs exert some forms of influence on online users, leading to changes in their psychological behaviors (J. Kim et al., 2020). Also, past SMI marketing studies adopted SPT to examine consumer behavior (J. Kim et al., 2020; P. Wang et al., 2020; P. Wang & Huang, 2022). Since VIs are also one form of SMI, some of the VIs have garnered significant traction among SNS users by posting content, lifestyle, and recommendations on various subjects; hence, we deemed VIs to have some form of social power base, and we thus included in our study.
CAT (Kulviwat et al., 2007)	294	664	-	Our study	C. Wang et al. (2019)**; Lehto et al. (2008)**	VIs emerge as a new advancement in the field of cutting-edge technology to influence consumer behavior (Ameen et al., 2024; X. Zhou et al., 2024). And CAT theory has been pivotal in capturing individuals' behavioral response to the latest technology (Kulviwat et al., 2014). Also, past model comparison studies have undertaken CAT theory in examining consumer behavioral intention toward a given technology (Hasan et al., 2019, 2020). Therefore, by considering VIs as the latest technology, we included CAT theory in our model comparison method to study SNS users' visit intention toward VI-promoted places.
CONG (Sirgy, 1985)	454	1,205	X. Xu and Pratt (2018), Zogaj et al. (2021)	Na et al. (2023)	Guo et al. (2024), X. Xu and Pratt (2018)	The theory of self-congruence (CONG) suggests that whenever online consumers perceive self-congruence with SMIs, then they are more likely to be influenced by SMIs (Zogaj et al., 2021). In VI context, Na et al. (2023) applied CONG theory to investigate online users' behavion toward VIs. Moreover, this theory has also been utilized in travel literature to understand tourist's behaviors such as visit intention (Guo et al., 2024; X. Xu & Pratt, 2018). Thus, we found CONG theory pertinent in our study context.
PSI (Horton & Richard Wohl, 1956)	-	6,321	Durmaz et al. (2024), Aw and Chuah (2021)	Q. Zhou et al. (2024), Xie-Carson, Benckendorff, and Hughes (2023)	P. Zhou et al. (2024), Bi et al. (2021)	Several studies consider the theory of PSI to understand consumer behavior toward VI endorsement (Dabiran et al., 2024; Q. Zhou et al., 2024) and to study travel intention (Bi et al., 2021; P. Zhou et al., 2024). Therefore, we consider PSI in our study model selection.
ANTHRO (Epley et al., 2007)	1,794	3,543	-	X. Zhou et al. (2024), J. Yang et al. (2023)	Chan and Gohary (2023), H. Kim and Jang (2022)	Previous literature on VI marketing adopted the theory of anthropomorphism (ANTHRO) to investigate VI endorsement (Ahn et al., 2022; Muniz et al., 2024; Wan et al., 2024). Also, in travel and tourism scholarship, several studies adopted the concept of anthropomorphism to understand travel behavior. For instance, Chan and Gohary (2023) considered the effect of destination anthropomorphism on travel intention through the mediating role of perceived control and risks. Hence, we consider ANTHRO in our model comparison study.

**C. Wang et al. (2019) and Lehto et al. (2008) considered the "pleasure-arousal-dominance (PAD)" theory to study travel intention and "PAD" has been included in the CAT model as an affective component.

(Tolbert & Drogos, 2019). The theory of anthropomorphism (ANTHRO) has also been found relevant in exploring consumer behaviors (Moriuchi, 2021). Based on the extant research, we have considered nine theories: TRA, TPB, uses and gratifications theory, SCT, social power theory, self-congruence theory, CAT, PSI, and ANTHRO. The following paragraphs discuss each of these theories in relation to the context of this study.

Behavioral intention, the extent of the effort an individual intends to exercise toward engaging in a specific behavior, is considered a significant determinant of an individual's actual behavior, and the higher the level of intention a person holds toward performing the behavior, the greater the likelihood the specific behavior will be followed. The theory of reasoned action (TRA; Fishbein & Ajzen, 1975) is one of the most applied theories, and it postulates that attitudes and subjective norms determine individual intent toward an action or object (Ajzen & Fishbein, 1980). The later theory of planned behavior (TPB) extended TRA to include perceived behavioral control (Ajzen, 1991). TPB has been regarded as one of the prominent theories in explaining human behavior across different research contexts. For instance, grounded in TPB, Woosnam et al. (2022) showed U.S. travelers' attitudes, subjective norms, and behavioral control were significant predictors in explaining their willingness to travel to endangered places.

Uses and gratifications theory (UGT) is considered one of the prominent sociological approaches that elucidates an individual's underlying motivations and processes in deliberately choosing a particular media platform to satisfy their needs (Katz et al., 1973; Katz & Foulkes, 1962). UGT postulates a person's media behavior is goal-oriented (i.e., they select a media channel to satisfy their gratification needs; Zadeh et al., 2023). According to UGT, whenever audiences use a particular media to fulfill their gratification needs, they tend to form a positive behavioral attitude toward the specific media channel, resulting in continuous usage of that media channel (C. Xu et al., 2012). With the emergence of the Internet and SNSs, researchers have used UGT to investigate the determinants of consumer behavior in online channels. In more recent times, UGT has been employed to explain cutting-edge digital phenomena, such as virtual tourism (Geng et al., 2024) and VIs (Lou et al., 2023).

Past research studies have underscored the importance of the source credibility theory (SCT) in diagnosing individuals' behavioral reactions to information sources (Jang et al., 2021; Lou & Yuan, 2019). Hovland and Weiss (1951) first applied the notion of source credibility as a theoretical lens based on the premise that individuals tend to be more persuaded and triggered to action when they perceive the information source as more credible. Credibility generally measures any given information source's degree of believability from the receiver's frame of mind (Yılmazdoğan et al., 2021). Marketing and communication research streams have widely used SCT to examine various phenomena. Notably, in the marketing literature, source credibility is applied to study and measure the potential of celebrity endorsement (Ayeh, 2015; Lim et al., 2017) and to evaluate travel intention among Instagram users in the travel influencer marketing domain (Yılmazdoğan et al., 2021).

According to Raven (2008), social power reflects an individual's or a group's capacity to involve other individuals or groups in actions that lead to change in other individuals' thought processes and behaviors. Social Power Theory (SPT) posits that a person or a group of persons with social power can influence other persons' behavioral and psychological perspectives (Raven et al., 1998). French and Raven (1959) identified five important bases of social power (expert, referent, reward, coercive, and legitimate) that can stimulate individuals' future behavior. SMIs, with their respective expertise and brand endorsements, use social power to trigger consumer behavior aspects on social media platforms (P. Wang et al., 2020). P. Wang and Huang (2022) have explored the impact of four dimensions of social power (expert power, informational power, referent power, and reciprocity power) to capture online consumer engagement and buying behavior on social media. Moreover, Mehraliyev et al. (2021) employed SPT to examine the psychological interaction dynamics between the expert power of influencers and U.S. tourist individuals in the light of online travel review platforms.

The CAT model (Kulviwat et al., 2007) has been identified as one of the pivotal models for explaining consumers' behavioral reactions toward a new technology (Kulviwat et al., 2014). The CAT model consists of cognitive elements (perceived usefulness, perceived ease of use, and relative advantages) and affective components (pleasure, arousal, and dominance) to account for individual behavioral responses in accepting and adopting new technology and technological products (Nasco et al., 2008). Past literature suggested that integrating cognitive and affective factors is crucial in discerning consumers' multifaceted behavioral reactions to technology, which results in consumers either accepting or rejecting it (Kulviwat et al., 2007, 2014). Nasco et al. (2008) and Kulviwat et al. (2007) reported that both the cognitive and affective aspects of the CAT model are highly relevant to consumer adoption behaviors, and the inclusion of these constructs in their study notably strengthened the model's explanatory power. García-Milon et al. (2021) suggested two affective components, pleasure and arousal, experienced from using a smartphone were significant determinants of tourists' likeliness to use their smartphone to make purchases in the tourism context. Also, Purwandari et al.

(2022) highlighted the significance of the three affective components in explaining influencers' travel recommendations.

The theory of self-congruence (CONG) has commonly been applied to illustrate the impact of a consumer's self-image and concept on their behavioral activities (Sirgy, 1985). Self-congruence theory posits that consumers tend to favor products or brands that generally harmonize with their self-image (Sirgy, 1982). This theory is an extension of self-concept theory (Sirgy, 1982) in which an individual exhibits two forms of concepts: the actual self and the ideal self (Zhu et al., 2019). The actual self represents how consumers perceive themselves (me as I am), and the ideal self represents how consumers want to perceive themselves (the perfect me; S. M. Choi & Rifon, 2012; X. Xu & Pratt, 2018). The condition of self-congruence greatly influences a person's self-concept: a person's actual and ideal self-concept mixes and matches with the image of a brand or a personality (Malär et al., 2011). In the SMI context, self-congruence reflects the perceived congruity and similarity between a consumer's self-image and an influencer's image (Zogaj et al., 2021) and has been found to influence people's behaviors (X. Xu & Pratt, 2018). In the travel context, visitor image congruity emerged as an important predictor of travel intention for both prospective and repeat visitors (Maghrifani et al., 2022).

The concept of anthropomorphism (ANTHRO) refers to the assignment of the characteristics of human beings to non-human agents, namely a product, a good, a pet, or a brand (Epley et al., 2007). Anthropomorphism usually facilitates human connections and engagements with anthropomorphized non-human entities by bringing on interactivity between human and non-human agents and triggering individuals' decision-making processes. Several studies have been conducted to understand how individuals respond to anthropomorphized objects. For instance, Dabiran et al. (2024) and J. Yang et al. (2023) found VI's anthropomorphic attribute as a critical element in driving consumer behavior toward VI endorsement.

Parasocial interaction theory (PSI) reflects the unidirectional media-generated communications between users and media celebrity personalities initially introduced by Horton and Richard Wohl (1956). They described this as a one-sided, non–face-to-face, human-to-human relationship lacking reciprocity, where the person who believes in that relationship develops and carries away this interaction. This concept is interpreted as a paradoxical and delusory one-to-one human connection in which no actual relationship exists between the parties (C. Whang & Im, 2021). Currently, research focusing on the role of parasocial interaction has pivoted from traditional media personas to SMIs (Aw & Chuah, 2021; Labrecque, 2014). PSI has been detected between VIs and SNS users (Block & Lovegrove, 2021).

Methods

Empirical Studies on Model Comparison

Model comparison models are developed when there are a number of competing empirically validated models to explain a phenomenon in the interest of finding the best of these models to illuminate a research problem (Hsiao & Tang, 2014). Table 4 provides details of extant research that uses this approach.

Davis et al. (1989) empirically compared TRA and the technology acceptance model (TAM) to explain university students' behavioral intentions toward computer technology at the organizational level. Chau and Hu (2001) compared three well-established behavioral intention-based models to predict healthcare professionals' intention to use telemedicine technology. Venkatesh et al. (2003) assessed eight prominent theoretical models of users' behavioral adoption to determine users' intention to adopt information technology in organizational settings. Using five well-known intention-based models, Hsiao and Tang (2014) undertook a model comparison method to study college students' behavioral aspirations to accept electronic textbooks. Shiau and Chau (2016) conducted multiple-model comparison studies to understand Taiwanese students' behavioral intent to accept cloud computing classrooms by comparing six behavioral research theories. Giovanis et al. (2019) empirically tested four theoretical models to predict potential users' adoption behavior of mobile banking services in Greece. Hasan et al. (2019) undertook a comparison study by considering seven adoption intention-based behavioral models to understand low-income consumers' behavioral adoption of mobile banking technology. In the VI marketing context, we believe the model comparison approach will help better understand current scholarship on behavioral intention and the determinants of users' behavioral aspects toward VIs.

Questionnaire Development

In this study, we developed an online-based structured questionnaire consisting of each selected theoretical model's constructs, all of which are reflective in nature. We adapted each construct's reliable and valid measurement items from relevant prior studies and then slightly modified the items in accordance with our VI research context. The list of the adapted measurement items under each construct and their sources is presented in Appendix 1.

To check the consistency and clarity of all measurement items under each construct, we first approached several frequent SNS users and academic scholars in the digital marketing discipline to pretest our questionnaire. On the basis of their feedback, the survey questionnaire was modified to enhance its understandability and

Table 4. Summary of Past Model Comparison Studies.

No.	Authors	Study focus	Theoretical model	Sample size	Key findings
1.	Davis et al. (1989)	Usage intention of computer technology	TRA, TAM	107 MBA students	To explain intention variation, the predictive power of the models: TRA = 32%; TAM = 47%.
2.	Mathieson (1991)	Usage intention of information system	TPB, TAM	262 university students	To explain intention variation, the predictive power of the models: TPB = 62%; TAM = 70%.
3.	Taylor and Todd (1995)	Usage intention of information technology	TPB, TAM, DTPB	786 business school students	To explain intention variation, the predictive power of the models: TPB = 57%; DTPB = 60%; TAM = 52%.
4.	Chau and Hu (2001)	Usage intention of healthcare technology	TPB, TAM, DTPB	408 healthcare professionals	To explain intention variation, the predictive power of the models: TPB = 32%; DTPB = 42%; TAM = 40%.
5.	Venkatesh et al. (2003)	Adoption intention of information system	TRA, TPB/ DTPB, TAM, C-TAM-TPB, MM, MPCU, IDT, SCT	119 industry professionals	To explain intention variation, the predictive power of the eight models ranged from 17% to 53%.
6.	Premkumar and Bhattacherjee (2008)	Usage intention of information technology	TAM, EDT	175 undergraduate students	To explain intention variation, the predictive ability of the models: TAM = 69%; EDT = 50%.
7.	Hsiao and Tang (2014)	Usage intention of education technology	TPB, TAM, DTPB, C-TAM-TPB, UTAUT	321 college students	To explain intention variation, the predictive power of the five models ranged from 59% to 77%.
8.	Shiau and Chau (2016)	Usage intention of cloud computing technology	SQ, SE, MM, TAM, TRA/TPB, IDT	478 college students	To explain intention variation, the predictive power of the five models ranged from 48% to 69%.
9.	Giovanis et al. (2019)	Adoption intention of financial technology	TPB, TAM, DTPB, UTAUT	931 potential users	To explain intention variation, the predictive power of the models: TPB = 63%; DTPB = 63%; TAM = 60%; UTAUT = 55%.
10.	Hasan et al. (2019)	Adoption intention of financial technology	TRA, TPB, TAM, DOI, VAM, CAT, CBOP	311 consumers	To explain intention variation, the predictive power of the seven models ranged from 26% to 40%.

TRA = theory of reasoned action; TPB = theory of planned behavior; TAM = technology acceptance model; DTPB = decomposed theory of planned behavior; C-TAM-TPB = combined model of TAM and TPB; MM = motivational model; EDT = expectation–disconfirmation theory; MPCU = model of personal computer utilization; IDT = innovation diffusion theory; SCT = social cognitive theory; SQ = service quality theory; SE = self-efficacy theory; DOI = diffusion of innovations; VAM = value-based adoption model; CAT = consumer acceptance of technology model; CBOP = contextualized BOP (bottom-of the-pyramid) model.

transparency. To ensure the further quality of the questionnaire and verify the reliability and validity of the measures, we conducted a pilot survey with the relevant individuals ($n = 31$) who are active users of SNSs. The result of the pilot test confirmed the measures are valid and reliable, reflecting the survey questionnaire was understandable and interpretable from the respondents' perspectives.

All SNS users may not be acquainted with VIs; therefore, we first described what VIs are by providing a definition, vignettes, and links to VIs' social media accounts (e.g., Lil Miquela). Then, if they had never heard of VIs, we asked them to spend some time on these VIs' accounts. Afterward, respondents answered demographic questions, such as their gender, age, education level, employment, and nationality, and we inquired about their social media usage frequency and which social media platforms they use. Survey respondents were informed their responses would remain anonymous and confidential. We then asked the participants to respond to the constructs of the selected models. Responses were scored on a 7-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). We included two attention-checking questions across the survey questionnaire to evaluate the participants' engagement with the study.

Participants and Survey Administration

This research study focused on comprehending SNS users' (our target population) behavioral intent toward VIs. The ethics committee of the lead researcher's university granted ethical approval for the study. We used an online marketplace called Prolific to recruit the relevant survey participants. It has also been affirmed that data collection via online marketplaces is considered more credible and reliable than data collected on traditional platforms (Legendre et al., 2020). Moreover, Prolific was deliberately chosen for this study because it offers researchers prompt and effortless access to the desired study populations, maintaining a strict measure for ensuring data quality (Kapoor et al., 2022).

The participants were recruited during March 2023 and were selected based on three prescreening criteria: (1) at least 18 years of age, (2) active user of social media, and (3) adequate proficiency in the English language. A total of 437 participants who met these criteria participated in this online survey. Because SNS users have easy access to online websites, this research directed the participants to a Qualtrics web-based questionnaire platform to collect user responses and to confirm their participation agreement on the informed consent form. Based on the attention-checking questions and incomplete completion of the survey questionnaire, of the total respondents, 419 responses were found suitable for the data analysis. The survey participants on Prolific Academic were allowed 60 min for survey completion with a remuneration payment of GBP 6.00 (USD 7.50).

Prior to collecting data for our study, we determined the minimum sample size requirement by performing the a priori power technique (f^2 value = 0.15, power value = 0.90, and probability α error = .05) using G*Power software (Faul et al., 2007). The software yielded a minimum recommended sample size of 166; our final sample size ($n = 419$) significantly exceeded this requirement. Afterward, we also ran a post hoc analysis on G*Power to confirm the power of our sample $n = 419$, generating a power level of 0.99 (> 0.90 of priori power) and establishing the adequate statistical power of our sample size.

Out of 419 responses in our study, 261 respondents reported themselves as male (62.3%), and 153 were reported as female (36.5%). Four respondents selected non-binary gender (1.0%), and one respondent (0.2%) did not reveal a gender identity. Regarding the age distribution, 32% belonged to the 18 to 24 years-old group, with 39.6% reporting an age between 25 and 34, with the remainder (119) in the 35 to 74 years old age category. In terms of social media usage, 282 respondents (67.3%) reported they use social media several times a day, 109 use (26%) daily, and only 16 use (3.8%) several times a week. Out of the 419 respondents, only 43 reported themselves as followers of a VI.

Common Method Bias

The potential for common method bias (CMB) issue was minimized by adopting the recommended procedural approach by Podsakoff et al. (2012). First, a plain and straightforward English language tone was followed to draft the entire questionnaire so respondents would smoothly grasp the questionnaire. Careful writing and arrangement of the survey questionnaire was prioritized, and pretesting was conducted to exclude any vague or unknown terms or words. At the very beginning of the questionnaire, a consent form was attached, in which the study's research purpose was described in detail. In this consent form, we further confirmed that the study would be conducted as only an academic research project, not for commercial purposes; no personal information about respondents would be retained; and the survey questionnaire had no right or wrong responses. Furthermore, in the survey questionnaire flow, the predictor and outcome variables were placed in separate sections to reduce the probability that the survey respondents could gauge the potential causal-effect connection between the variables.

We also employed statistical methods to address potential CMB in our study. First, we performed a collinearity test among the latent constructs of each selected model separately and found the variance inflation factor (VIF) values of all constructs under each model were below the suggested cut-off value of 3.30 (Kock, 2015).

Also, we followed Lindell and Whitney's (2001) recommended statistical procedure by considering a theoretically unrelated marker variable. In our case, we measured attitude toward drinking coffee. Then, we ran a correlation test among the marker variable (MV) and all other latent variables under each model individually; this revealed no correlation value between MV and any other variables in any model was greater than 0.30. Finally, in each model, we compared the value of R^2 before and after the inclusion of the MV on our endogenous variable (i.e., visit intention), and no significant difference was observed in the R^2 value of the endogenous variable for each model from partialing out our MV. Therefore, our statistical procedures also confirmed that CMB is not likely to be an issue in this study.

Reliability and Validity

The reliability and validity of each construct under each theoretical model were assessed by applying SMART PLS version 4.0, and all measures are in Appendix 2 and the models tested in Appendix 3. Cronbach's alpha (α) coefficient and composite reliability (CR) values were employed to measure the internal consistency and reliability of the constructs under each model. All CR values of the constructs were found above the prescribed value of 0.70, indicating the constructs' reliability (Bagozzi & Yi, 2012). Additionally, all Cronbach's alpha (α) coefficient values for all constructs were observed to be above the suggested cutoff value of .70. Thus, the constructs under each chosen theoretical model were evidenced as reliable and internally consistent. Convergent validity was exhibited by diagnosing whether the items under each construct loaded onto their respective constructs. All average variance extracted (AVE) scores in the study were greater than the threshold score of 0.50, implying convergent validity is established (Hair et al., 2010). Following Fornell and Larcker's (1981) approach, we also calculated the discriminant validity test of all constructs by taking into consideration the square root value of the AVE of each construct and compared whether that value is greater than the correlation between other constructs (Lowry & Gaskin, 2014). The results indicate the square root value of the AVE of each construct exceeds the respective intercorrelated constructs, confirming that discriminant validity exists between the constructs. We also adopted a heterotrait-monotrait (HTMT) ratio to manifest the discriminant validity further and found that no values of the HTMT ratio exceeded the threshold value of 0.90 (Henseler et al., 2015).

Data Analysis: Empirical Comparison of the Models

Our research aim has been grounded in understanding VI-related factors that affect SNS users' intention to visit. Thus, in accordance with the research aim, we adopted the PLS-SEM technique to perform statistical analysis; this technique is deemed appropriate when the research aim has been developed on predictive models (Shmueli et al., 2016). Henseler et al. (2012) found utilizing the PLS-SEM technique is beneficial when comparing and evaluating theoretical models. Prior model comparison studies have also applied the PLS-SEM method (Hasan et al., 2019; Shiau & Chau, 2016). In this study, we compared nine theoretical models to discover the determinants of SNS users' visit intention in the context of VI-related factors by considering the adjusted R^2 value (variance explanation), model's predictive power ($PLS_{Predict}$ and CVPAT) and the theoretical understanding of path coefficients. In addition, we also applied NCA to understand the necessary logic of the PLS-SEM findings.

Structural Model: Explained Variance (Adjusted R^2)

Table 5 demonstrates that the nine theoretical models' explained variance value (using adjusted R^2) ranged from 38.10% to 59.80% variation in explaining SNS users' travel intention toward VI-promoted destinations. The strongest adjusted R^2 value is found by employing SPT (59.80%), closely followed by PSI (59.50%).

Conversely, ANTHRO was found to have the lowest adjusted R^2 value of 38.10%, and CONG theory exhibits the second lowest adjusted R^2 value of 44.00%, which is followed by SCT with adjusted R^2 value of 46.80%. Moreover, with adjusted R^2 value of 55.70%, the CAT theory presents relatively higher explanatory power compared to TRA (55.50%) and TPB (55.40%) though the differences are minor. We also considered two indicators for model fit indices: standardized root mean square residual (SRMR) and normed fit index (NFI). For SRMR, a value of 0.05 or less and for NFI, a value of 0.90 or more indicates a good model fit (Dash & Paul, 2021). Based on the SRMR and NFI values (Table 5), except for UGT, all other models are a good fit.

Assessment of Model Predictive Capabilities

The study has also considered the $PLS_{Predict}$ (Shmueli et al., 2019) and CVPAT (cross-validated predictive ability test; Sharma et al., 2023) techniques to determine the model's predictive power. According to $PLS_{Predict}$ analysis, if the $Q^2_{predict}$ value of the target construct's (i.e., visit intention) indicators is positive and the difference between PLS-RMSE (root mean squared error) and linear model (LM)-RMSE is negative for all indicators, the model would have strong power. For CVPAT analysis, if the PLS model produces a significant and lower average loss than that of IA (indicator average) and LM prediction benchmark, the model exhibits strong predictive capacity.

Table 5. Model Comparison.

Models	Independent variables	Dependent variables (visit intention)		Model fit indices	
		Beta value	R^2 (adjusted)	SRMR	NFI
TRA	Attitude	.340**	55.50%	0.027	0.946
	Subjective norm	.483**			
TPB	Attitude	.355**	55.40%	0.030	0.931
	Perceived behavioral control	.017			
	Subjective norm	.484**			
UGT	Entertainment value	.053	57.90%	0.058	0.868
	Escapism	.168**			
	Integrative Gratification	−.005			
	Purposive value	.268**			
	Social interaction	.189**			
	Social presence	.024			
	Trendiness	.209**			
SCT	Attractiveness	.169*	46.80%	0.030	0.941
	Expertise	.306**			
	Trustworthiness	.341**			
SPT	Expert power	.050	59.80%	0.033	0.914
	Informational power	.271**			
	Reciprocity power	.140**			
	Referent power	.412**			
CAT	Arousal	−.042	55.70%	0.043	0.907
	Dominance	−.057			
	Perceived ease of use	.083*			
	Pleasure	.394**			
	Perceived usefulness	.438**			
CONG	Actual self-congruence	.378**	44.00%	0.032	0.903
	Ideal self-congruence	.336**			
Anthropomorphism	Anthropomorphism	.619**	38.10%	0.048	0.949
Parasocial interaction	Parasocial interaction	.772**	59.50%	0.043	0.920

**$p < .01$. *$p < .05$.

Table 6 shows that both SCT and CAT models possess strong predictive power and prediction capabilities.

Necessary Condition Analysis (NCA)

Along with the PLS-SEM technique, this study also used the NCA approach to determine the necessary variables (within the nine theories) to attain the outcome variable (visit intention) in the given data set (Dul, 2016). This approach is regarded as complementary to the PLS-SEM results (Richter et al., 2020). We identified the necessary factors associated with VIs under each theory through NCA to achieve visit intention based on the effect size (d) >0.10 and $p < .05$ criteria. The NCA results (Table 7) reveal that, except for the attractiveness of VIs in SCT, all the other factors under each theory are necessary conditions for visit intention.

Insights From Qualitative Study

To corroborate and complement our quantitative findings and enhance our understanding of SNS users' behavioral responses to VI-promoted destinations, a supplementary qualitative study using semi-structured interviews has been conducted. This additional qualitative study helps us to obtain new insights about VIs apart from the quantitative findings (Creswell, 2014). The main aim of this qualitative study was to capture SNS users' motivating factors for visiting places promoted by VIs. The author team recruited relevant interview participants from their professional social media networks, such as LinkedIn, which was followed by adopting the snowball sampling strategy to secure more potential interviewees. This snowball strategy is deemed a suitable approach when access to the target population is not effortless and straightforward in nature (Hair et al., 2007). Respondents were recruited based on the following indicators: they had to be fluent in English and frequent daily users of major SNSs such as Instagram, Facebook, TikTok and Snapchat, and they had to be active followers of human influencers on SNSs with a minimum age of 18 years old. Afterward, 18 interviewees took part in this qualitative phase during June and July 2024. The majority of the participants were male ($n = 14$), while four of them were female, and all interviewees were between 19 and 40 years old. Interview participation was entirely voluntary, and participants were

Table 6. Model's Predictive Power Assessment.

CAT

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.478	1.264	1.306	−0.042	Strong	PLS-SEM vs. IA	−1.497	9.972**	Strong
Visit-intent_2	0.500	1.224	1.262	−0.039		PLS-SEM vs. LM	−0.092	3.260**	
Visit-intent_3	0.491	1.187	1.220	−0.033					
Visit-intent_4	0.488	1.267	1.303	−0.036					
Visit-intent_5	0.436	1.455	1.483	−0.028					

PSI

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.507	1.227	1.242	−0.015	Medium	PLS-SEM vs. IA	−1.609	10.146**	Some form of predictive capacity
Visit-intent_2	0.524	1.194	1.208	−0.014		PLS-SEM vs. LM	−0.013	0.614	
Visit-intent_3	0.557	1.107	1.106	0.001					
Visit-intent_4	0.537	1.206	1.212	−0.006					
Visit-intent_5	0.453	1.433	1.426	0.006					

ANTHRO

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.318	1.444	1.441	0.003	Not confirmed	PLS-SEM vs. IA	−1.037	7.667**	Some form of predictive capacity
Visit-intent_2	0.342	1.403	1.398	0.006		PLS-SEM vs. LM	0.011	0.509	
Visit-intent_3	0.299	1.393	1.391	0.002					
Visit-intent_4	0.335	1.445	1.441	0.004					
Visit-intent_5	0.349	1.563	1.559	0.004					

CONG

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on Visit Intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.365	1.394	1.392	0.002	Not confirmed	PLS-SEM vs. IA	−1.169	7.368**	Some form of predictive capacity
Visit-intent_2	0.393	1.348	1.344	0.004		PLS-SEM vs. LM	0.015	0.740	
Visit-intent_3	0.393	1.296	1.285	0.011					
Visit-intent_4	0.421	1.349	1.346	0.003					
Visit-intent_5	0.306	1.614	1.607	0.007					

(continued)

Table 6. (continued)

SPT

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.507	1.227	1.238	−0.010	Strong	PLS-SEM vs. IA	−1.603	10.398**	Some form of predictive capacity
Visit-intent_2	0.537	1.177	1.199	−0.023		PLS-SEM vs. LM	−0.035	1.813	
Visit-intent_3	0.543	1.125	1.132	−0.007					
Visit-intent_4	0.548	1.191	1.208	−0.017					
Visit-intent_5	0.435	1.456	1.470	−0.013					

SCT

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.405	1.349	1.372	−0.023	Strong	PLS-SEM vs. IA	−1.262	8.494**	Strong
Visit-intent_2	0.434	1.302	1.325	−0.023		PLS-SEM vs. LM	−0.071	4.464**	
Visit-intent_3	0.392	1.297	1.320	−0.022					
Visit-intent_4	0.393	1.380	1.408	−0.028					
Visit-intent_5	0.388	1.516	1.548	−0.032					

TPB

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability
Visit-intent_1	0.477	1.265	1.281	−0.016	Medium	PLS-SEM vs. IA	−1.498	9.716**	Some form of predictive capacity
Visit-intent_2	0.490	1.235	1.246	−0.011		PLS-SEM vs. LM	−0.017	0.893	
Visit-intent_3	0.486	1.193	1.202	−0.010					
Visit-intent_4	0.513	1.237	1.249	−0.013					
Visit-intent_5	0.428	1.465	1.452	0.013					

TRA

PLS predict results						*CVPAT (cross-validated predictive ability test) results*			
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-value	Predictive capability
Visit-intent_1	0.478	1.263	1.279	−0.016	Medium	PLS-SEM vs. IA	−1.501	9.750**	Some form of predictive capacity
Visit-intent_2	0.492	1.233	1.245	−0.012		PLS-SEM vs. LM	−0.023	1.322	
Visit-intent_3	0.490	1.188	1.202	−0.013					
Visit-intent_4	0.514	1.235	1.247	−0.012					
Visit-intent_5	0.427	1.466	1.460	0.006					

(continued)

Table 6. (continued)

UGT											
PLS predict results						*CVPAT (cross-validated predictive ability test) results*					
Items	Q^2 predict	PLS-RMSE	LM-RMSE	PLS-RMSE – LM-RMSE	Predictive power	Focus on visit intent	Average loss difference	*t*-Value	Predictive capability		
Visit-intent_1	0.497	1.240	1.269	−0.029	Medium	PLS-SEM vs. IA	−1.535	9.775**	Some form of predictive capacity		
Visit-intent_2	0.505	1.218	1.258	−0.040		PLS-SEM vs. LM	−0.071	1.793			
Visit-intent_3	0.519	1.154	1.180	−0.026							
Visit-intent_4	0.515	1.234	1.282	−0.048							
Visit-intent_5	0.423	1.471	1.471	0.000							

**$p < .01$. *$p < .05$.

Note. By considering adjusted R^2, *PLS Predict*, and CVPAT measures from Tables 5 and 6, it can be concluded that social power theory (highest adjusted R^2 value, strong predictive power, and some form of predictive capability) and consumer acceptance of technology (CAT) theory (moderately high adjusted R^2 value, strong predictive power, and strong predictive capability) are preferable to other models.
RMSE = the root mean squared error; IA = indicator averages; LM = linear model.

made aware that they could withdraw their participation at any point in time. The interviews were conducted online and face-to-face in Microsoft Teams and recorded after obtaining explicit consent from the interviewees. Interviews lasted between 19 and 48 min, with an average of approximately 29 min. One week before the interview, participants received emails containing an explanation of what a VI is, the study background, and a few links to the popular VIs' social media accounts to familiarize themselves with VIs if they were not already followers of VIs.

Interviewee participants were asked about their overall perception of VIs and what would be important in determining their intention to visit VI-promoted places. Our interview guidelines were developed in such a way as to ensure the capture of open-ended responses from the interview participants. This process helped us gather rich and in-depth information about participants' perceptions of VIs and their endorsements in the travel context. By following the thematic analysis guidelines provided by Braun and Clarke (2006), several key factors were identified to support and extend our quantitative results (please see Table 8).

Discussion

This study sought to ascertain the factors associated with VIs that trigger SNS users' travel intentions and determine which of the nine theories better explains this relationship. Our results suggest that all the chosen theories provide reasonable explanatory power to account for users' travel intentions. By exhibiting higher adjusted R^2 values than their competing theories, SPT and PSI theories better explain travel intention.

In our study, drawing on SPT, VIs' informational, reciprocity, and referent power appear to be significant predictors of users' travel intention. This is in line with P. Wang and Huang (2022) and P. Wang et al. (2020), who reported similar results in relation to online consumer behavior. Once online consumers receive something positive from SMIs, they may form an obligatory feeling to reciprocate (Casaló et al., 2020). Likewise, VIs may establish personal attachments with online users by disseminating relevant destination information, which would lead to users developing a commitment to reciprocate the favor to VIs by considering and visiting those destinations (Wong & Wei, 2023). Also, our qualitative findings assert that the absence of reciprocal interaction between VIs and online users may not be helpful in developing behavioral reactions toward VIs (Table 8). On social media, consumers tend to consider influencers' accounts and digital content as a source of information on products that help them make their purchase decisions (Djafarova & Rushworth, 2017). Yi et al. (2021) indicated by consuming content information on SNSs, tourism enthusiasts

Table 7. NCA Results.

Theories and associated Constructs	Visit intention	
	CE-FDH (effect size)	*p*-Value
SCT		
Attractiveness	0.000	.252
Expertise	0.188	.000
Trustworthiness	0.150	.000
CAT		
Arousal	0.260	.000
Dominance	0.135	.004
Ease of use	0.237	.000
Pleasure	0.324	.000
Usefulness	0.116	.000
CONG		
Actual self-congruence	0.056	.000
Ideal self-congruence	0.117	.000
SPT		
Expert power	0.232	.000
Information power	0.192	.000
Reciprocity power	0.114	.000
Referent power	0.120	.000
ANTHRO		
Anthropomorphism	0.241	.000
PSI		
Parasocial interaction	0.189	.000
TPB		
Attitude	0.343	.000
Perceived behavior control	0.201	.002
Subjective norm	0.120	.000
TRA		
Attitude	0.343	.000
Subjective norm	0.120	.000
UGT		
Entertainment value	0.202	.000
Escapism	0.124	.000
Integrative gratification	0.114	.000
Purposive value	0.173	.000
Social interaction	0.109	.000
Social presence	0.140	.000
Trendiness	0.296	.000

could develop a better understanding of attractive destination places. Furthermore, our interview participants feel VIs can reflect their information power by easily disseminating information about a destination to their audience (Table 8). Therefore, by providing pertinent information and references about the destination places, VIs can enhance users' overall perception of their promoted tourism places (Xie-Carson, Magor et al., 2023). It is then likely to improve users' willingness to visit those places. Moreover, visiting tourist places with information from a VI may reduce the level of individuals' tourism information-seeking efforts.

The TRA and TPB models support that attitude toward VIs and, also, subjective norms are powerful visit-intention predictors. These findings are consistent with past research evidence, which led researchers to argue that consumers' attitudes toward influencers favorably affect several aspects of individual behavioral response, such as event attendance intent (Sun et al., 2021). In the context of this study, our findings imply that SNS users would intend to visit VI-endorsed places whenever they develop a positive and favorable attitude toward VIs. In addition, subjective norms in relation to VIs have a strong influence on visit intention, demonstrating that others' opinions about VIs are critical for SNS users to develop a positive propensity to visit VI-promoted places. Our qualitative results (Table 8) also confirm that VI recommendations would influence interviewees if they were discussed within their networks, as subjective norms emerged as an important theme. Interestingly, perceived behavioral control does not affect visit intention in our study. A probable reason for this non-significant effect could be that visiting or checking a VI's social media content does not require serious technical knowledge; merely having an active social media account allows online users to visit any influencer's account on SNSs.

In our study, three factors (attractiveness, expertise, and trustworthiness of VIs) under SCT demonstrate significant positive effects on visit intention. Prior literature also found impactful evidence of source credibility on consumer behaviors (Lim et al., 2017; Lou & Yuan, 2019). In addition, an influencer's level of trustworthiness plays a critical role in affecting consumer behavioral attitudes; research confirmed that a media persona's trustworthiness is one of the effective means to bolster the level of confidence in the consumer's mind about the endorsed product (S. S. Kim et al., 2013). Yılmazdoğan et al. (2021) explored the effect of source credibility of Instagram influencers on travel intention by drawing samples from Instagram users in Turkey. They reported that the expertise and trustworthiness dimension of source credibility, both directly and indirectly (via parasocial interaction), affected Instagram users' travel intentions. VI's trustworthiness is further detected as a critical factor in our qualitative findings (Table 8), endorsing that interviewees would be influenced when they find VI's recommendations and shared information about destinations as trustworthy. Seçilmiş et al. (2022) found the expertise and content attractiveness of travel influencers were the critical determinants of travel intention. However, our findings suggest that if a VI recommends visiting a travel destination perceived as attractive, expert, and trustworthy, SNS users will most likely be enticed to explore that place as a destination.

In our study, we used CAT theory, which has pleasure, arousal, and dominance as its affective factors and perceived usefulness and ease of use as its cognitive factors (Kulviwat et al., 2014; Nasco et al., 2008). The findings reveal pleasure, perceived usefulness, and ease of use are significant predictors of visit intention, and that arousal and dominance do not significantly impact intention. CAT theory is rarely applied in SMI marketing studies,

Table 8. Key themes from the Qualitative Study.

Key themes	Theory	Illustrative quotes
Actual Self-Congruence	CONG	Virtual influencer that has similar personality as me will like more often recommend places that I will be more interested in (interviewee 11)
ANTHRO	Make this virtual	Anthropomorphism influencers more human type. You know, more realistic as a human, even though it is not a human, but you can also program it as a human. (interviewee 15) If they're humanly looking or if they're like more they look more in a human way, so that would be something which is gonna help me connect with the influencer as well. (interviewee 5)
Appealing content	UGT	Virtual influencers utilize cutting edge graphics and creative settings that can make their travel content exceptionally appealing. For instance, they might feature animated renditions. (interviewee 15) Advanced CGI and AI technology allows virtual influencer to create visually stunning and engaging content that can make travel destination look very appealing and exciting. (interviewee 16)
Attractiveness	SCT	The appearance is very important for influencers as it's one of the main points of how they become influencers. I think for an AI influencer to be attractive is one of the most important points. (interviewee 2)
Collaboration with human influencers	New	I'm saying like a real human influencer visits a place and a virtual influencer can collaborate to them to express their experiences and impressions and and the things they have experienced in their real when they travel the destination. (interviewee 16) I have already mentioned lacks in the real world experience. So human influencers can fill up those void and the both are excellent in their own forms. (interviewee 18)
Comprehensive travel narrative	UGT	If the virtual influencers can provide you like the detailed description of the travel journey, that would be great help for you. It's all about the beautiful scenery and the beautiful foods. And also how, if also like if it's available like if I can go there easily, what kind of problems I have to face. While going there, I think those are important too. (interviewee 3) It's all about the beautiful scenery and the beautiful foods. And also how, if also like if it's available like if I can go there easily, what kind of problems I have to face. While going there, I think those are important too. (interviewee 18)
Cultural representation	New	… could use the like the cultural heritage and interesting cultural heritage and focusing on those titles, they can show the places so that it takes the interest of the people that are interested in the culture in all different places. And of course, food is a great interest of many people right now, especially people like me. Whenever we go to a place, we look for the foods, what are unique and what are the regional foods especially so they can use that. (interviewee 3)
Information power	SPT	Information is the easiest thing…virtual influencer can provide, so I can easily expect that from them (interviewee 17)
Realistic representation	UGT	If it's a virtual influencer, I'd like to, I'd like them to post like real pictures and real, actual content of the places I've seen. There were many virtual influencers backgrounds look like 3D, and the faces … don't seem real. I think the places also look a little bit AI generated if the places if they use real photos of the places, that would be very helpful. (interviewee 2) When he or she will give me more realistic vibe, more vibe that how I can enjoy in that place … what are the features I can get in that place? In that case I can I think I will be influenced. (interviewee 6)
Lack of reciprocity	SPT	The comments will tell you a lot about the influencer and how other people talk about them, whereas I feel. Like no one's really talking about these virtual influencers because they probably also have never exchanged any messages between them. (interviewee 12)
Shared interest	New	If people find the influencer similar to themselves, such as if the influencer happens to have similar taste in places and food, and ambiance. Then it's more likely that you would visit that influencers recommended places as you think that they have similar taste to you and you think their recommendations would suit you. (interviewee 2) When I can find a common ground between me and the person in front of me (VI), that's when I start to draw interest in them or their work or whatever it is that they have to say, or their expressions. (interviewee 1)
Subjective norms	TRA/TPB	If I see that virtual influencer's recommendations are being discussed, shared or validated by other … and if these some of these users are the people that I know it tends, it lends more credibility to their suggestions and increases the likelihood that I might be influenced by their recommendations. (interviewee 15)
Trendiness	UGT	If the virtual influences were up to date with the new places, new travel destinations and new places to go and visit, and they were very ahead of other influencers, I think that I would prioritize them more. (interviewee 2)

(continued)

Table 8. (continued)

Key themes	Theory	Illustrative quotes
Trustworthiness	SCT	One is trustworthiness, because I have to trust it because the information it will give me, I will arrange by those rights because at the end of the day, I have to go there. I have to face all over the things I have to enjoy. (interviewee 9) Would you accept their recommendation? Of course not, right? So here comes the same thing in terms of virtual influencer. If you do not trust. If they don't gain the trust, trust of the human, I do not think their recommendation will be acceptable by the human people (interviewee 16)
Usefulness of VIs	CAT	If they could share information about the safety of that place, like from her girl's point of view, if I want to travel with only girls, my friends. So how safe is that place if they can promote that kind of content, then I think it would be really helpful (interviewee 4) if they write that this place is one of the cheapest places, or if this place is really close to nature or it's one of the quietest sea beaches or similar things like that, that would get me interested. (interviewee 11)

although it possesses the considerable potential to study different aspects of consumer behaviors. Purwandari et al. (2022) modeled pleasure, arousal, and dominance as mediating factors to unravel the connection between the influencer-follower experience and behavioral intention to follow the influencer's travel recommendations. Their results demonstrated the significant effect of pleasure and dominance on recommendation intention via the influencer's commitment. In the context of travel behavior, Lehto et al. (2008) documented perceived pleasure's strong impact on visit intention to a beach location, which is consistent with our findings that experiencing pleasure from VIs is a strong motivator for visit intention. Moreover, our findings suggest that the perceived usefulness of visiting a VI's social media account will help develop positive visit intentions among online users. Belanche et al. (2024) found VI's usefulness critical to consumers' behavioral intention toward product recommendations. The same evidence is reflected in our qualitative findings (Table 8), where interviewees indicated that if they identified VI's content as useful and relevant, they would likely be influenced as the theme of VI's usefulness appeared as significant. Thus, SNS users may find checking VI's content helpful in developing a positive perception of the VI-promoted destination, and from that, they will be eager to visit the destination. In contrast, arousal and dominance dimensions appear to be non-significant predictors of visit intention. These results correspond to the findings of Kumar et al. (2021) and Verkijika and De Wet (2019). The possible explanation is that SNS users may not feel an adequate level of arousal and dominance emotion evoked from VIs that could contribute to their visit intention.

Our findings support that SNS users' actual and ideal self-congruence, with VIs demonstrate a powerful effect on their intention to visit VI-endorsed places. Past literature reported consumers' self-congruence as significantly impacting consumer behavior (Malär et al., 2011; Zogaj et al., 2021). Likewise, when it comes to visiting destinations, the results indicate if an online user finds a similarity with VIs with reference to a VI's lifestyle and travel history, online users may be persuaded to travel and visit the same places. When an online user identifies VIs to reflect their ideal self-image, the online user would most likely be prompted to mirror the VI's travel journey.

We also detected a positive relationship between PSI with VIs and visit intention, which is congruent with past empirical findings. Yılmazdoğan et al. (2021) examined the direct and mediating role of PSI with an influencer on visit intention. Their results reflect that parasocial interaction with an influencer impacts intention and fully mediates the source credibility dimensions' effect on intention, a finding endorsed by Um (2023). PSI with a destination-based TV documentary program enhanced the travel intention of young Chinese viewers (Bi et al., 2021). VIs

are able to develop PSIs with their followers (Block & Lovegrove, 2021); thus, interacting with VIs would evoke a higher level of PSI among their followers, leading to increased intention to visit VI-endorsed places.

In this study, we also measured the direct impact of the anthropomorphism of VIs on visit intention and detected positive statistical evidence of the relationship in alignment with the past findings. Park et al. (2021) strove to evaluate the impact of anthropomorphism in understanding customers' experiences in the hospitality industry about employing robot services in China. The authors analyzed online customer-generated reviews and comment-related data in relation to robot services and reported that human-like service robots tend to please customers whenever they perform a satisfactory service delivery. A recent study on VIs reported that VIs' anthropomorphism significantly affects their social and physical attractiveness in the SNS users' view, which also partially influences users' attitudes toward VI-endorsed brands (Ahn et al., 2022). Our interview findings (Table 8) also corroborate that the anthropomorphic attribute of VIs would affect the interviewee's perception of VIs, as the importance of anthropomorphism emerged as a critical factor.

In our study, SNS users' gratification factors with VIs, namely escapism, trendiness, purposive value, and social interaction, were identified as strong influencers of visit intention, indicating that these elements could induce travel intention. Lou et al. (2023) suggested that social interaction strongly motivates online followers' behavioral intention toward VIs because they can relate to a VI's social values or personality. Moreover, social interaction was found to be a critical motivating factor in affecting online consumer engagement behavior with SMIs (Cheung, Leung, Yang, et al., 2022). Past research also argued purposive value is a predictor of users' behavioral aspects in the online environment. For instance, within the social media environment, consumers' valuing of co-creation behavior is significantly driven by their purposive values (Zadeh et al., 2023). The findings of Sung et al. (2022) indicate escapism experiences via an augmented reality setting shape consumers' behavioral intentions. We can argue VIs, as virtual persons, may offer SNS users a channel for experiencing escapism from their daily life and may eventually evoke their willingness to visit the destination VIs promote on their social media accounts.

Theoretical Implications

Notwithstanding the increasing scholarly attention on leveraging VIs to promote tourism and travel destinations, research evidence in this field remains scarce (Xie-Carson et al., 2024; Xie-Carson & Benckendorff, 2024; Xie-Carson, Magor et al., 2023). To address this void in the scholarship, we explore the motivating factors that influence SNS users' intention to visit VI-promoted places. Our study presents significant theoretical implications for the domain of VI marketing in the travel and tourism field. Firstly, our study provides a comprehensive understanding of why individuals would consider VI marketing efforts in the travel industry by exploring significant predictors of visit intention toward VI-promoted destinations, utilizing the well-understood model comparison approach. We also answer a call from studies which have suggested more research to capture the impact of VI marketing on travel behavior (Ameen et al., 2024; Meng et al., 2025). Therefore, to advance our knowledge of the effect of VI endorsement in the travel industry, we have identified several key factors associated with VI marketing that impact visit intention by considering nine theoretical models.

Secondly, by applying a qualitative interview approach after employing model comparison, we not only revalidate our quantitative results but also identify novel VI factors and offer new insights to better understand visit intention beyond corroborating quantitative findings. For instance, the interviewees pronounced VI's collaboration with human influencers as a critical element in influencing SNS users' intention to visit (Table 8). As consumers tend to form their evaluation of influencers based on their collaborative efforts (Thomas et al., 2024), we assert that the collaboration between VIs and human influencers will bring human aspects to the travel endorsement by compensating for VI's shortcomings and reinforcing more positive consumer behavior. Cultural representation through VIs has also been deemed a significant factor in driving visit intention toward VI-promoted places (Table 8). Our findings also resonate with past literature on influencers. The famous Chinese VI, Ling, has remained distinctive among other VIs as her communications promote traditional Chinese culture to her audience nationally and globally (Luo & Kim, 2023). Hence, the qualitative results contribute to our nuanced understanding of VI marketing in travel literature by outlining VI-related novel factors that can influence travel behavior, which are not accounted for by the existing theories of our model comparison approach.

Lastly, we offer a methodological contribution to the academic literature by applying NCA, PLS-SEM and a qualitative interview-based approach to the travel research paradigm to identify the VI-related critical factors of visit intention. The PLS-SEM, often referred to as a standard multivariate analytical method, helps identify significant determinants of a certain outcome by examining the causal-predictive connections between antecedent and outcome factors (Hauff et al., 2024). Nonetheless, this method does not specify which factors are essential to obtain this outcome. NCA infers that necessary conditions are to be met to achieve a particular outcome;

Table 9. Explanations of the combined use of PLS-SEM and NCA Results.

PLS-SEM results	NCA results	Relationships: X (exogenous factors)	—> Y (endogenous factor)	Interpretations
sig.	and an NC	SCT: expertise, trustworthiness UGT: escapism, social interaction, purposive value, trendiness SPT: informational power, referent power, reciprocity power CAT: pleasure, usefulness, ease of use CONG: actual and ideal self-congruence TRA & TPB: attitude, subjective norm PSI: parasocial interaction ANTHRO: anthropomorphism	—> Visit intention	On average, an increase in these exogenous factors related to VIs will result in an increase in SNS users' visit intention, and a certain degree of these exogenous factors is essential for improving visit intention.
non sig.	and an NC	UGT: entertainment value, social presence, integrative gratification SPT: expert power CAT: arousal, dominance TPB: perceived behavioral control	—> Visit intention	A certain degree of these exogenous factors related to VIs are necessary for achieving visit intention; nonetheless, an additional increase in these factors is not suggested as it will not further increase visit intention.
sig.	and not NC	SCT: attractiveness	—> Visit intention	An increase in the attractiveness of VIs will increase SNS users' visit intention; no minimum level of VI's attractiveness is necessary for improving visit intention.

Note. NC = Necessary condition; sig. = significant determinant; non sig. = non-significant determinant.

otherwise, the desired outcome will not occur (Dul, 2016, 2024). Importantly, non-significant antecedent factors of the PLS-SEM method can be necessary conditions for achieving that particular outcome factor (Hauff et al., 2024). In Table 9, we outline the implications of our PLS-SEM and NCA analysis. Moreover, the quantitative findings of the PLS-SEM-based model comparison method can be supported and strengthened by applying qualitative methods such as interviews. Therefore, the combined application of PLS-SEM, NCA and qualitative methods puts forward a novel methodological synergy within the context of the model comparison method that has not been previously applied in VI marketing, tourism and travel literature—hence representing the methodological contribution of this study.

Managerial Implications

The multiple-model comparison method used in this paper offers some notable implications for travel and tourism brand managers and marketing professionals through leveraging VI marketing. First, the attractiveness and anthropomorphic characteristics of VIs should be taken into account in travel marketing on SNSs. Marketing practitioners might also focus on enhancing the credibility perception of VIs by taking advantage of expertise and physical appearance attributes (Xie-Carson et al., 2024). Travel marketers could adopt the latest technologies to enhance both the glamorousness and human-like attributes of VIs, aiming to make them more appealing and interesting to the online travel community. At the same time, the overall persona and storyline of a VI must be pertinent to the travel destination marketing context to motivate SNS users' visiting propensity. Our qualitative findings (Table 8) reveal that cultural representation by VIs has appeared to be an influencing factor in VI recommendations. For example, destination marketing organizations can partner with or develop their own VIs to showcase specific cultural traditions of a travel place with a view of catering to a niche market, creating a relatable narrative of local cultural attractions to connect with potential travelers. Also, travel marketers may focus more on VIs' clothing choices to showcase contemporary lifestyles, reflecting online audiences' tastes and resembling the cultural essence of the respective travel destination.

Second, our results noted VI's knowledge and information-centric aspects, such as expertise and informational power, are significant predictors of visit intention. Therefore, VI's social media content should emphasize travel destination-oriented information, such as the destination's history, pricing, transportation arrangements, and tourist-related amenities (Xie-Carson, Magor et al., 2023). Because SNS users nowadays tend to

be more detail-focused, we suggest that travel marketers include in their VI posts other destination-based attributes, namely the well-known landmarks, high-quality destination images and videos, famous local cuisines, and additional useful information related to the destination; this may signal the VIs' expertise to their audiences.

Third, tourism marketing practitioners should increase their focus on matching the congruence between VIs and online users. Practitioners must pay careful attention when selecting VIs as travel destination promoters, making sure the VI's overall personality, posts, and lifestyle harmonize with the target travelers' self-concept. To do that, tourism marketing professionals must first attempt to determine their target travelers and identify their actual and ideal self-concept by researching their way of living, values, tastes, and preferences. In addition, VIs' storylines and social media content should be designed to display narratives resembling the potential travelers' lifestyles and aspirations. This method of endorsing VIs, which should resonate with target tourists, will elevate target travelers' visit intention.

Fourth, creators of VIs must display a transparent and explicit operational process of manifesting VIs to the audience to make VIs more believable and trusted. This would enable marketing managers to select those VIs considered most trustworthy and lead target tourists to have faith in VI-promoted travel content. This VI selection process may entail evaluating authenticity and clarity in creating and maintaining VI. As a result, collaborating with trusted VIs will allow tourism marketers to strengthen their marketing campaigns to be more credible, which may increase the likelihood of triggering visit intention.

Fifth, tourism marketers may consider collaboration between VIs and human influencers as a strategic means to strengthen their promotional campaigns. A high realism setting for VIs, such as VIs with human friends in a single photo frame, shapes consumer behavior toward VI marketing (I. Kim et al., 2024). Thus, utilizing human and VI's distinctive power and capabilities will offer marketers unique opportunities to generate more captivating and trustworthy endorsement content for travel enthusiasts. VIs are able to provide creative and appealing content with advanced computer graphical design, while human influencers can ensure the authenticity and realness aspect of the travel endorsement content to enhance individuals' travel propensity.

Lastly, our results also report PSI with VIs will evoke visit intention among online users. While partnering with tourism brands, VI creators should reinforce the two-way communication process between online users and VIs to foster PSI by replying to and liking users' comments and having online conversations with them. Moreover, managers should strategically design VI content to generate more engagement and interactions with and behavioral responses from audiences. By engaging online users in the VI content-creation process and having open question-and-answer sessions with them, tourism marketers may enhance the degree of PSI between VIs and users and ultimately positively influence their visit intention.

Limitations and Future Research

We acknowledge our study has some limitations, and these present directions for future research studies. First, most of the participants are younger (71.6% of our sample are under 35), though perhaps this is not surprising for a social media-based study. This group is more likely to be on social media and thus have the potential to interact with VIs. Second, the study is limited by comparing nine theoretical models to elucidate the VI phenomenon from the travel and tourism perspective. Future studies might consider using three to four theoretical models, proposing a combined view of those models, and empirically testing the resulting unified model. Third, only a small proportion of our sample (10.26%) already followed a VI. We mitigated this by providing links to popular VIs to educate the respondents on VIs and in the preamble to our study we carefully explained the concept of the VI. We asked those who followed VIs already which VIs they followed, and our exemplars provided were popular with those who followed VIs thus providing evidence that we had chosen relevant exemplars. Fourth, our statistical analysis employed the PLS-SEM method through SMART PLS software, in which NCA findings complement the results. Since applying a configurational approach (fsQCA) has become popular among scholars, we thus assume future studies may consider examining the configurational effects between VI-related factors and visit intention under different travel contexts. Fifth, we chose one outcome variable, visit intention. Alternative measures of engagement such as heightened awareness or engagement metrics could be used as outcome variables as they are becoming more commonplace is SMI studies. Sixth, our study had a 47.48% response from non-English speaking Europe, with a further 27.6% from English speaking Europe. This is most likely as our study is conducted in English as English is widely spoken in Europe and many European citizens live in English speaking countries in Europe. Future studies may consider drawing samples from less developed, developing, and developed countries to document the cross-cultural differences in the context of antecedents of behavioral intentions toward VIs. Future cross-cultural studies on VI marketing will also help improve the generalizability of the study findings and be essential for gaining a clearer understanding of this phenomenon. Finally, our study focused on the perceptions of SNS users. One further avenue would be to engage in experimental research to more

clearly understand the boundary conditions on how different VI-related factors affect the travel decision-making process. Examples of such experiments would include manipulating VI type (humanlike VI vs. cartoon-like VI), displayed gender for humanlike VIs, level of anthropomorphic attributes (high vs. low anthropomorphic VI), and VI attractiveness (highly attractive vs. less attractive VI). Also, future studies might explore travel brands' perspectives toward VIs to gain in-depth insights into the phenomenon. Researchers may also be interested in exploring the role of arousal and dominance evoked from VIs on pre-travel behavior and examining the moderating role of types of VIs (human vs. cartoon-like vs. anime-like) on these relationships. Finally, our qualitative findings reveal a set of novel factors associated with VI marketing that may influence travel behavior. Future researchers may consider these factors from our qualitative study (i.e., VI's collaboration with human influencers, VI's appealing content, cultural representation by VIs) in quantitative studies.

Conclusions

Consumer behavior toward influencer marketing has garnered significant interest among research scholars; however, visit intention engendered by VIs in the tourism industry remains relatively unexplored principally because of the novelty of VIs. Given VIs' increasing popularity and higher level of brand endorsements, somewhat increased by the global pandemic when human models were less available in person to shoot campaigns, tourism marketers' understanding of the salient attributes that activate SNS users' behavior has become imperative for exploiting VI marketing in the tourism sector. Through adopting a model comparison approach, our study seeks to determine the key factors associated with VIs that were significant in explaining SNS users' visit intention. Our study is one of the first studies that applied a model-comparison approach to identify the explanatory power of the nine selected theories to study the VI phenomenon within the tourism context. Our findings highlight that while all nine theories possess explanatory power in relation to visit intention, social power and parasocial interaction theories are potentially the most effective theories. Our findings produce a set of key factors related to VIs that augment visit intention that may act as principles for scholars and marketing practitioners to develop a more nuanced view of consumer behavioral actions toward VI, especially in relation to visit intentions.

Appendix 1. Measurement Items and Factor Loading.

Construct	Measurement Items	Sources	Loading
Escapism	1: Following this virtual influencer helps me escape from the world of reality.	Gao et al. (2017)	0.923
	2: Following this virtual influencer helps me escape from problems and pressures.		0.927
	3: Following this virtual influencer helps me escape from things that are unpleasant and worrisome.		0.944
	4: Following this "Virtual Influencer" makes me feel like I am in a different world of reality.		0.790
Social presence	1: There is a sense of human contact with this virtual influencer.	Gao et al. (2017); H. Li et al. (2015)	0.885
	2: There is a sense of personalness with this virtual influencer.		0.874
	3: There is a sense of sociability with this virtual influencer.		0.909
	4: There is a sense of human warmth with this virtual influencer.		0.917
	5: There is a sense of human sensitivity with this virtual influencer.		0.922
	6: I feel connected to other followers/users that follow this virtual influencer.		0.782
Social interaction	1: I open up more to others via following virtual influencers than in other communication modes.	H. Li et al. (2015)	0.864
	2: I have a network of friends I have made via following this virtual influencer.		0.912
	3: Following this virtual influencer enables me to connect with friends in my virtual life.		0.935
	4: Following the virtual influencer enables me to keep in touch with friends in my virtual life.		0.936
Integrative gratification	1: Following this virtual influencer expands my virtual social networks.	Nambisan and Baron (2007)	0.882
	2: Following this virtual influencer enhances the strength of my affiliation with my virtual community.		0.942
	3: Following this virtual influencer enhances my sense of belongingness with my virtual community.		0.937
	4: Following this virtual influencer reinforces my credibility/authority in my virtual community.		0.910
	5: Following this virtual influencer enhances my status/reputation in my virtual community.		0.891

(continued)

Appendix 1. (continued)

Construct	Measurement Items	Sources	Loading
Entertainment value	1: I follow this virtual influencer to be entertained.	Dholakia et al. (2004)	0.943
	2: I follow this virtual influencer for fun.		0.952
	3: I follow this virtual influencer to relax.		0.911
	4: I follow this virtual influencer to pass the time away when bored.		0.905
Purposive value	1: I follow this virtual influencer to get information.	Dholakia et al. (2004)	0.848
	2: I follow this virtual influencer to learn how to do things.		0.884
	3: I follow this virtual influencer to provide others with information.		0.915
	4: I follow this virtual influencer to contribute to a pool of information.		0.904
	5: I follow this virtual influencer to generate ideas.		0.854
	6: I follow this virtual influencer to solve problems.		0.870
	7: I follow this virtual influencer to make decisions.		0.829
Trendiness	While following this virtual influencer on social media, I feel that….		
	1: …they give the newest information.	Chung et al. (2020)	0.821
	2: …they are very trendy.		0.874
	3: …they provide up-to-date content.		0.905
	4: It is fashionable to follow this virtual influencer on social media.		0.836
Attractiveness	1: I find this virtual influencer very physically attractive.	Sakib et al. (2020)	0.927
	2: I think this virtual influencer is quite pretty/handsome.		0.961
	3: This virtual influencer is good looking.		0.950
Expertise	1: When looking at this virtual influencer's social media contents, I find s/he is experienced.	Aw and Chuah (2021)	0.946
	2: When looking at this virtual influencer's social media content, I find s/he is an expert.		0.963
	3: When looking at this virtual influencer's social media content, I find s/he is qualified.		0.959
Trustworthiness	1: Undependable/Dependable	Ayeh (2015)	0.718
	2: Dishonest/Honest		0.888
	3: Unreliable/Reliable		0.908
	4: Insincere/Sincere		0.905
	5: Untrustworthy/Trustworthy		0.922
Expert power	1: I think this virtual influencer knows a lot about certain products or services that I do not know about.	P. Wang and Huang (2022)	0.949
	2: I think this virtual influencer knows more about certain products or services than I do.		0.961
	3: I think this virtual influencer has more expert knowledge of certain products and services than I do.		0.954
Information power	1: I think this virtual influencer makes me understand why I should accept their comments about products/services.	P. Wang and Huang (2022)	-
	2: I think this virtual influencer provides good reasons for their reviews on products/services.		0.960
	3: I think this virtual influencer lets me know why the recommendations they make are better.		0.960
Referent power	1: I think this virtual influencer is similar to me.	P. Wang and Huang (2022)	0.943
	2: I think this virtual influencer is someone I could identify with.		0.953
	3: I think this virtual influencer attracts me and I take them as model.		0.895
Reciprocity power	1: For past considerations I had received, I feel obliged to keep following them.	P. Wang and Huang (2022)	0.876
	2: I think this virtual influencer has done some nice things for me in the past, so I would do the same.		0.913
	3: I think this virtual influencer has done some good things that I have requested.		0.925
	4: I think this virtual influencer has let me acquire needed information, so I feel obliged to keep following them.		0.912
Perceived usefulness	1: Following this virtual influencer helps me be more effective on social media.	Kulviwat et al. (2007)	0.923
	2: Following this virtual influencer helps me be more productive on social media.		0.950
	3: Following this virtual influencer helps me to save time on social media.		0.905
	4: Following this virtual influencer made my social media engagement easier.		0.911

(continued)

Appendix 1. (continued)

Construct	Measurement Items	Sources	Loading
Ease of use	1: It was easy to follow and interact with this virtual influencer.	Kulviwat et al. (2007)	0.924
	3: It was simple to follow and interact with this virtual influencer.		0.936
	3: I easily remember how to follow and interact with this virtual influencer.		0.938
	4: It was easy to learn to follow and interact with this virtual influencer.		0.944
Subjective norm	1: People who are important to me would recommend following this virtual influencer.	Hasan et al. (2020)	0.939
	2: People who are important to me would find following this virtual influencer beneficial.		0.965
	3: People who are important to me would find following this virtual influencer a good idea.		0.953
Perceived behavioral control	1: I would be able to follow this virtual influencer on social media.	Taylor and Todd (1995)	-
	2: Following this virtual influencer (on social media) is entirely within my control.		0.940
	3: I have the resources, knowledge and ability to follow this virtual influencer on social media.		0.971
Pleasure	1: Unhappy/Happy	Kulviwat et al. (2007)	0.887
	2: Annoyed/Pleased		0.910
	3: Unsatisfied/Satisfied		0.907
	4: Melancholic/Contented		0.838
	5: Bored/Relaxed		0.863
	6: Despairing/Hopeful		0.872
Arousal	1: Unaroused/Aroused	Kulviwat et al. (2007)	-
	2: Calm/Excited		-
	3: Sluggish/Frenzied		0.801
	4: Dull/Jittery		0.882
	5: Sleepy/Wide-awake		0.835
	6: Relaxed/Stimulated		0.731
Dominance	1: Cared for/In control	Kulviwat et al. (2007)	-
	2: Controlled/Controlling		0.806
	3: Submissive/Dominant		0.851
	4: Influenced/Influential		0.771
	5: Guided/Autonomous		-
	6: Awed/Important		-
Attitude towards VI	1: Unpleasant/Pleasant	S. M. Choi and Rifon (2012), Bruner and Kumar (2000)	0.933
	2: Unfavorable/Favorable		0.950
	3: Boring/Interesting		0.906
	4: Dislike/Like		0.960
	5: Bad/Good		0.945
	6: Negative/Positive		0.945
Actual self-congruence	1: The personality of this virtual influencer is consistent with how I see myself (my actual self).	Malär et al. (2011)	0.966
	2: The personality of this virtual influencer is a mirror image of me (my actual self).		0.959
Ideal self-congruence	1: The personality of this virtual influencer is consistent with how I would like to be (my ideal self).	Malär et al. (2011)	0.978
	2: The personality of this virtual influencer is a mirror image of the person I would like to be (my ideal self).		0.980
Anthropomorphism	1: This virtual influencer is human-like.	Balakrishnan et al. (2022)	0.847
	2: This virtual influencer is conscious of their actions.		0.791
	3: This virtual influencer feels lifelike and not artificial.		0.883
	4: This virtual influencer is elegant in engaging.		0.852
ParaSocial interaction	1: This virtual influencer makes me feel comfortable as if I am with a friend.	Aw and Chuah (2021)	0.872
	2: I would like to have a friendly chat with this virtual influencer.		0.831
	3: I think I understand this virtual influencer quite well.		0.860
	4: When this virtual influencer behaves in a certain way, I know the reasons for their behavior.		0.732
	5: I can feel this virtual influencer's emotions in certain situations.		0.848
	6: This virtual influencer seems to understand the kinds of things I want to know.		0.879
	7: This virtual influencer reminds me of myself.		0.862
	8: I can identify with this virtual influencer.		0.886

(continued)

Appendix 1. (continued)

Construct	Measurement Items	Sources	Loading
Visit intention	1: After considering information about places recommended/promoted by this virtual influencer on his/her social media account(s), it is very likely that I will visit the place.	Erkan and Evans (2016), J. B. Whang et al. (2021)	0.944
	2: After considering information about places recommended/promoted by this virtual influencer on his/her social media account(s), I will visit the place next time I need to visit a place.		0.954
	3: After considering information about places recommended/promoted by this virtual influencer on his/her social media account(s), I will definitely visit the place.		0.931
	4: After considering information about places recommended/promoted by this virtual influencer on his/her social media account(s), I will recommend the place to my friends.		0.924
	5: After considering information about places recommended/promoted by this virtual influencer on his/her social media account(s), I will consider visiting the place.		0.915

Note. "Perceived behavioral control_1," "Information power_1," "Arousal-1," "Arousal-2," "Dominance-1," "Dominance-5," and "Dominance-6" were dropped due to improve the Discriminant validity and Outer loading.

Appendix 2. Construct Reliability and Validity.

	Cronbach's α	CR (rho_a)	CR (rho_c)	AVE
Source credibility theory				
Attractiveness	.942	0.942	0.963	0.896
Expertise	.953	0.953	0.970	0.914
Trustworthiness	.919	0.926	0.940	8260
Uses & gratification theory				
Entertainment value	.946	0.950	0.961	0.861
Escapism	.918	0.927	0.943	0.806
Integrative gratification	.950	0.951	0.961	0.833
Purposive value	.948	0.950	0.957	0.761
Social interaction	.932	0.934	0.952	0.832
Social presence	.943	0.943	0.955	0.779
Trendiness	.882	0.882	0.919	0.739
Social power theory				
Expert power	.951	0.952	0.969	0.911
Information power	.914	0.914	0.959	0.921
Reciprocity power	.928	0.929	0.949	0.822
Referent Power	.923	0.924	0.951	0.866
Consumer acceptance of technology theory				
Arousal	.829	0.842	0.887	0.663
Dominance	.737	0.737	0.851	0.656
Ease of use	.952	0.954	0.966	0.875
Pleasure	.941	0.943	0.954	0.774
Usefulness	.941	0.942	0.958	0.851
Self-congruence theory				
Actual self-congruence	.921	0.927	0.962	0.927
Ideal self-congruence	.957	0.958	0.979	0.959
Theory of reasoned action				
Attitude	.974	0.975	0.979	0.884
Subjective norm	.949	0.949	0.967	0.908
Theory of planned behavior				
Attitude	.974	0.975	0.979	0.884
Perceived behavior control	.908	0.994	0.955	0.913
Subjective norm	.949	0.949	0.967	0.908
Parasocial interaction				
Parasocial interaction	.944	0.947	0.953	0.718
Anthropomorphism				
Anthropomorphism	.865	0.868	0.908	0.712
Visit intention	.963	0.964	0.971	0.872

Appendix 2. (Continued)

Discriminant Validity (Source Credibility Theory).

	Attractiveness	Expertise	Trustworthiness	Visit intention
Fornell-Larcker criterion				
Attractiveness	0.946			
Expertise	0.586	0.956		
Trustworthiness	0.451	0.577	0.872	
Visit intention	0.502	0.602	0.594	0.934
Heterotrait-Monotrait ratio (HTMT)				
Attractiveness				
Expertise	0.619			
Trustworthiness	0.486	0.617		
Visit intention	0.528	0.628	0.631	

Discriminant Validity (Social Power Theory).

	Expert power	Information power	Reciprocity power	Referent power	Visit intention
Fornell-Larcker criterion					
Expert power	0.955				
Information power	0.679	0.960			
Reciprocity power	0.388	0.680	0.907		
Referent power	0.464	0.687	0.766	0.931	
Visit intention	0.479	0.683	0.659	0.728	0.934
Heterotrait-Monotrait ratio (HTMT)					
Expert power					
Information power	0.728				
Reciprocity power	0.412	0.738			
Referent power	0.495	0.748	0.828		
Visit intention	0.501	0.727	0.695	0.772	

Discriminant Validity (Consumer Acceptance of Technology Theory).

	Arousal	Dominance	Ease of use	Pleasure	Usefulness	Visit intention
Fornell-Larcker criterion						
Arousal	0.814					
Dominance	0.181	0.81				
Ease of use	0.328	0.164	0.936			
Pleasure	0.634	0.31	0.511	0.880		
Usefulness	0.524	0.261	0.489	0.590	0.922	
Visit intention	0.454	0.186	0.476	0.651	0.675	0.934
Heterotrait-Monotrait ratio (HTMT)						
Arousal						
Dominance	0.230					
Ease of use	0.365	0.197				
Pleasure	0.712	0.373	0.539			
Usefulness	0.592	0.314	0.516	0.626		
Visit intention	0.505	0.22	0.497	0.683	0.708	

Discriminant Validity (Self-Congruence Theory).

	Actual Self-congruence	Ideal Self-congruence	Visit intention
Fornell-Larcker criterion			
Actual self-congruence	0.963		
Ideal self-congruence	0.736	0.979	
Visit intention	0.625	0.614	0.934
Heterotrait-Monotrait ratio (HTMT)			
Actual self-congruence			
Ideal self-congruence	0.782		
Visit intention	0.660	0.638	

Appendix 2. (Continued)

Discriminant Validity (Theory of Reasoned Action).

	Attitude	Subjective Norm	Visit intention
Fornell-Larcker criterion			
Attitude	0.940		
Subjective norm	0.633	0.953	
Visit intention	0.646	0.699	0.934
Heterotrait-Monotrait ratio (HTMT)			
Attitude			
Subjective norm	0.657		
Visit intention	0.667	0.730	

Discriminant Validity (Theory of Planned Behavior).

	Attitude	Perceived Behavior Control	Subjective Norm	Visit intention
Fornell-Larcker criterion				
Attitude	0.940			
Perceived behavior control	0.416	0.852		
Subjective norm	0.633	0.324	0.953	
Visit intention	0.646	0.340	0.698	0.934
Heterotrait-Monotrait ratio (HTMT)				
Attitude				
Perceived behavior control	0.410			
Subjective norm	0.657	0.280		
Visit intention	0.667	0.309	0.730	

Discriminant Validity (Parasocial interaction).

	Parasocial interaction	Visit intention
Fornell-Larcker criterion		
Parasocial interaction	0.847	
Visit intention	0.772	0.934
Heterotrait-Monotrait ratio (HTMT)		
Parasocial interaction		
Visit intention	0.806	

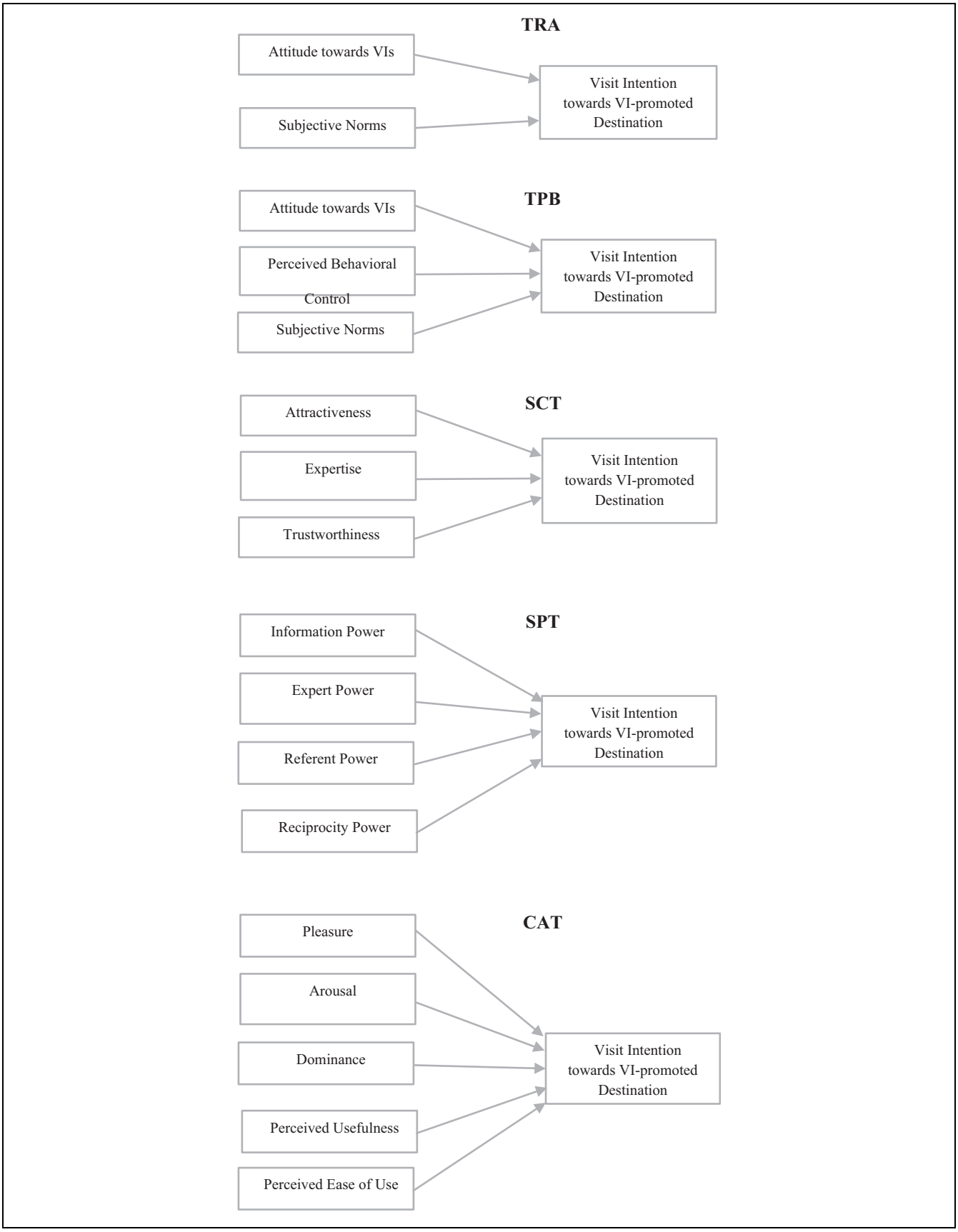
Discriminant Validity (Anthropomorphism).

	Anthropomorphism	Visit intention
Fornell-Larcker criterion		
Anthropomorphism	0.844	
Visit intention	0.619	0.934
Heterotrait-Monotrait ratio (HTMT)		
Anthropomorphism		
Visit intention	0.675	

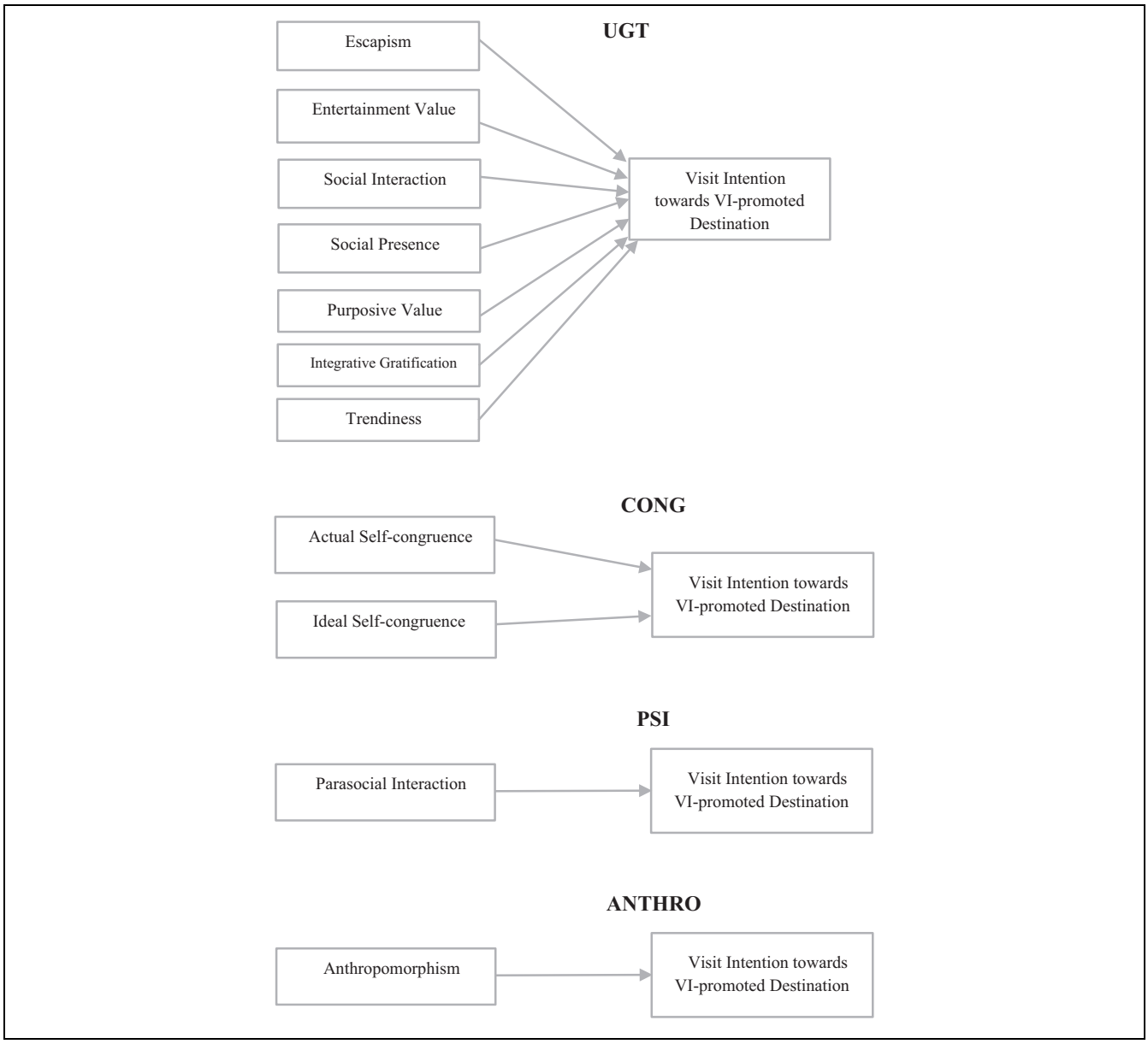
Appendix 2. (Continued)

Discriminant Validity Uses and Gratifications Theory.

	Entertainment value	Escapism	Integrative gratification	Purposive value	Social interaction	Social presence	Trendiness	Visit intention
Heterotrait-Monotrait ratio (HTMT)								
Entertainment value								
Escapism	0.674							
Integrative gratification	0.673	0.683						
Purposive value	0.624	0.662	0.775					
Social interaction	0.453	0.685	0.770	0.758				
Social presence	0.628	0.746	0.678	0.692	0.688			
Trendiness	0.773	0.654	0.734	0.743	0.572	0.685		
Visit intention	0.584	0.663	0.654	0.724	0.663	0.627	0.693	
Fornell-Larcker criterion								
Entertainment value	0.928							
Escapism	0.630	0.898						
Integrative gratification	0.641	0.639	0.912					
Purposive value	0.599	0.622	0.735	0.873				
Social interaction	0.432	0.639	0.725	0.712	0.912			
Social presence	0.598	0.697	0.646	0.658	0.655	0.883		
Trendiness	0.706	0.590	0.676	0.687	0.527	0.629	0.859	
Visit intention	0.560	0.626	0.627	0.695	0.632	0.601	0.641	0.934



Appendix 3. (continued).



Appendix 3. Research frameworks.

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Author Contributions

Ahmed Al Asheq: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Software; Validation; Visualization; Writing—original draft; Writing—review & editing.
Rajibul Hasan: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Software; Supervision; Validation; Visualization; Writing—original draft; Writing—review & editing.
Joseph Coughlan: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing—original draft; Writing—review & editing.

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