

The Impact of VTuber Endorsements on Consumer Satisfaction and Brand Loyalty in Digital Marketing

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ABSTRACT

In 2024, AI has ushered marketing into a new era. With the rapid advancement of digital marketing, brands increasingly emphasize consumer support and influence. This support is built on consumer satisfaction, service quality, and loyalty, driving brands to rely more heavily on digital media for product promotion. Consequently, numerous brand endorsers and influencers, such as YouTubers and bloggers, have emerged, leveraging their follower bases to recommend products and shape consumer preferences. Amidst this backdrop, the advent and proliferation of AI have introduced virtual influencers (VTubers) as a novel option for brands. VTubers have become a critical component of many brand marketing strategies. Advances in digital technology have enhanced the controllability of VTuber endorsements, making them impervious to time and environmental constraints, thus gradually becoming a powerful force in brand promotion. This study investigates the impact of VTuber endorsements on consumer satisfaction and loyalty. Data were collected from 295 Instagram users aged 18 to 35 to examine the factors influencing consumer satisfaction and loyalty towards virtual influencers. The findings reveal five key influencing factors, highlighting their roles in consumer purchasing behavior and brand recognition. VTuber personas, service quality, and switching costs play significant roles in forming brand loyalty, emphasizing the critical mediating role of satisfaction. The study also reveals the essential shift in brand marketing strategies from a product-centric to an experience-centric approach.

Using empirical analysis, this research explores the mediating effects of VTuber personas and perceived consumer value on consumer satisfaction and loyalty, assessing their impact on brand marketing strategies. The study provides insights for brand marketers on making informed decisions regarding the use of endorsers on social media, rather than merely following prevailing trends.

Keywords: Personal image, ICEB, service quality, switching costs, satisfaction, loyalty, VTuber.

INTRODUCTION

With the rapid development of digital marketing, brands increasingly emphasize consumer support and its influence. This support is founded on consumer satisfaction, service quality, and loyalty, prompting brands to rely more on digital media for product promotion (Qin & Jiang, 2019; Rodgers, 2021). In this context, AI-powered virtual influencers (VTubers) have become a key element in many brand marketing strategies. Indeed, more and more brands are collaborating with virtual influencers (Conti et al., 2022). The advancement of digital technology has enhanced the controllability of influencer endorsements. Virtual influencers are not affected by time or environmental factors, such as illness or fatigue (Appel et al., 2020). These computer-generated avatars, which possess human-like appearances or characteristics, are revolutionizing the advertising industry (Franke et al., 2022).

These fictional characters are portrayed as living lives similar to human influencers, enjoying friendships, hobbies, commitments, and even conveying "emotions." AI enables them to naturally simulate real-life personas and interactions (Arsenyan & Mirowska, 2021). As a result, virtual influencers are gradually becoming a powerful force in brand promotion. As brands recognize the advantages of VTuber endorsements, this shift from product-centric to experience-centric marketing challenges traditional strategies based on the marketing mix. Emotional factors are replacing rational ones, with customer satisfaction and loyalty directly dependent on sensory experiences (Santos do Carmo et al., 2022). They allow brands to be more creative while maintaining complete control over content. Previous research has indicated the significant role of influencers in shaping consumer behavior and brand perception. Influencers, both human and virtual, act as opinion leaders who can sway consumer decisions through their endorsements (Freberg et al., 2011). The parasocial interaction theory explains how audiences form bonds with media personas, which can translate into higher engagement and trust (Horton & Wohl, 1956).

This theory is particularly relevant in the context of VTubers, whose human-like interactions foster strong parasocial relationships with consumers (Sokolova & Kefi, 2020). Moreover, the self-congruity theory suggests that consumer behavior is influenced by the alignment between the consumer's self-concept and the brand image (Sirgy, 1985). VTubers, with their customizable and relatable personas, can enhance this alignment, thereby increasing consumer satisfaction and loyalty. The

affordances of digital platforms also play a critical role, as they enable VTubers to engage with audiences in innovative ways that are not possible with traditional media (Evans et al., 2017).

This study aims to empirically analyze the mediating effects of VTuber personas and consumer perceived value on consumer satisfaction and loyalty, exploring their impact on brand marketing strategies. By integrating theories of parasocial interaction and self-congruity, this research seeks to provide a comprehensive understanding of how VTubers influence consumer behavior and brand loyalty in the digital age.

LITERATURE REVIEW

The Influence of Vtuber Virtual Characters on Consumers

In 2023, the popularity of virtual influencers on social media has been continuously growing. HypeAuditor and VirtualHumans compiled a list of top virtual influencers, including Lu do Magalu, who has 14.6 million followers on Facebook and 6 million followers on Instagram; Miquela Sousa, with 3 million Instagram followers; and Barbie, boasting 2.2 million followers on Instagram (Molenaar, 2023). These influencers endorse numerous products, effectively matching the products they promote (Bergkvist et al., 2016; Misra & Beatty, 1990), which leads to consumer satisfaction with the quality of services provided by VTubers. With the rapid development of the metaverse and artificial intelligence technologies, AI is gradually transforming market strategies and consumer behavior (Davenport et al., 2020). Virtual influencers can respond to consumer comments in a human-like manner and actively interact with them (Hudders et al., 2020), enhancing consumer identification with brand virtual endorsers (Sands et al., 2020). Generally, these virtual endorsers receive positive and satisfactory evaluations from consumers, and many brands consider virtual influencers more attractive than real-life endorsers (Thomas & Fowler, 2021). They are increasingly seen as more powerful in the online environment than traditional celebrities, being perceived as more trustworthy and approachable (Djafarova & Rushworth, 2017).

However, few studies have documented how this influence helps explain the formation and development of individual attitudes and behaviors (e.g., Casaló et al., 2018; Magno, 2017). When consumers decide whether to endorse and purchase a product, they consider whether the product's quality meets their expectations and whether it continues to improve in quality and performance (Talim et al., 2021). Therefore, brands use popular endorsers to increase purchase intent (Ahmed & Mort, 2016). Utilizing virtual influencers for brand endorsement has become an indispensable part of current marketing strategies and will become even more critical in the future (Business Insider, 2021).

Consumer satisfaction stems from the ultimate value delivered by the brand. Thus, the characteristics of virtual influencers in conveying information and building relationships combine expertise and relatability, making them both credible and relevant (Martensen et al., 2018).

The Impact of Vtuber Personas on Consumer Satisfaction

The influence of VTuber endorsements on brand perception is expanding, as these AI-generated virtual characters possess human-like features, personalities, and interests (Mosley, 2021). For brands, AI virtual influencers present multiple advantages in marketing strategies. Their meticulously designed appearances are attention-grabbing, and in terms of risk management, virtual influencers avoid the potential negative scandals associated with human endorsers. Additionally, they can work continuously without the limitations of human needs (Guthrie, 2020). The concept of switching costs is supported by social exchange theory (Blau, 1964) and institutional economics (Williamson, 1975). Followers of virtual influencers are aware that these personas are creatively sculpted by AI technology, which avoids many of the biases and unpredictable behaviors of real humans. These characters, endowed with fully fictional and refined personalities, consistently meet the expectations of their followers in both emotional expression and social media interactions (Drenten & Brooks, 2020).

Previous literature has extensively explored the credibility and content value of influencer impacts (Lou & Yuan, 2019). When virtual influencers begin to share and endorse brands, they leverage social media influence to align with the motivations of younger audiences. These motivations include information sharing, following new trends, leisure, companionship, alleviating boredom, and habitual engagement (Croes & Bartels, 2021), all of which enhance loyalty.

Fans often base their consumption choices on the influencers they follow, driven by psychological identification and emotional attachment to the endorsers (Cheung & Yue, 2012). This influence directly translates to increased consumer loyalty and engagement in purchasing behavior (Wang et al., 2009). The influence of virtual influencers stems from the careful crafting and cultivation by their creative teams. For instance, Anna Cattish has amassed 472,000 followers, and Thalasya has garnered over 469,000 followers on Instagram. The interplay between animated virtual influencers and anthropomorphic virtual influencers highlights how switching costs and consumer loyalty are affected by followers' habitual dependence and identification, mediating the relationship between switching costs and consumer loyalty.

Consumer Satisfaction and Loyalty Following Vtuber Endorsements

The concepts of satisfaction and loyalty have been extensively researched and discussed in academia. According to Oliver (1980), consumer satisfaction depends on whether reality meets their expectations. Exceeding consumer expectations results in a sense of happiness, while falling short leads to disappointment. The collaboration between brands and virtual influencers, particularly VTubers, has become a crucial component of marketing strategies, as VTubers craft lifestyles closely related to the brands they endorse (Audrezet et al., 2018). This connection fosters a strong identification and interest among fans towards VTubers, as indicated by their substantial following (Bigonha, Cardoso, Moro, Gonçalves, & Almeida, 2012). Consumers engage with these interactions, integrating media personas into their lives (Hartmann, 2011).

VTubers, or virtual YouTubers, are a subset of virtual influencers that have gained immense popularity due to their unique ability to blend human-like characteristics with digital perfection. According to Mosley (2021), these AI-generated virtual personalities possess traits, personalities, and interests similar to humans, which enhances their relatability and appeal. VTubers can be meticulously designed to avoid the risks associated with human influencers, such as scandals or fatigue, allowing them to operate continuously and consistently (Guthrie, 2020). This aligns with the concept of conversion costs in social exchange theory (Blau, 1964) and institutional economics (Williamson, 1975), where the predictability and reliability of VTubers can reduce the perceived costs for consumers when switching from human influencers.

Previous literature has explored the credibility and content value of influencers (Lou & Yuan, 2019). VTubers enhance consumer engagement by sharing and endorsing brands through social media, aligning with young consumers' motivations for following influencers, including information sharing, discovering new trends, leisure, companionship, and habit (Croes & Bartels, 2021). This engagement can lead to increased loyalty due to the psychological identification and emotional attachment consumers develop towards their favored VTubers (Cheung & Yue, 2012). The theoretical framework supporting the effectiveness of VTubers includes the Parasocial Interaction (PSI) theory, which explains how audiences develop one-sided relationships with media figures (Horton & Wohl, 1956). VTubers, through consistent and personalized interactions, can foster strong PSI, enhancing consumer loyalty and satisfaction. Drenten and Brooks (2020) argue that the fully fictional and polished personas of VTubers avoid many biases associated with human behavior, leading to controlled and predictable interactions that meet follower expectations. McCormick (2016) posits that a high degree of congruence between endorsers and brands enhances consumer purchasing behavior and loyalty. Consequently, in the context of interactions between brands and VTubers, consumer satisfaction with virtual influencers simultaneously increases (Sands et al., 2021). During these interactions, consumers not only align with the fashion and lifestyle presented by VTubers but also adopt a trendy, innovative, and fashionable mindset (Pan et al., 2017). Moreover, these interactions can alleviate stress, increase a sense of connection, and fulfill social interaction needs (Felnhofer et al., 2019). This fulfillment of needs through VTubers leads to brands becoming an integral part of the VTubers' persona, which ultimately becomes part of the consumers' emotional investment and identity (Arsenyan & Mirowska, 2021). Thus, the use of VTubers by brands contributes to consumer satisfaction and loyalty, highlighting the importance of a well-matched brand-influencer relationship in contemporary marketing strategies. This chapter aims to further explore the impact of VTuber endorsements on consumer satisfaction and loyalty, providing insights into the evolving dynamics of digital marketing and the pivotal role of VTubers in shaping consumer behavior.

THE RESEARCH MODEL

The study aims to investigate the factors influencing consumer satisfaction and loyalty in the context of virtual influencers. Data were collected from 295 Instagram users aged 18 to 35. Utilizing Structural Equation Modeling (SEM) analysis, the study identified five key influencing factors, as illustrated in Figure 1.

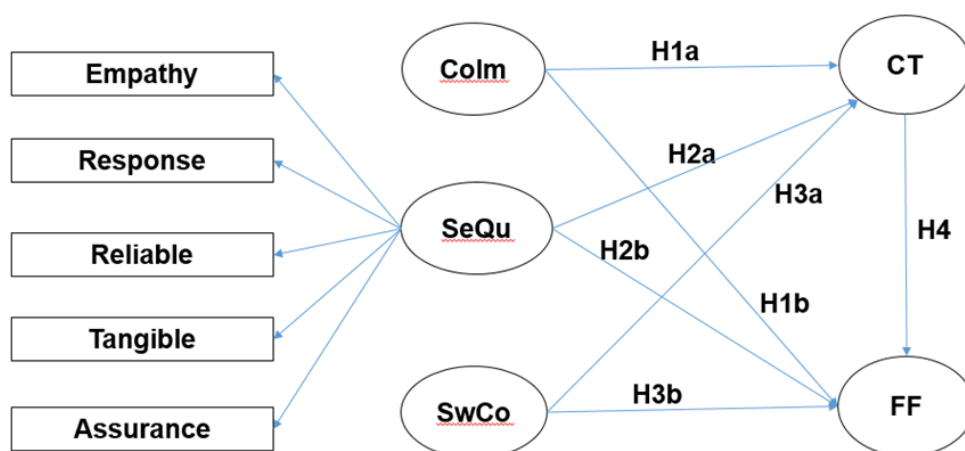


Figure 1: Structural model (note: Colm= personal image, SwQu=Service quality, SwCo= switching cost, CT= Satisfaction, FF= loyalty).

This study investigates the impact of VTuber endorsements on consumer satisfaction and loyalty. Data were collected from 295 Instagram users aged 18 to 35 to examine the factors influencing consumer satisfaction and loyalty towards virtual influencers. The results of the structural model assessment, as illustrated in Figure 2, indicate several significant findings. First, VTuber personas exert a positive and significant influence on both consumer satisfaction and loyalty. Service quality demonstrates a significant positive effect on satisfaction, while switching costs significantly and positively impact loyalty. Additionally, satisfaction has a significant positive effect on loyalty. However, the analysis reveals that switching costs have a significant negative effect on satisfaction.

This study confirms the influence of VTuber personas, service quality, and switching costs on consumer satisfaction and loyalty, providing empirical support for virtual influencer marketing strategies. The results underscore the significant impact of personas and satisfaction on loyalty, while suggesting that the effects of service quality and switching costs require further investigation.

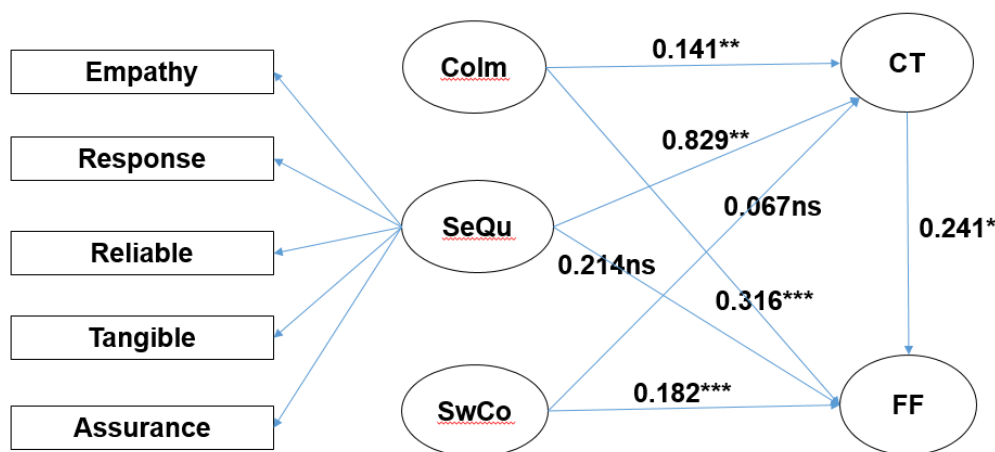


Figure 2: Structural model results . (note : ns- Not significant ; Colm= personal image , SwQu=Service quality, SwCo= switching cost , CT= Satisfaction , FF= loyalty ; ***p<.001, **p<.01, *p<.05.).

To explore the factors influencing consumer brand loyalty in Taiwan regarding VTuber endorsements—including VTuber personas, service quality, switching costs, and satisfaction—we conducted an in-depth study aimed at enriching the existing literature with a more robust theoretical understanding of VTuber loyalty. Currently, the VTuber industry in Taiwan is still in its nascent stage, predominantly influenced by Japanese anime culture (KOL Radar, 2024). Therefore, our research extends the knowledge of consumer behavior in the context of VTuber endorsements within the Taiwanese market.

This study examines the interrelationships between VTuber personas, service quality, switching costs, satisfaction, and brand loyalty, testing ten hypotheses using the AMOS-SEM method. Among these ten hypothesized paths, three were not supported. The results reveal a positive and significant relationship between persona and satisfaction (H1a), consistent with the findings of Kandampully and Suhartanto [138], Martenson [139], Wang [36], and Cheng and Rashid [140]. Additionally, the positive and significant relationship between persona and loyalty (H1b) was also supported. Through satisfaction as a mediator, the relationship between persona and loyalty (H1c) showed positive and significant results, indicating that the VTuber's persona significantly contributes to both satisfaction and loyalty. There is a positive and significant relationship between service quality and satisfaction (H2a), supporting the findings of Chen et al. [142], Ngo and Nguyen [87, 82], and Yang and Chao [143]. However, the relationship between service quality and loyalty (H2b) did not show significance. Nevertheless, the indirect effect of service quality on loyalty through satisfaction (H2c) showed positive and significant results, indicating that the service quality of VTubers significantly impacts satisfaction. A positive and significant relationship was found between switching costs and loyalty (H3b), consistent with the findings of Yang and Chao [143] and Wang et al. [144]. However, the relationship between switching costs and satisfaction (H3a) was not significant, nor was the mediating effect of satisfaction (H3c), indicating that switching costs mainly influence loyalty in the context of VTubers.

Furthermore, the positive and significant relationship between satisfaction and loyalty supports the H4 hypothesis [143, 145-146]. These findings underscore the crucial roles of VTuber personas, service quality, and switching costs in the formation of brand loyalty, highlighting the pivotal role of satisfaction as a key mediator.

CONCLUSION

Despite the existing body of research on digital influencers, which asserts that they are valuable channels for electronic word-of-mouth (eWOM) related to corporate brands (Childers et al., 2018; Djafarova & Rushworth, 2017), this study further elucidates the specific effects of virtual influencers (VTubers) in brand marketing. The findings indicate that as consumer online behavior becomes increasingly complex and diversified, brand marketers can gain insights from this study into the key considerations surrounding the effects of VTuber endorsements.

Taking Taiwan as a case study, data from KOL Radar (2024) reveals that 55.8% of marketers aim to leverage AI technology to identify suitable influencers, moving away from traditional methods that rely on intuition and guesswork. Additionally, some marketers hope to use AI to comprehensively analyze social media content, detecting fake influencers and misleading metrics. This underscores the growing emphasis on precision and data-driven decision-making when selecting virtual influencers for brand campaigns.

The contributions of this study are as follows:

1. **Empirical Data Provision:** This study provides empirical data supporting the specific effects of virtual influencers in brand marketing. These data help brand marketers understand how virtual influencers impact consumer satisfaction and loyalty.
2. **Strategic Facilitation:** The findings demonstrate that virtual influencers can effectively enhance brand awareness and consumer engagement. This provides a foundation for advertising and marketing professionals to develop sustainable virtual influencer endorsement strategies. Marketers should tailor their virtual influencer strategies to align with desired advertising outcomes and brand values.
3. **Enhanced Risk Management:** Virtual influencers offer unique advantages in risk management, such as reducing the potential for negative scandals associated with human endorsers and providing continuous, around-the-clock interaction and support. These characteristics make virtual influencers a reliable choice for brands.
4. **Promotion of Technological Application:** This study underscores the importance of AI technology in the selection and management of virtual influencers. Brands can leverage AI to make precise influencer selections and conduct performance analyses, thereby improving marketing efficiency and effectiveness.

This study provides valuable insights into the factors that should be considered by brands when selecting VTubers as endorsers. It offers a solid theoretical foundation and practical guidelines for advertising and marketing professionals in the strategic planning of VTuber endorsements. With the ongoing advancement of technology, the application scope and influence of virtual influencers are expected to expand continuously.

The Strategic Advantage of Selecting Influencers in Marketing

The choice of influencers in marketing campaigns, particularly VTubers, offers several significant advantages. Firstly, influencers bring an established and engaged audience, which brands can leverage to enhance their reach and resonance. VTubers, with their curated personas and consistent content, can align closely with brand values, making them an effective medium for targeted communication. Additionally, influencers, including VTubers, have the ability to create authentic and relatable content that resonates with their followers. This authenticity often translates into higher trust and credibility, which are crucial for influencing consumer purchase decisions. VTubers, being AI-generated, offer the unique benefit of avoiding human-related scandals and can operate 24/7, providing brands with consistent promotion and interaction opportunities.

Furthermore, the use of AI and data-driven approaches in selecting influencers allows for more precise targeting and effectiveness in marketing campaigns. Brands can use AI to analyze social media content, identify suitable influencers, and even predict campaign outcomes, leading to more efficient resource allocation and better returns on investment.

In conclusion, the strategic selection of influencers, particularly VTubers, offers brands a competitive edge in the ever-evolving digital marketing landscape. As technology continues to advance, the role of virtual influencers in brand promotion will likely become even more prominent, providing new opportunities for brands to connect with their audiences in innovative ways.

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