Advances in Consumer Research
https://acr-journal.com/
Volume-3 | Issue-11 |Sep: 2026

Original Researcher Article

Virtual Influencers impact on purchase intention: Integrating Virtual Influencer characteristics & Hedonic Value to the Stimulus Organism Response Framework

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ABSTRACT

With the advent of the incorporation of AI in the promotion of social media platforms, the phenomenon of virtual influencers as a form of strategic communication strategy by organizations has become more prevalent. Although their prevalence is growing, no much attention has been paid on exploring the psychological processes underlying their ability to impact purchase intentions. This study seeks to propose a conceptual model that captures how consumer responses are shaped by the anthropomorphics features of virtual influencers thereby affecting purchase intention.

By integrating Stimulus–Organism–Response (S-O-R) Model, Anthropomorphism Theory, and Parasocial Interaction Theory, the current work outlines a process where anthropomorphism acts as a stimulus to create parasocial interaction between virtual influencers and consumers. The proposed model goes a step further to indicate that high parasocial interaction will increase hedonic value of consumers and improve their attitude towards brands hence resulting into higher purchase intention. Seven propositions have been developed that articulate the various causal and correlational relationships between anthropomorphism, parasocial interaction, hedonic value, brand attitude, and purchase intention.

The proposed theory model makes a valuable contribution to the existing body of literature on the marketing practice involving virtual influencers, since it takes into account the role of cognitive, emotional, and evaluative processes within a single conceptualization. This conceptualization enhances comprehension of consumer behavior related to artificial intelligence-driven influencers and sheds light on the cognitive and emotional processes behind buying behavior. The research also has implications for marketing managers as it provides insights on effective virtual influencer strategies.

Keywords: Virtual Influencers; Anthropomorphism; Parasocial Interaction; Hedonic Value; Brand Attitude; Purchase Intention; Social Media Marketing; S–O–R Framework

INTRODUCTION

Rapid advancements in digital technologies and social media platforms have transformed contemporary marketing practices . In light of consumer demands for more entertaining and engaging content, brands have started experimenting with novel methods to foster stronger consumer relationships. One emerging development is the use of virtual influencers in social media marketing. Virtual influencers are computer-generated personas managed by organizations to ensure consistency in brand communication. Consequently, virtual influencers have become popular in areas such as fashion, beauty, lifestyle, and entertainment sectors.

A defining characteristic of many virtual influencers is their resemblance to human beings. The process of assigning human qualities to inanimate objects is referred to as anthropomorphism. Prior research suggests that anthropomorphic features increase perceptions of social presence, realism, and emotional engagement. (Epley et al., 2007; Hart & Royne, 2017; Li & Huang, 2023). As virtual influencers exhibit more human-like characteristics, they become more effective in attracting consumer attention and fostering engagement.

Beyond anthropomorphic characteristics, the development of parasocial interaction represents another important mechanism through which virtual influencers influence consumer responses. Parasocial interaction refers to a one-sided psychological connection in which individuals develop feelings of familiarity and attachment toward media personalities despite the absence of direct reciprocal interaction. Repeated exposure to virtual influencers may foster emotional attachment and perceived closeness among consumers.

Although recent years have witnessed a considerable increase in the interest of scholars for studies of the use of virtual influencer marketing, the factors affecting consumers' decisions to interact with and buy products recommended by virtual influencers have not been identified yet. Current studies focus mainly on the impact of such variables as anthropomorphism, trustworthiness, and realism perceptions of virtual influencers. Nevertheless, they do not consider the general psychological process that takes place during the consumer response. Moreover, little attention is paid to the role of parasocial interaction, hedonic value, and brand attitude in consumer decision-making in this regard.

However, there is insufficient research into the psychological process in which such effects happen (Nguyen & Wu, 2026). This points to the importance of the development of a comprehensive theory on consumer behavior in virtual influencer interactions. Recent studies utilizing meta-analysis show that human-likeness and anthropomorphism are important factors in influencing consumer trust and buying decisions in virtual influencer interactions.

The current paper seeks to address this gap by constructing a theoretical model based on the S-O-R model, anthropomorphism theory, and parasocial interaction theory.

According to this model, anthropomorphism acts as a stimulus, while parasocial interaction, hedonic value, and brand attitude function as organismic responses contributing to consumer purchasing behavior. The proposed framework suggests that anthropomorphic virtual influencers enhance perceived relatability and social connection, which subsequently influence consumers' emotional and evaluative responses., leading to the formation of favorable attitudes towards the brand. This study contributes to the growing literature on virtual influencer marketing in several ways.

First, this paper considers applying the S-O-R framework in relation to AI-based social media marketing initiatives. Second, anthropomorphism, parasocial interaction, hedonic value, and brand attitude are integrated into a unified conceptual framework to explain how these factors contribute to consumer attitudes towards virtual influencers. Finally, the study explains the psychological mechanisms through which virtual influencers influence consumer purchase intention and offers practical implications for marketers. It is vital for scholars researching this subject and practitioners involved in virtual influencer marketing to understand how consumers behave in connection to virtual influencers.

2 . Literature review

2.1 Anthropomorphism and Purchase Intention

Anthropomorphism is described as a phenomenon when human traits, including emotions, intentions, and behaviors, are attributed to entities other than humans (Epley et al., 2007). It became an integral aspect of consumer behavior and digital marketing research as it explains the perception of consumers regarding technological entities. Anthropomorphic cues in digital communication, such as the use of visual elements resembling a human form, expressions, and human-like communication styles, help achieve natural communication and increase perceptions of social presence and familiarity.

Anthropomorphism becomes relevant in the analysis of virtual influencer marketing due to its role in creating perceptions of virtual influencers as realistic entities. Previous research indicates that anthropomorphic features contribute to positive impressions made by online personalities on consumers since such characteristics are associated with increased authenticity, credibility, and trustworthiness (Hart & Royne, 2017). Likewise, Li and Huang (2023) found that anthropomorphism increases cognitive trust in influencers and contributes to purchase intention. As a result, it can be stated that the human-like aspects of virtual influencers' appearance and behavior have an impact on their consumers' perceptions and attitudes toward them.

However, despite the emergence of an increased academic interest in anthropomorphism, current research findings are not consistent. Specifically, most previous studies have concentrated their attention on the effects of anthropomorphic features on trust, authenticity, engagement, purchase intention, and other relevant outcomes. Even though existing findings are helpful in explaining the consequences of anthropomorphism, relatively little research effort has been invested in examining the psychological mechanisms behind the effects of anthropomorphism on consumer responses.

It is necessary to note that the role of anthropomorphism is not only associated with cognitions. Anthropomorphic virtual influencers may increase perceptions of social presence, proximity, and similarity owing to their physical appearance and communication style. With time, consumers may start viewing virtual influencers as social agents who share similar features with actual people. Consequently, consumers are expected to develop familiar attitudes towards anthropomorphic virtual influencers and experience parasocial interaction. Considering this point, it appears necessary to focus attention on the phenomenon of parasocial interaction and its relevance to anthropomorphism and consumer responses.

2.2 Parasocial Interaction and Virtual Influencer Marketing

Parasocial interaction is a type of one-sided psychological association formed by an individual through constant communication with personalities found on various forms of media (Horton & Wohl, 1956). In spite of the fact that there is no interaction from both sides, individuals still have a feeling of intimacy and emotional connection towards personalities featured on media. Parasocial interactions play an important role in the influencer

marketing industry since they help explain influencer's ability to affect their consumers.

The ability of social networks to allow communication makes the creation of such associations easier for influencers. Visual content, direct contact, and engagement opportunities enable influencers to establish a perception of being close and approachable among their followers. Affordances of the platform contribute to the formation of a parasocial relationship, which increases the efficiency of communication marketing and advertising (Lou et al., 2022).

Previous research found that influencers create better psychological ties with their fans through self-revelation, unique communication techniques, and constant engagement. This helps develop emotional bonding, trust, and commitment, which in turn raises audience interest in influencer-generated content. Additionally, studies found that qualities like empathy, competence, integrity, and distinctiveness improve consumers' receptivity to influencer communication and promote engagement with influencer content (Davlembayeva et al., 2024).

Further supporting the previous findings, meta-analysis found parasocial interaction, perceived similarity, and perceived trustworthiness to be important influencers of consumer attitude and behavioral intentions across various marketing contexts (Han & Balabanis, 2024).

Virtual influencers have increased the applicability of the concept of parasocial interaction to digital marketing. Virtual influencers look like real people, communicate in a human way, and behave socially. All this helps virtual influencers create authentic perception of themselves and establish a connection with the consumers. With the increasing blurring boundaries between real and virtually created influencers, consumers may form a strong connection with virtual influencers similar to relationships with real social actors.

Even though there is considerable amount of research indicating the importance of parasocial interaction in building trust, creating emotional bonds, and engaging customers, previous studies have mainly concentrated on the relational aspects of the phenomenon in question. Much less has been said about how exactly parasocial interaction affects consumers' experiences and evaluations in the context of virtual influencers. Therefore, psychological implications of parasocial interaction require further analysis.

From a theoretical standpoint, the development of parasocial relationships can result not only in emotional bonding but also in other positive consequences of the interaction. In the case where consumers experience virtual influencers as psychologically relevant entities, their interactions with these influencers can be considered highly immersive and entertaining. The increased enjoyment provided by interactions with influencers can be interpreted as one of the antecedents of hedonic value. Hence, parasocial relationships can be regarded as contributing to enjoyable experiences of customers during consumption process.

2.3 Hedonic Value and Consumer Responses

The hedonic value refers to the affective and experiential value created through consumer experiences and can be seen in terms of joy, pleasure, and satisfaction (Babin et al., 1994). Unlike utilitarian value, which focuses on functional benefits related to tasks performed, the hedonic value involves intrinsic joy received from the consumer experience. With the increased need for fun and entertaining experiences in the digital space, the importance of the hedonic value has also risen.

It has been seen that in the area of marketing practices involving influencers, the presence of emotionally appealing content helps drive customer behavior and engagement towards desirable results, especially in instances where the product involved offers experiential and affective benefits (Andonopoulos et al., 2023). It is not uncommon to find followers engaging with the content created by the influencer for more than just informational reasons; there is also an element of fun and enjoyment that goes into following such influencers. Fun content has the potential to foster audience engagement and facilitate positive consumer evaluation (Tafesse & Wood, 2021).

The existing literature on consumer behavior indicates that positive emotions elicited during interaction can play an important role in the evaluation of brands by consumers. Positive emotional experience can lead to brand perception and attitude formation, which is why marketers use enjoyable interactions with consumers in various media environments. Consistent with this view, Ekawati et al. (2021) showed that positive experiences with products positively influence brand evaluations and behaviors. Moreover, the work of Holbrook and Hirschman (1982) demonstrates the significance of enjoying one's experience in consumption as part of consumer satisfaction.

While a vast body of literature exists regarding the study of hedonic value, its application to virtual influencer marketing is rather limited. Previous works considered hedonic value as an immediate predictor of both consumer satisfaction and behavioral intentions but did not explore the underlying mechanisms of its impact. The relationship between consumer enjoyment with virtual influencers and the impact on brand-related consumer behaviors has been understudied and requires further consideration in theoretical terms.

Within the realm of virtual influencer marketing, the notion of hedonic value may transcend the consumption experience itself and affect consumers' perceptions of the brands being promoted through virtual influencers. The positive emotional response gained through pleasant interaction with virtual influencers could be transferred to brands, thus resulting in more positive brand attitudes. Therefore, the concept of hedonic value might be viewed as one of the key psychological factors mediating the impact of virtual influencer marketing on consumer behavior. Such assumptions are also corroborated by recent research highlighting the special effectiveness of virtual influencers in marketing products with a pronounced hedonic element (Belanche et al., 2024).

2.4 Brand Attitude

The term brand attitude is used to refer to an evaluation of a certain brand made by consumers, hence forming one of the most important concepts in the study of consumer behavior. Consumers' attitudes towards a particular brand are determined by their evaluation of their experiences

with respect to their feelings and emotions. In the realm of marketing and advertising, brand attitude has been identified as one of the important determinants of consumer's behavior and intentions. According to the theory of planned behavior, attitudes are fundamental in determining consumers' behaviors (Ajzen, 1991). Therefore, positive evaluations of a brand usually increase the probability of purchase intention towards the product. Various factors are responsible for influencing brand attitudes in online marketing, some of them being interactive experiences, emotional and social involvement, authenticity, and the use of social media platforms. In the case of virtual influencer marketing, consumers get exposed to human-like personas capable of eliciting emotional responses. Consumers who interact with such brands are likely to generate positive impressions that go past the individual influencer into brand evaluations. This implies that emotions and social experience gained from interacting with the virtual influencer play a key role in determining brand attitudes.

The importance of brand attitude is also reinforced by branding literature. In particular, Keller (1993) noted the importance of brand attitude as one of the key constituents of customer-based brand equity, as it enables the creation of positive perceptions and brand value. In addition, Spears and Singh (2004) revealed the predictive power of brand attitude in relation to purchase intention and indicated the importance of consumers' perception of the brand as an influential factor.

However, despite the wealth of studies on brand attitude, prior research has mainly concentrated on traditional factors such as quality, credibility, authenticity, and value. Meanwhile, relatively few scholars explored the potential impact of emotional and social experience in the context of online influencer activity on the formation of brand attitude. The aforementioned gap becomes more apparent when considering how anthropomorphism, parasocial interaction, and hedonic value affect consumers' evaluation of brands.

From the viewpoint of theory, consumers tend to assess products not just based on logical considerations but also on more emotional or experiential criteria. In terms of virtual influencer marketing, for instance, anthropomorphic features could help create para-social interactions, whereas positive interactions could lead to positive consumption experiences. These psychological factors can affect how consumers view the endorsed products, thus making brand attitude an essential component that links consumers' emotions, attitudes, and purchase intentions toward the products.

Being an essential determinant of behavioral intention, brand attitude plays an important role in connecting psychological factors and consumers' buying behavior. Hence, in the presented model, brand attitude is considered an essential mechanism through which consumer experience regarding virtual influencers translates to purchase intention.

2.5 Purchase Intention and Virtual Influencer Marketing

Purchase intention can be explained as the willingness or likelihood to buy a specific product or service, and purchase intention is recognized as an accurate predictor of buyer behavior in many cases. In marketing research literature, purchase intention has often been used as one of the main behavioral outcomes of interest due to the fact that consumers' cognition and emotions about products, brands, and marketing activities have been studied using measures of purchase intention. In terms of virtual influencer marketing, consumers' purchase intentions depend on how they perceive and feel toward the virtual influencers who communicate with them.

The advent of virtual influencers presents an opportunity for marketers to reach out to consumers in novel and interactive ways of communication. According to the existing literature, humanlike traits play an important role in forming relationships with virtual influencers, which improves the efficacy of marketing communications (Moustakas et al., 2020; Sands et al., 2022). Besides, such traits like attractiveness, credibility, authenticity, and likability help improve consumer decision-making processes and purchasing intentions (Noor et al., 2021; Rehman et al., 2025). The research conducted to date indicates that consumers behave in the same manner towards virtual influencers as they would behave towards human celebrities or social media influencers.

In recent comparative studies, researchers showed that virtual influencers can evoke behaviors similar to those evoked by human influencers especially when consumers view them as relevant, credible and capable of giving meaningful advice (Belanche et al., 2024). Such a finding indicates the presence of great persuasive power among virtual influencers.

Despite the accumulation of research conducted on virtual influencer marketing, most studies have primarily focused on the isolated influences of individual determinants of consumer behavior. Factors like anthropomorphism, trust, credibility, parasocial interaction, and authenticity have been considered individually as variables that determine consumer responses. The result is a lack of extensive research on the joint effects of psychological processes on purchase intention. There has been minimal consideration on how the process of anthropomorphism, parasocial interaction, hedonic value, and brand attitude influences consumer purchase decision-making simultaneously.

On an empirical level, responses of consumers to virtual influencers can arise as the result of a series of psychological processes. First, anthropomorphic features help increase the perception of social presence and likeness, hence promoting parasocial interaction. Second, the parasocial bond can create rewarding emotions, thus increasing hedonic value. Higher levels of hedonic value lead to positive assessments of brand endorsement, resulting in higher purchase intentions. While previous researches have supported the validity of the individual relationships within the processes described above, there has been minimal focus on the full psychological process that results in consumer purchase intention.

3. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

3.1 Stimulus–Organism–Response Framework and Anthropomorphism Theory

The present research uses Stimulus–Organism–Response (S–O–R) theory of Mehrabian and Russell (1974), a model that attempts to explain the process through which

external environmental stimuli impact responses through intermediary cognitive and affective processes. S–O–R theory has been widely used across the field of consumer behavior, digital marketing, and even in technology to explore the underlying processes involved in shaping the response to stimuli.

In the case of virtual influencer marketing, anthropomorphism stands out as the stimulus of interest in this study. Anthropomorphism can be described as attributing human traits to nonhuman beings (Epley et al., 2007). Many virtual influencers tend to possess physical traits of human beings and also show emotions and interact with their audience in a manner similar to human beings.

As per the S-O-R framework, parasocial interaction, hedonic value, and brand attitude are considered as organismic responses reflecting the psychological state of consumers. Parasocial interaction refers to the psychological connection formed between the consumers and the virtual influencers, hedonic value refers to the enjoyment felt by the consumers due to this parasocial interaction, and brand attitude refers to the positive assessment of the brands by consumers. These psychological variables are expected to influence the behavior of the consumer, namely purchase intention.

The S-O-R framework is also supported by the Anthromophism Theory of Epley et al. (2007) which argues that the humanlike characteristics would increase the probability of engaging socially or emotionally with non-human objects. Furthermore, Parasocial Interaction Theory of Horton & Wohl (1956) provides insight into how the regular interaction with media personalities leads to a one-sided psychological relationship. Overall, these two theories help understand how virtual influencers' anthropomorphism facilitates parasocial interaction, improves hedonic value, brand attitude and finally purchase intention.

Therefore, based on the discussed theoretical insights, it can be said that the anthropomorphic qualities of the virtual influencers influence the purchase intention of consumers via psychological processes including parasocial interaction, hedonic value, and brand attitude.

3.2 Anthropomorphism and Parasocial Interaction

According to Anthropomorphism Theory, people are inclined to attribute their own human characteristics, motivations, and emotions to other non-human objects or creatures when they are similar to humans (Epley et al., 2007). In regard to virtual influencer marketing, anthropomorphic factors such as realistic depiction of the person, his or her emotional expression, and conversational style of communication contribute to a higher perception of human-likeness. According to Parasocial Interaction Theory, audiences form psychological relationships with media personalities who seem socially significant to them (Horton & Wohl, 1956). Previous studies indicate that human-likeness perception helps develop stronger parasocial relationships with virtual influencers (Ma & Li, 2024; Stein et al., 2024). The human-like qualities of virtual influencers help to narrow the psychological gap between them and the consumers, creating familiarity and social affinity.

Existing literature suggests, anthropomorphic virtual influencers can contribute to developing psychological relationships by providing consumers with a perception of social significance. Thus, virtual influencers become socially relevant objects, which leads to their ability to form psychological relationships. Accordingly, anthropomorphism serves as an important antecedent of parasocial interaction.

H1: Anthropomorphism positively influences parasocial interaction.

3.3 Parasocial Interaction and Hedonic Value

Parasocial interaction has been well established in literature as a vital variable that drives consumer involvement with media figures. Literature has noted that interactions which are emotionally engaging result in increased experiential benefits such as enjoyment, satisfaction, and value perceptions (Holbrook & Hirschman, 1982). Likewise, socially driven relations between consumers and AI-driven digital characters have been reported to boost consumers' interaction experience and augment their perceptions of enjoyment (Noor et al., 2021).

In that light, stronger parasocial interaction is anticipated to amplify emotional and experiential value derived from interactions with virtual influencers. With greater psychological involvement, interactions with virtual influencers would be considered more immersive, and thus more beneficial to consumers. Such interaction experiences could increase the degree of consumers' enjoyment resulting from engagement with virtual influencers.

Based on the above discussion, parasocial interaction has the potential to affect positively consumer perceptions of hedonic value.

H2: Parasocial interaction positively influences hedonic value.

3.4 Parasocial Interaction and Brand Attitude

Existing literature suggests, parasocial interaction has played an important role in forming perceptions about brands linked to celebrities. Prior research reveals that increased parasocial bonds lead to positive psychological reactions towards influencers, which further impacts their perceptions about brands that have been promoted by them (Stein et al., 2024). Likewise, in the study conducted by Rehman et al. (2025), a positive relationship between parasocial interaction with virtual influencers and favorable perceptions about brands has been found.

Theoretical rationale for investigating parasocial interaction as the determinant of consumers' perceptions regarding the brands can be discussed in the following way. As consumers form favorable psychological associations with virtual influencers, they tend to have positive perceptions about the influencers, which can further impact their perception about the brand. The proposed hypothesis aligns with the notion of affect transfer, according to which positive affect associated with a specific entity or source influences evaluation of related object.

In virtual influencer marketing settings, the presence of human-like communication, authenticity, and interactive possibilities allows for the creation of parasocial relationships. Such psychological relations might strengthen consumers' emotional engagement with both the influencer and the product or service promoted by the influencer, leading to improved brand evaluation

H3: Parasocial interaction positively influences brand attitude.

3.5 Hedonic Value and Brand Attitude

Hedonic value refers to the positive benefits or experience related to the act of consumption. Such value is usually linked with pleasant emotions, such as pleasure and satisfaction (Babin et al., 1994). The previous studies indicate the importance of hedonic value for consumer's attitudes towards various products and brands because the consumers tend to develop more positive views on brands based on their consumption experience.

According to the previous findings, pleasant consumption experiences have a positive impact on consumer behavior and brand evaluation (Babin et al., 1994). Similar results were provided by Ekawati et al. (2021), who indicated that enjoyable experiences lead to the formation of more positive attitudes toward brands. It means that the benefits experienced by consumers when engaging in consumption play an essential role in forming attitudes.

Considering the role of hedonic value within the context of virtual influencer marketing, it is expected that consumers' interactions will be influenced positively by enjoyable, entertaining, and rewarding experiences with virtual influencers, which, in its turn, leads to the development of more favorable attitudes towards associated brands.

H4: Hedonic value positively influences brand attitude

3.6 Brand Attitude and Purchase Intention

The brand attitude can be defined as the consumer's overall assessment of the brand and can be considered an essential factor determining the consumer's decision-making process. In accordance with the Theory of Planned Behavior, attitudes affect both behavioral intentions and actions, thus becoming an important determinant of consumer behavior (Ajzen, 1991). Therefore, consumers having positive assessments of brands tend to show behavioral intentions towards the mentioned brands.

It is known from the existing literature that there is a direct correlation between brand attitudes and purchasing intentions. First of all, according to Ajzen (1991), attitudes can be considered antecedents of behavioral intentions. Additionally, Spears and Singh (2004) have shown that positive attitudes towards a brand make consumers more willing to buy branded products. Thus, brand attitudes enhance confidence in brands and increase the consumers' purchasing intentions.

With respect to virtual influencer marketing, consumers forming positive attitudes towards brands advertised through virtual influencers can be expected to form purchasing intentions related to these brands. Thus, brand attitudes are expected to affect consumers' purchasing intentions positively.

H5: Brand attitude positively influences purchase intention

3.7 Mediating Role of Parasocial Interaction

Based on the Stimulus–Organism–Response (S–O–R) model, consumer behavior is affected by external stimuli via intermediary psychological processes. In the case of virtual influencer marketing, anthropomorphic features, such as human likeness, the ability to express emotions, and interactive communication, may serve as stimuli affecting consumers' psychological reactions. These qualities can contribute to creating feelings of psychological closeness and social presence, thus increasing the engagement level of consumers with virtual influencers.

Moreover, according to Parasocial Interaction Theory, repeated exposure to media personalities enables consumers to form one-way relationships with media individuals (Horton & Wohl, 1956). Recent research demonstrates that consumers tend to build parasocial relationships with virtual influencers who seem more relatable and humanlike (Stein et al., 2024; Rehman et al., 2025). Such results indicate that anthropomorphism promotes parasocial interaction since it creates psychological proximity to media personalities among consumers.

In terms of theoretical discussion, The influence of anthropomorphism on purchase intention may occur indirectly through parasocial interaction . There is the possibility that anthropomorphic traits may stimulate the development of parasocial relationships, and these parasocial relationships may be responsible for shaping their attitudes and behaviors towards endorsed brands.

H6: Parasocial interaction mediates the relationship between anthropomorphism and purchase intention.

3.8 Sequential Mediation Effect

The proposed framework draws from the Stimulus–Organism–Response (S–O–R) model, which suggests that there are several intervening cognitive and affective processes between an external stimulus and behavior (Mehrabian & Russell, 1974). The anthropomorphic elements, including realistic looks, emotional expressions, and communicative abilities, of virtual influencers work as external stimuli that result in psychological responses.

Based on the theories of anthropomorphism (Epley et al., 2007) and parasocial interaction (Horton & Wohl, 1956), the use of anthropomorphism by virtual influencers is supposed to foster perceptions of social presence, psychological similarity, and human-like attributes. Such perceptions allow for the formation of parasocial relationships, whereby consumers create psychological associations with virtual influencers. With time, these relationships should grow stronger, making interactions with virtual influencers more enjoyable and emotionally gratifying. This will contribute to increased perceptions of hedonic value.

Hedonic values at a higher level could further lead to more positive brand evaluations for brands that are linked to virtual influencers. Positive affect associated with enjoyable interaction experiences could then be associated

with brands being promoted, thereby resulting in positive brand attitudes. In line with consumer behavior literature, such positive brand attitudes would result in increased purchase intentions for products endorsed by consumers (Ajzen, 1991; Spears & Singh, 2004).

Therefore, anthropomorphism is likely to affect purchase intentions via a series of steps, where anthropomorphism is followed by parasocial interaction, parasocial interaction by hedonic values, hedonic values by brand attitudes, and brand attitudes by purchase intentions.

H7: Parasocial interaction, hedonic value, and brand attitude sequentially mediate the relationship between anthropomorphism and purchase intention.

CONCEPTUAL FRAMEWORK

The conceptual model being proposed is based on the principles of Stimulus-Organism-Response (S-O-R) theory (Mehrabian & Russell, 1974), Anthropomorphism Theory(Epley et al., 2007), and Parasocial Interactions theory (Horton & Wohl, 1956). The model describes the influence that anthropomorphic traits of virtual influencers can have on the purchase intention of consumers by eliciting a series of psychological responses.

In S-O-R theory, the anthropomorphisms are the stimuli, referring to the human-like qualities in the physical appearances, emotions, and communication of virtual influencers. It is expected that the stimuli will result in organismic responses of consumers, namely parasocial interaction, hedonic value, and brand attitudes. More specifically, virtual influencers' anthropomorphisms are hypothesized to lead to higher levels of parasocial interaction because of the increased perception of social presence, similarity, and intimacy. Higher levels of parasocial interaction, in turn, lead to higher levels of hedonic value since consumers are able to receive more pleasure and emotional satisfaction when interacting with virtual influencers.

Purchase intention is considered the response element of the theoretical model. In line with the S-O-R theory, the purchase intentions of consumers will be influenced by their cognition and emotions formed during interaction with anthropomorphized virtual influencers. As such, the effect of anthropomorphism on purchase intention will be mediated by the effects of parasocial interaction, hedonic value, and brand attitude.

In conclusion, this theoretical model integrates human-like characteristics of virtual influencers into an understanding of consumer behaviors, providing a theoretical background on purchase intention in the field of AI-driven marketing.

Figure 1 .

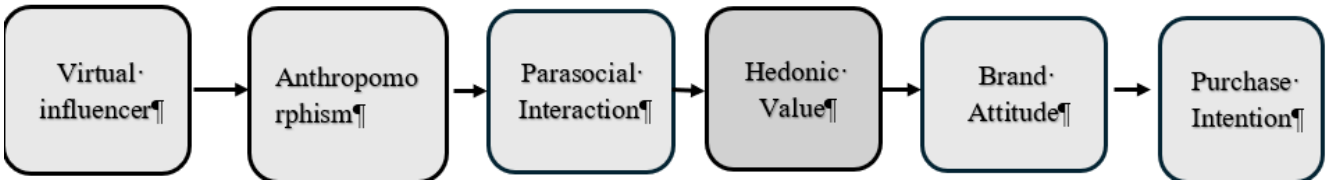


Figure1 depicts the suggested conceptual framework. According to the framework, the role of anthropomorphism is vital as the main stimulus for shaping the consumer's psychological reaction towards the virtual influencer. Parasocial interaction would be facilitated by anthropomorphism, which will create higher hedonic value and improve brand attitude. Lastly, consumers' purchase intention would be enhanced due to positive brand attitude. Moreover, the effects of anthropomorphism on purchase intention occur as an outcome of a chain process, including parasocial interaction, hedonic value, and brand attitude.

CONCLUSION

The development of artificial intelligence and social media platforms has radically transformed digital marketing, giving rise to such phenomena as virtual influencers. The study proposes a theoretical framework to examine the influence of AI-driven personalities on consumers' purchasing behavior, drawing on the Stimulus–Organism–Response model, Parasocial Interaction Theory, and Anthropomorphism Theory.

Based on the proposed model, the more human-like and expressive behaviors virtual influencers exhibit, the more they encourage feelings of parasocial interactions. As a result, consumer satisfaction increases and contributes to positive perceptions. Thus, parasocial relations develop between consumers and the AI persona, leading to increased purchase likelihood.

Overall, the research aims to reveal the effects of emotions, cognitions, and behaviors associated with the phenomenon under consideration. Through their integration into the proposed framework, it is possible to understand better how and why virtual influencers affect consumers' behavior and purchase intentions.

Finally, this paper lays the groundwork for further studies on influencer marketing. In addition, the findings can help marketers effectively promote certain products to online consumers.

5.1 Theoretical Implications

The contribution of the current study to the body of knowledge on virtual influencer marketing stems from applying the S-O-R paradigm within the field of AI-enabled social media. Previous studies have largely focused on trust and credibility, whereas the present research sheds light on how emotional reactions and experiences shape attitudes toward virtual influencers.

To do this, the authors use a combination of Parasocial Interaction Theory and Anthropomorphism Theory. The proposed theoretical lens helps us better understand consumer perceptions and the formation of relationships

with virtual AI influencers. When anthropomorphic characteristics are assigned to virtual influencers, consumers develop parasocial bonds with them, leading to changes in attitudes towards their content and in the enjoyment derived from it. As a result, changes in consumer attitudes towards brands may be observed.

It is worth highlighting that the current research provides a detailed sequence through which emotional investment and entertainment affect consumer consideration of purchases associated with the consumption of virtual influencer content. Instead of focusing on isolated factors (e.g., trust), the authors focus on the entire sequence of mental processes that take place during interactions with virtual influencers' content.

5.2 Managerial Implications

The current research suggests several conclusions that marketers engaged in virtual influencer marketing should consider. Firstly, companies must produce highly humanized virtual influencers. To do so, it is important to make such influencers as human-like as possible, to add emotional reactions, and to teach them to communicate naturally. The more virtual influencers resemble real humans, the stronger the connection users will establish with the influencer and the brand.

Secondly, interaction technologies are crucial. It is beneficial for influencers to respond to comments and messages automatically. This increases audience entertainment and makes the brand more trustworthy and attractive.

Finally, people become attached to virtual influencers in much the same way they do to TV characters. Such quasi-human relationships lead to greater consumer confidence in virtual influencers' opinions, recommendations, and advertisements.

To summarize, virtual influencers play an extremely important role for brands seeking to gain customers' attention on social media and drive product purchases in AI-based environments.

5.3 Limitations and Future Research Directions

The proposed theoretical framework lacks empirical evidence, indicating that further investigation is needed. Testing the framework can involve using surveys and structural equation modeling to explore how anthropomorphism, parasocial relationships, hedonic value, brand attitude, and purchase intention are connected.

At this point, only Instagram is considered a marketing channel for virtual influencers. To increase its practical significance, we should extend the framework to analyze other social networks and industries.

In addition, the examination of antecedents to variations in relationship strength in the framework under consideration appears relevant. Variables such as technology readiness, social needs, and perceptions of reality could play a significant role. Additionally, a cross-cultural approach could reveal whether consumers' perceptions of virtual influencers vary by background.

Another possibility is considering other theories, such as the Uncanny Valley effect. It may help explore how realism affects consumers' behavior. Moreover, a comparative analysis of virtual influencers and humans as marketers can shed light on which actors have greater influence over consumer behavior.

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