

ORIGINAL

An Exploration of the Influencing Factors of Virtual Influencers on Consumers' Purchase Intentions

Una exploración de los factores de influencia de los Influencers virtuales en las intenciones de compra de los consumidores

Wenqi Zhang¹  

¹Graduate School Kyung Hee University. 02447, Seoul, Korea.

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Corresponding Author: Wenqi Zhang 

ABSTRACT

Introduction: in the developing landscape of digital marketing, virtual influencers' (VIs) computer-generated features powered by artificial intelligence (AI) are reshaping the way brands connect with consumers. As these digital personas gain traction on social media platforms, their potential to influence consumer behavior, particularly purchase intention (PI), is becoming increasingly relevant. Despite their growing popularity, there remains limited empirical research on the factors that drive consumer responses to VIs.

Objective: this research explores the key attributes of VIs such as credibility, informative value (IV), human-likeness (HL), attractiveness, and entertainment value that influence consumer engagement (CE), and PI.

Method: using a structured questionnaire, data were collected from 523 social media users who had prior exposure to VIs. The data was examined using a structural equation model (SEM) and statistical methods, including Reliability analysis, Descriptive statistics, and Confirmatory Factor Analysis (CFA).

Results: the results from the SEM revealed that perceived credibility (PC) ($\beta = 0,41$, $p < 0,001$) had the strongest positive impact on CE, which significantly influenced PI. IV and HL also positively contributed to engagement. While attractiveness and entertainment value (A&EV) significantly affected consumer engagement, they had no direct effect on PI.

Conclusions: this research enriches AI-driven influencer marketing literature by providing theoretical insights and actionable implications, guiding brands toward evidence-based strategies. It establishes a foundation for leveraging VIs more effectively in modern, data-informed marketing and CE campaigns.

Keywords: Virtual Influencers (VIs); Artificial Intelligence (AI); Purchase Intention; Consumers; Attractiveness; Entertainment Value.

RESUMEN

Introducción: en el panorama en desarrollo del marketing digital, las características generadas por ordenador de los influencers virtuales impulsados por la inteligencia artificial (ia) están remodelando la forma en que las marcas se conectan con los consumidores. A medida que estas personas digitales ganan tracción en las plataformas de redes sociales, su potencial para influir en el comportamiento del consumidor, en particular las intenciones de compra, es cada vez más relevante. A pesar de su creciente popularidad, sigue siendo limitada la investigación empírica sobre los factores que impulsan las respuestas de los consumidores a las VIs.

Objetivo: este estudio analiza los atributos clave de los VIs —credibilidad percibida, valor informativo, semejanza humana, atractivo y valor de entretenimiento— que influyen en el engagement del consumidor y en su intención de compra.

Método: utilizando un cuestionario estructurado, se recogieron datos de 523 usuarios de redes sociales que tenían exposición previa a VIs. Los datos se examinaron utilizando un modelo de ecuaciones estructurales (SEM) y métodos estadísticos, incluyendo análisis de confiabilidad, estadística descriptiva y análisis factorial confirmatorio (CFA).

Resultados: los resultados de la SEM revelaron que la credibilidad percibida (PC) ($\beta = 0,41$, $p < 0,001$) tuvo el mayor impacto positivo en el engagement del consumidor (CE), que influyó significativamente en la intención de compra (IP). El valor informativo (IV) y la semejanza humana (ns) también contribuyeron positivamente a la participación. Mientras que el A&EV afectaron significativamente la participación del consumidor, no tuvieron un efecto directo en PI.

Conclusiones: esta investigación enriquece la literatura de marketing de influencer impulsada por AI al proporcionar conocimientos teóricos e implicaciones accionables, guiando a las marcas hacia estrategias basadas en la evidencia. Establece una base para aprovechar la VIs más eficazmente en campañas de marketing modernas, basadas en datos y campañas de compromiso del consumidor.

Palabras clave: Influencers Virtuales (VIs); Inteligencia Artificial (IA); Intención de Compra; Consumidores; Atractivo; Valor de Entretenimiento.

INTRODUCTION

Livestreaming e-commerce has rapidly become a core element of the digital economy, where influencer marketing plays a central role in shaping customer behavior. An increasing number of VIs are being introduced on livestreaming platforms, enhancing the appearance of online broadcasting and expanding their innovative earning potential.⁽¹⁾ Influencer marketing, as a form of social-media marketing, leverages people with credibility, expertise, and loyal followings to promote products and improve consumer brand awareness and purchase intentions (PI).⁽²⁾

Since the emergence of VIs in 2016, human influencers (HIs) have faced growing challenges to their dominance in this space. HIs traditionally shaped consumer PI through trust and parasocial relationships, but the rise of VIs—digital identities generated by computer graphics and AI—has introduced new dynamics into marketing.⁽³⁾ Unlike HIs, VIs are not real people but purely virtual personas that look, behave, and interact like humans.⁽⁴⁾ They demonstrate human-like traits and predictable behaviors, allowing brands to maintain greater consistency and control over promotional content compared with the biases and unpredictability of human influencers.

VIs has been shown to be effective in driving engagement, as they enable consumers to intuitively access product details in e-commerce livestreams and interact naturally with promotional content. When compared to the human influencers, they are regarded as more regular and dependable, which strengthens their appeal and popularity.⁽⁵⁾ Furthermore, VIs represent a rapidly growing trend in social media, functioning as sovereign promoters across multiple platforms such as blogs, tweets, and livestreams. Although virtual characters modeled after people are not a new concept, their integration into social media as independent influencers marks a significant transformation in digital marketing.⁽⁶⁾

Despite this potential, research on VIs in marketing remains limited, particularly in explaining how they influence CE and purchase behavior.⁽⁷⁾ Existing studies often highlight attributes such as attractiveness, informativeness, and credibility, but little is known about followers' perceptions, motivations to engage, or behavioral and attitudinal responses toward VIs. Moreover, while HIs can be illogical and biased at times, VIs are guided by algorithms and brand objectives, offering marketers greater control over campaign outcomes.⁽⁸⁾ This gap highlights the need for deeper investigation into how specific VI attributes influence consumer decision-making. Therefore, this analysis explores the impact of perceived credibility, informativeness, HI, attractiveness, and entertainment value of VIs on CE and PI, contributing theoretical insights and practical implications for AI-driven influencer marketing.

Influencer Type and Consumer Purchase Intention (PI)

To analyze the effect of three types of influencers⁽⁹⁾ on Chinese Generation Z PI at varied levels of product participation, with emotional attachment serving as a mediating element. Overall, the statistics show that attachment theory is effective for social media endorsement marketing. The research's limitations include a focus on Chinese Generation Z, a cross-sectional design, and self-reported data that restricts causal interpretation. The presented method is currently being used to explore the phenomenon.⁽¹⁰⁾ To examine the followers' engagement with VIs and finds and conceptualizes six key motivations: information, novelty, surveillance, amusement, integration and social interaction, and esthetics. Additionally, it was discovered that most followers perceive VIs as uncanny and faithfully fraudulent. The method focuses on perceived reasons and follower responses, rather than real behavioral results such as purchase decisions, which limits it. A conceptual

model of visitors' intents to visit new destinations was examined, with subjective knowledge correlated with risk and trust assessments.⁽¹¹⁾ The model assessed the adjusting impact of social media influencers on visitor psychological characteristics. Data from two Malaysian research propose that destination trust affects the connection between subjective knowledge and perceived risk. The findings contribute to tourism research by emphasizing the role of destination trust in affecting tourist inclinations. The approach's concentration on Malaysian participants restricts the generalizability of the outcomes to larger or more varied visitor groups.

Perceptions of Authenticity and Realism

The influencer type (virtual vs. human) was investigated that affects customer perceptions of authenticity.⁽¹²⁾ Furthermore, investigate if machine heuristics control consumer perceived authenticity, as well as whether belief in influencers and PI could be connected with the influencer's perceived realism. An online between-subjects trial (N¼ 130) found that VIs were considered as more authentic than person influencers. The research's modest sample size and experimental design could have an impact on the findings' generalizability and real-world relevance. The approach investigated the VI phenomenon,⁽¹³⁾ which provides a detailed overview of VIs based on a thorough review of the press stories, blogs, social platform statistics, literature, and interviews. Begin by examining their evolution and then proceed to assess their prospects and risks. To provide thorough information about the most popular ones, as well as marketing collaborations, and compare virtual and actual (human) influencers. The approach limitations include reliance on secondary sources and a small, self-selected survey sample, which could introduce bias and restrict the representativeness of its conclusions.

The function of social resemblance and imagines interactions are investigated in mediating the cause of influencer type on PI, as well as the influencing cause of perceived realism.⁽¹⁴⁾ A two-by-two between-subjects experiment assessed the impact of product type and influencer type. Young adult participants visited a lifestyle influencer's Instagram page. Pre-established criteria were used to assess perceived homophily, parasocial relationships, authenticity, and PI. The use of a controlled experimental design with young adult participants limits the research's potential to fully represent real-world consumer behavior across age groups and social media platforms. The presented method investigated the influence of online influencers on Japanese food purchasing in Bangkok, Thailand.⁽¹⁵⁾ It involved 407 Japanese food consumers used convenience sampling. The results showed that credibility, attractiveness, and trust in influencers significantly influenced PI. However, the convenience sampling method in a single city could limit its generalizability to broader populations or other cultural contexts. The approach results point out the importance of online influencers in influencing consumer actions.

Influencer Attributes and Knowledge-Based Models in Shaping Purchase Intentions

The developed technique assessed the impact of online influencers' attributes⁽¹⁶⁾ on consumer PI and brand attitude in live shows. In the sketch on persuasion theory, the authors found that attractiveness and reliability directly increase PI; they point out the importance of influencers' professionalism and reliability in influencing consumer attitudes towards brands. The method scope, limited to China's e-commerce context and small sample size, can restrict its applicability to other markets or cultural settings. The suggested method presents a paradigm for understanding the relationship between digital influencers (DIs) and consumer PI.⁽¹⁷⁾ The goal was to use an combined knowledge-based system (KBS) to evaluate the impact of DIs on consumer PI. According to the fuzzy analytic hierarchy approach, the KBS connects DI aspects to their overall impact on consumer PI. The KBS evaluates DIs' performance, demonstrating the connection between choices and decision criteria, particularly in the organic skincare industry, and their beneficial effect on consumer PI. The researchers' scope is restricted to Pakistan's organic skincare industry and relies on the fuzzy analytic hierarchy process (AHP), potentially overlooking the dynamic nature of influencer-consumer interactions across broader markets. To examine the impact of perceived service quality on PI in online shopping, with trust as a mediator and perceived risk as a moderator.⁽¹⁸⁾ Perceived service quality significantly affects trust and PI, while trust substantially affects PI; perceived risk shows no moderating or direct effect. Findings are limited to online fashion shoppers during the Covid-19 pandemic and may not generalize across other industries or time periods.

Despite increased interest in VIs, there is little research of how followers perceive and interact with VIs in livestreaming e-commerce, including their motives for following and the psychological and behavioral outcomes of these interactions. Existing research frequently uses self-reported data, cross-sectional designs, or context-specific samples, restricting causal inference and generalizability. To overcome these limitations, this research the influence of VIs on consumer PI, focusing on factors like PC, IVHL, A&EV are analyzed in this research. It uses empirical data and SMEs to offer perceptions into how these influencers shape consumer behavior, and selection brands improve their digital marketing tactics in the age of AI.

Hypothesis

- H1: the perceived credibility (PC) of VIs has a considerable positive influence on consumer engagement (CE).

Based on this hypothesis, when consumers discover VIs as trustworthy, competent, or believable, they are more inclined to interact with their material. Credibility builds trust, which is an important incentive for engagement.

- H2: informative value (IV) of VIs’ content positively influences CE.

This investigates whether the utility or relevancy of the information offered by the VI encourages consumers to engage more. If the information is perceived as valuable (for example, product reviews or advice) it can encourage increased connection.

- H3: human-likeness (HL) of VIs significantly enhances CE.

It explores whether consumers are more likely to connect with VIs that appear more HL. A higher level of realism can improve emotional connection and make conversations feel more natural.

- H4: CE has a major effect on the relationship between PC and PI.

The focus is on the indirect influence. It implies that, while PC does not directly drive PI, it does lead to increased involvement, which influences purchasing decisions. In other words, credibility influences engagement, which leads to purchasing choices.

- H5a: the attractiveness and entertainment value (A & EV) of VIs significantly increase CE.

This hypothesis proposes that visually appealing and entertaining VIs attract greater attention and involvement. Attractive and entertaining content generates likes, shares, and comments, increasing engagement.

- H5b: the attractiveness and entertainment value (A & EV) of VIs have no substantial direct effect on consumer purchasing intentions (PI).

This conflict with H5b indicates that, while attractiveness and entertainment can increase engagement, they do not immediately motivate consumers to make a purchase. They assist in attracting attention, but they are insufficient to influence purchasing decisions; other factors, such as credibility and informativeness, are more important.

METHOD

The analysis employed a quantitative, cross-sectional survey design to examine how VIs affects consumer PIs. Data were collected from 523 social media users with prior exposure to VIs using a structured questionnaire distributed online. The instrument measured key constructs—credibility, informativeness, HL, attractiveness, entertainment value, consumer engagement, and PI on a 5-point Likert scale adapted from validated studies. The data were examined utilizing reliability testing, descriptive statistics, CFA, and SEM to ensure validity and to examine the hypothesized relationships among variables.

Research Organization

To investigate the relationship between VI features, the consumer PI, and engagement. It indicates that perceived legitimacy, IV, and HL have a beneficial impact on CE. A&EV increases engagement but doesn’t have a direct impact on purchasing decisions. CE serves as a relationship between important influencer characteristics, particularly credibility and PI, emphasizing the need for interactive user experiences. This assists consumers in determining which VI traits create meaningful interaction and, eventually, purchasing behavior, as illustrated in figure 1.

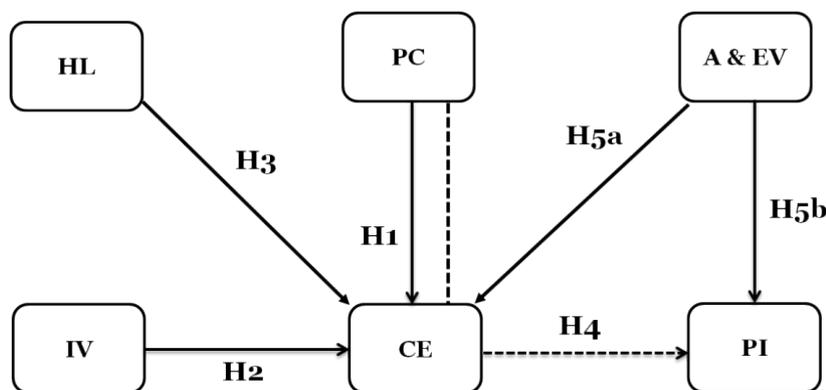


Figure 1. Structure of Hypotheses

Quantitative methodology guided the research process to obtain data from participants through a structured questionnaire. Constructs were evaluated with approved scales, and data were analyzed using SEM. To assess reliability and validity, we employed Composite Reliability (CR), CFA, and Cronbach's Alpha. Hypothesis testing looked at direct and mediated links between constructs. Figure 2 illustrates the overall flow of the research.

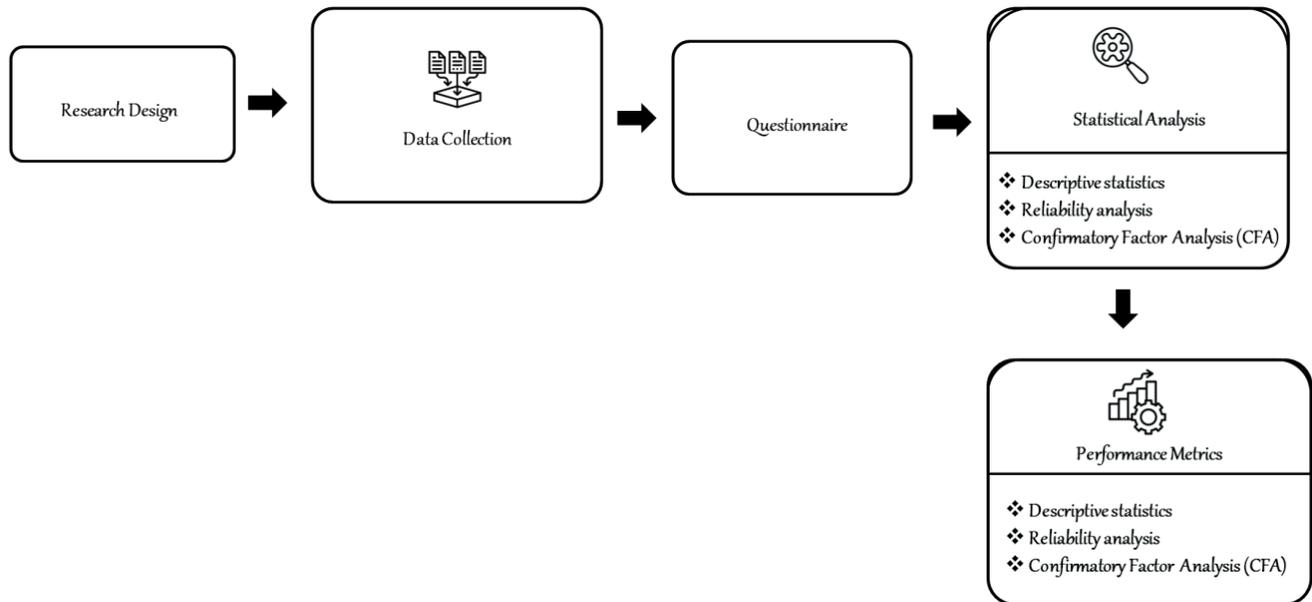


Figure 2. Overview of Research

Research Design

A quantitative, cross-sectional survey approach to evaluate how VIs influence consumers' PI. The investigation's important data collection tool was a structured questionnaire. A logical approach was used, with hypotheses established based on existing theories and tested statistically.

Population and Sample

The population comprised active social media users with prior exposure to VIs. To ensure relevance, a non-probability purposive sampling strategy was employed, focusing only on individuals who had previously interacted with or observed VIs. The final sample consisted of 523 valid contributors, which meets recommended thresholds for SEM.

Inclusion criteria

- Participants aged 18 years and above.
- Active users of social media platforms.
- Prior exposure to VIs.

Exclusion criteria

- Individuals below 18 years of age.
- Respondents with no prior awareness of VIs.

Exit criteria

- Incomplete responses.
- Inconsistent or unreliable survey entries (e.g., straight-lining, missing data).

Data Collection

The data were gathered by using a structured questionnaire created in Google Forms and disseminated across multiple social media and messaging platforms. Prior to involvement, the participants have been informed about the research's purpose, data confidentiality, and their rights as participants. The questionnaire included validated measurement scales from previous research to capture constructs such as perceived credibility, informativeness, HL, attractiveness, entertainment value, consumer engagement, and PI. Participation was voluntary, no incentives were provided, and ethical standards were strictly followed.

Instrument Development

The measurement items for every construct have been adapted from validated scales in previous studies to

ensure reliability and comparability. Every construct has been measured on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).⁽¹⁸⁾

To establish content validity, the questionnaire was reviewed by a panel of five subject matter experts (SMEs) in digital marketing and consumer psychology. Experts were chosen depending on their academic publications and professional experience in influencer marketing and consumer behavior research. They evaluated the items for clarity, relevance, and representativeness. The Content Validity Index (CVI) was computed, with all items exceeding the suggested threshold (0,80), which confirms the adequate content validity. Minor wording adjustments were made based on expert feedback to improve comprehension and reduce ambiguity.

Questionnaire

The survey was designed to investigate how VIs affects CE and buying intention. It utilized a 5-point Likert scale to analyze a variety of aspects with existing items. Table 1 lists the constructs: PC, IV, HL, A&EV, CE, and PI. To ensure both content coverage and internal consistency, at least two reflection elements were employed for each construct. The instrument was tested to verify its clarity and reliability.

Table 1. Questionnaire Items by Factor

Factors	Revised Question	References
PC	Do you believe the VI is trustworthy? Do you feel that the VI gives honest opinions about products or services? Would you consider the VI to be a reliable source of information?	(19)
IV	Do you find the content shared by the VI to be informative? Does the VI help you learn useful information about products or brands? Do the posts by the VI help you better understand certain products or services?	(20)
HL	Does the VI look similar to a real human? Does the VI behave in a way that feels natural or human-like? Do the VI's facial expressions and emotions appear realistic to you?	(21)
A	Do you find the VI visually attractive? Would you describe the VI as having an appealing appearance?	(22)
EV	Do you find the VI's content entertaining to watch or read? Do you enjoy following the VI's posts?	(23)
CE	Do you regularly pay attention to the VI's content? Do you interact with the VI's posts (e.g., liking, commenting, or sharing)? Do you keep up with updates or new content from the VI?	(24)
PI	Are you likely to purchase a product recommended by this VI? Do you consider the VI's suggestions when making purchase decisions? Do you intend to buy products that you see promoted in the influencer's content?	(25)

Statistical Analysis

A variety of statistical methods were used to investigate the effects of VIs on consumer PI using the Statistical Package for the Social Sciences version 26 (SPSS) for descriptive analyses, while SEM was conducted using Analysis of Moment Structures (AMOS). Model fit was evaluated using multiple indices, including the chi-square/degree of freedom ratio (χ^2/df), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA), following established guidelines ($\chi^2/df < 3$, CFI and TLI $> 0,90$, RMSEA $< 0,08$). The examination followed a predetermined organize the data, and completed the following steps: descriptive statistics; reliability analysis; CFA; and SEM. The analysis began with descriptive statistics to summarize participants' demographics and important information on data distributions, including means and standard deviations (SDs) for the key constructs. A reliability analysis using Cronbach's alpha is employed to assess internal consistency for each of the constructs, with all alpha values exceeding the guidelines for acceptable reliability. Construct validity was evaluated using CFA. All standardized factor loadings were greater than 0,60, which supports convergent validity; all CR values surpassed (0,70) threshold; and all average variance extracted (AVE) values exceeded (0,50). Because the square root of every construct's AVE was higher than its correlations with other constructs, the evidence for discriminant validity was also confirmed. Finally, the SEM was utilized to test the presented relationships among the analysis variables. The findings also confirmed most

of the hypotheses and indicated that CE significantly mediated the relationship between core attributes of VIs and the decision to purchase.

RESULTS

The survey revealed that PC, IV, and HL significantly increased CE with VIs, playing a crucial role in influencing participation and attention. Engagement had a major impact on PI, showing its position as an important mediating variable. Although A&EV increased engagement, they had no direct influence on purchase decisions. Overall, the results show that meaningful, trustworthy, and realistic VI characteristics are critical for driving customer behavior and fostering PI through engagement.

Demographic

The analysis examines the influence of VIs on consumer PI using the demographic characteristics of 523 participants, as illustrated in table 2. The gender distribution was relatively equal, with 52,6 % female and 47,4 % male participation, adding to a range of perspectives in figure 3. A large portion of the sample belonged to the young adult age group, who are often more open to digital content and internet trends. In terms of education, most participants had completed undergraduate or postgraduate studies, indicating a well-informed population capable of assessing marketing content. Additionally, participants reported spending >1 hour every day on online sites, demonstrating constant exposure to VIs and making their comments particularly useful in this context.

Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	275	52,6
	Male	248	47,4
Age Group (years)	18-24	192	36,7
	25-34	211	40,3
	35-44	78	14,9
	45 above	42	8,0
Education Level	High school or below	48	9,2
	Undergraduate degree	294	56,2
	Postgraduate degree	181	34,6
Familiarity with VIs	Yes	523	100,0
	No	0	0,0
Social Media Usage	Less than 1 hour/day	57	10,9
	1-3 hours/day	198	37,9
	3-5 hours/day	167	31,9
	More than 5 hours/day	101	19,3

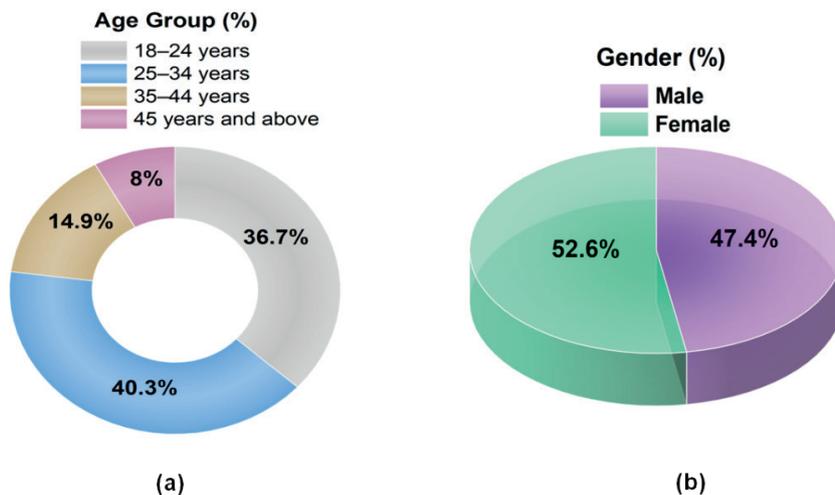


Figure 3. Respondent Demographics: (a) Age group and (b) Gender Breakdown

Descriptive Statistics

Factors	Mean (M)	Standard Deviation (SD)	Minimum	Maximum
PC	3,87	0,74	1,00	5,00
IV	3,91	0,70	1,00	5,00
HL	3,68	0,78	1,00	5,00
A&EV	3,99	0,68	1,00	5,00
CE	3,85	0,73	1,00	5,00
PI	3,79	0,76	1,00	5,00

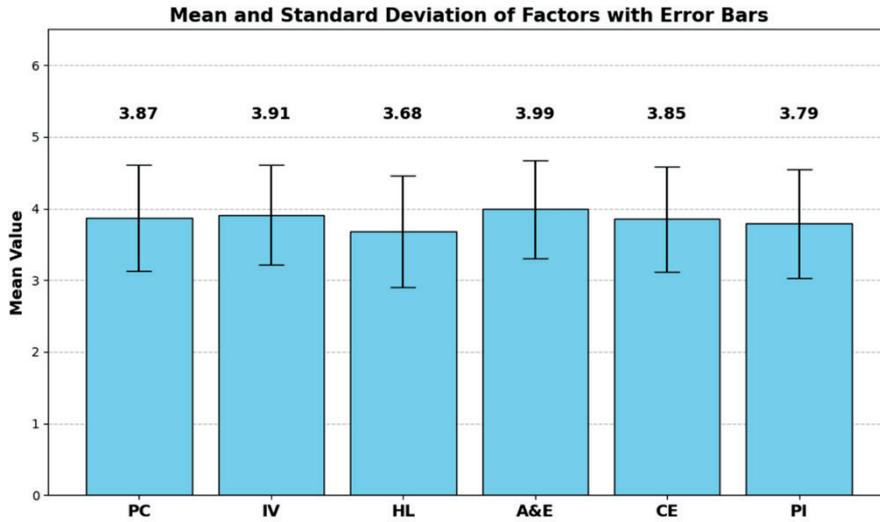


Figure 4. Virtual Influencer Factor Statistics

Descriptive statistics provide a basic knowledge of the data by summarizing the central patterns and variability of important variables used in the investigation. It assessed six major constructs: PC, IV, HL, A&EV, CE, and PI, which are presented in table 3 and figure 4. Multiple questionnaire items on a five-point Likert scale were employed to calculate each construct. The mean values across all variables ranged between 3,68 and 3,99, indicating that participants had a generally positive impression of Vis. SDs were within an acceptable range and signified that respondents agreed with moderate strength, meaning that participants were uniformly favourable of VIs on all evaluation parameters, providing a reasonable basis for further inferential statistical exploration.

Reliability and Validity Assessment

Factors	Items	(α)	Loadings	CR	AVE
PC	PC 1	0,88	0,84	0,88	0,68
	PC 2		0,81		
IV	IV 1	0,85	0,83	0,86	0,66
	IV 2		0,79		
HL	HL 1	0,82	0,80	0,84	0,63
	HL 2		0,78		
A&EV	A&EV 1	0,81	0,76	0,83	0,62
	A&EV 2		0,80		
CE	CE 1	0,86	0,85	0,87	0,69
	CE 2		0,81		
PI	PI 1	0,89	0,87	0,90	0,74
	PI 2		0,85		

Note: (α) denotes Cronbach's Alpha, Loadings indicate Standardized Factor Loadings

This section is to evaluate the validity and reliability of the measurement model to ensure the accuracy, consistency, and construct validity of the data collected about VIs and their impact on consumers' PI. In the research, reliability was determined using Cronbach's alpha (α). All items have values surpassing the desirable cutoff (0,70), thus indicating good to excellent internal consistency and reliability among constructs. The CR values were all higher than 0,70, confirming that the constructs had internal reliability. Both convergent and discriminant validity were measured using CFA. All factors had standardized factor loadings higher than 0,60, which shows they measured their corresponding constructs accurately. Moreover, all AVE values are above 0,50, which demonstrates that the constructs had suitable convergent validity to represent the variation of their indicators, illustrated in table 4 and figure 5. The results show that the quantity model is valid and trustworthy for the following SEM. These findings lend support to the measurement approach, demonstrating that the scale items are both reliable and valid to analyze the factors influencing consumer PI in the context of VIs.

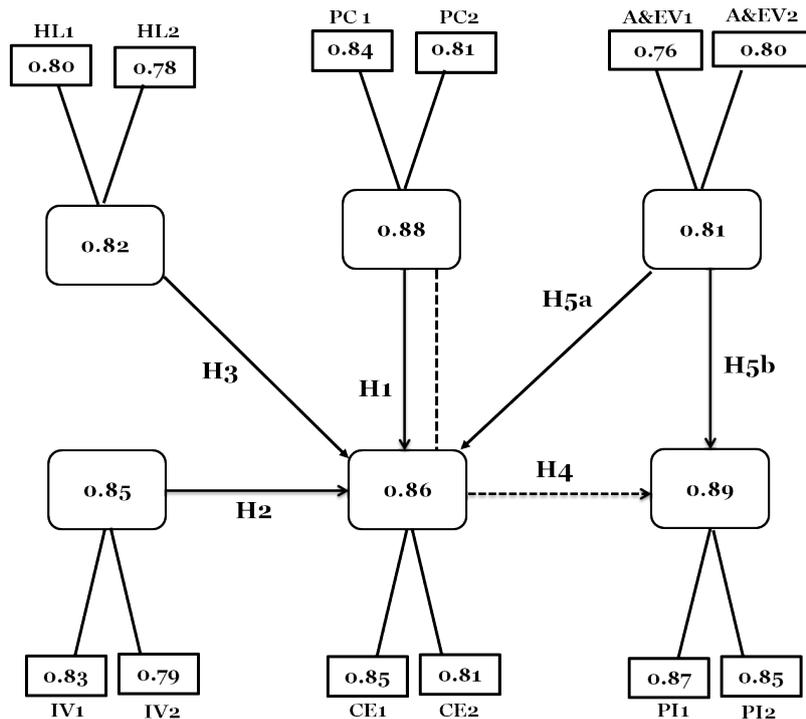


Figure 5. CFA Path Diagram of the Measurement Model

Path Analysis

According to the path analysis, perceived reliability, IV, and HL all significantly increased customer involvement, with credibility being the primary predictor. Engagement acted as a major factor in the relationship between these features and PIs. While A&EV improved engagement, there was no direct effect on PI, implying that their power is limited to catching attention. Overall, the data show that relevant attributes such as trustworthiness, relevance, and realism are critical for encouraging engagement and driving customer behavior. Surface-level characteristics can pique attention, but deep psychological connections are essential to influence purchasing decisions via VIs revealed in table 5 and figure 6.

Table 5. Hypothesis Testing Results: Direct and Mediated Path Effects						
Hypothesis	Pathway	t-value	SE	B	p-value	Support
H1	PC → CE	6,83	0,06	0,41	< 0,001	Supported
H2	IV → CE	5,14	0,07	0,36	< 0,001	Supported
H3	HL → CE	4,13	0,08	0,33	0,001	Supported
H4	PC → CE → PI (mediation)	4,67	0,06	0,28	< 0,001	Supported
H5a	A&EV → CE	3,86	0,07	0,27	0,002	Supported
H5b	A&EV → PI	1,33	0,06	0,08	0,184	Not Supported

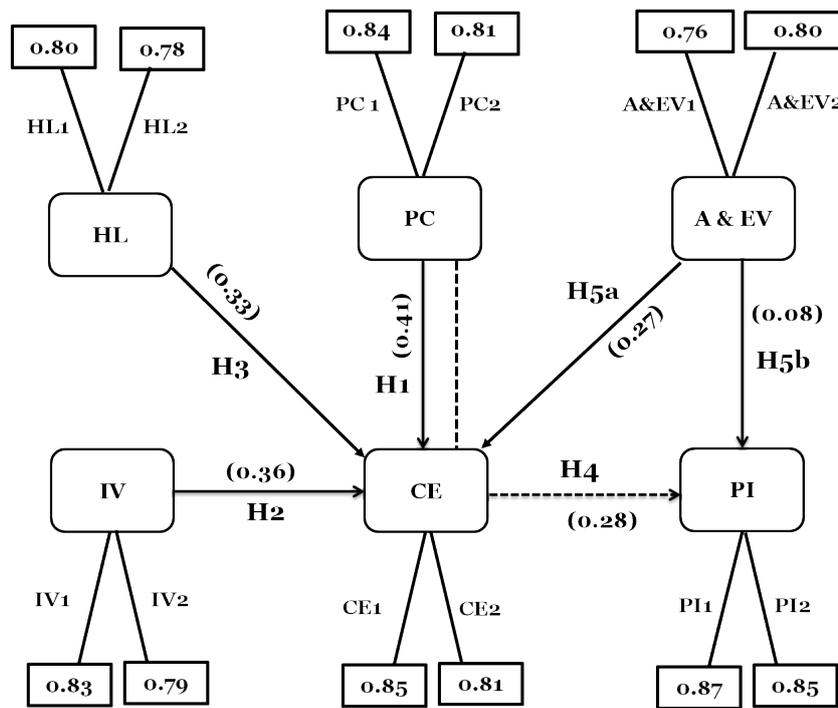


Figure 6. SEM Path Diagram of Latent Constructs

DISCUSSION

To investigate how consumers react to the influence of VIs, specifically if audiences see them as genuine despite knowing they are computer-generated.⁽¹⁰⁾ The writers focused on the paradox of authentically fake personalities and how they affect customer trust and brand outcomes. The analysis discovered that, while consumers recognize VIs as fake, they can nevertheless be compelling when presented as authentic and engaging. The findings revealed that perceived authenticity moderated favorable consumer sentiments and brand engagement, implying that authenticity perceptions are critical in explaining VI effectiveness. The analysis relied primarily on experimental designs with specific scenarios, which may not accurately represent real-world social media interactions. Furthermore, the findings were limited to certain product categories and consumer demographics, raising doubts about the results' applicability in larger contexts.

VIs was surpassing human influencers in popularity and perceived authenticity; however, their success relies on whether audiences trust in machine heuristics or trust in technology.⁽¹²⁾ The antecedent belief requisite for trust in any successful VI is the belief and trust in their credibility and success. However, the artificial character of VIs can limit emotional engagement and relatability, impacting long-term brand loyalty and emotional attachment. This suggests that while VIs can be successful in certain contexts, their effectiveness in consumer segmented market situations can be limited or inconsistent. The artificiality of VIs could pose challenges to emotional engagement and relatability associated with their contact with VIs, and ultimately, both brand loyalty over time and emotional attachment. This suggests that methods can be successful in certain contexts, but their effectiveness in consumer segmented market situations can be limited or inconsistent.

The VIs on consumer PI effects shows the relevance of perceived credibility, IV, and human likeness aspects. VIs can help engage consumers with informative and realistic content. VIs can be drawn from A&EV. Using statistical techniques including SEM and CFA, the research relied on construct reliability and validity. Engagement is examined as a mediating antecedent. While the SEM results demonstrated statistically significant relationships among the constructs, the standardized path coefficients ($\beta = 0,27-0,41$) indicate only moderate effect sizes. This suggests that although factors such as credibility, informativeness, and HL play important roles in enhancing engagement, their practical influence may be limited, and additional contextual or psychological variables may also contribute to consumer PIs. Nevertheless, the findings offer appreciated visions for marketers, allowing them to design approaches that leverage engagement as a reasonably effective pathway toward influencing consumer decisions. Overall, the research furthers both the theoretical significance and the practical implications of AI-supported digital marketing.

CONCLUSIONS

To investigate how VIs affects consumers' PIs by analyzing responses from 523 social media users through SEM, CFA, and reliability tests. The results revealed that PC ($\beta = 0,41$), informativeness ($\beta = 0,36$), and HL ($\beta = 0,33$) significantly increased consumer engagement, which then positively influenced PIs. In contrast, A&EV

enhanced engagement but did not directly drive purchasing behavior. Theoretically, this research contributes to the literature on AI-driven influencer marketing by clarifying the mediating role of CE and demonstrating that deeper psychological attributes such as trustworthiness, perceived usefulness, and realism are stronger drivers of PI than superficial traits. Practically, the results suggest that dealers should prioritize enhancing the integrity and informativeness of VIs, while using attractiveness and entertainment mainly as supportive features to capture attention. Despite these contributions, the analysis has limitations: it relies on self-reported survey data, and focuses only on participants already familiar with VIs, which restrict the generalization of results. Future research should adopt cross-cultural samples to compare consumer perceptions in different contexts and use longitudinal designs to examine how attitudes and PIs evolve over time as VIs become more predominant in digital marketing.

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Data curation: Wenqi Zhang.

Formal analysis: Wenqi Zhang.

Drafting - original draft: Wenqi Zhang.

Writing - proofreading and editing: Wenqi Zhang.