

Virtual Influencers on Instagram: Benefits and Challenges for Brands in the Digital Age

Juan-Manuel Corbacho-Valencia | jmcorbacho@uvigo.gal

<https://orcid.org/0000-0001-7008-7963>

University of Vigo (Spain)

Jesús Pérez-Seoane | jipseoane@uvigo.gal

<https://orcid.org/0000-0001-7008-8771>

University of Vigo (Spain)

María-Isabel Míguez-González | mabelm@uvigo.gal

<https://orcid.org/0009-0002-0068-7167>

University of Vigo (Spain)

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Abstract

Virtual influencers, created through artificial intelligence and other technologies, are gaining popularity and offer new opportunities for brands. This study examines the highest-engagement posts of the top ten virtual influencers with the largest followings on the social network Instagram between July 2023 and July 2024, analyzing message formats and content on their accounts. The benefits these influencers can bring will be discussed, such as personalization, constant availability, and the reduction of risks associated with the public image of real people. However, challenges and drawbacks will also be addressed, including issues of authenticity, ethics, and potential disconnect with the public in the face of a lack of credibility or identification. This analysis aims to provide a balanced view of how virtual influencers can be integrated into brands' digital marketing strategies, highlighting both their advantages and limitations depending on the type of product or service, as well as the target audience.

Key words

“virtual influencer”; “artificial intelligence”; “engagement”; “Instagram”

1. Introduction

At the time of writing this, there are already more than a thousand virtual influencers created using artificial intelligence (AI), representing over 40 different nationalities. These characters, designed and programmed to interact with users on social media platforms, represent a significant evolution in the way brands communicate with their audiences and are transforming the digital marketing landscape.

The virtual influence market is projected to reach a market volume of more than €34.9 billion by 2030 as an extension of influencer marketing (Calderón, 2024). In this context of reality rather than potential, this study analyses the most successful posts in terms of engagement by the ten virtual influencers with the largest number of followers. The aim is, on the one hand, to delve into the factors that analyze these data and, on the other hand, to crystallise the main benefits they bring to brands as opinion leaders. The analysis of virtual influencers is crucial to understanding their impact and potential in digital marketing strategies.

This paper aims to provide a balanced and well-founded view of how virtual influencers can contribute to the success of brands in the digital age. To this end, we will begin with a contextualisation and explanation of the phenomenon, as well as the methodology itself, followed by an initial overview of the main benefits and risks that have been addressed in the academic sphere.

1.1. The emergence of virtual influencers

The emergence of virtual influencers is part of the advancement of artificial intelligence and computer animation technologies, which have enabled the creation of digital characters with human characteristics. The 'hyperconnectivity revolution' has led to the convergence of technologies that have favoured the inclusion of non-human agents in spaces previously reserved for humans (Gaines, 2019).

Since 2008, the concept of influencer has evolved to the point of incorporating non-human endorsers. On visual and interactive platforms such as Instagram and TikTok, virtual influencers compete with humans for attention and credibility (Joshi et al., 2023). This dual focus—on influencer marketing in general and virtual influencers in particular—has driven a significant increase in research, especially in Europe, Asia Pacific, and North America since 2012 (Hewapathirana and Perera, 2024).

However, it was not until 2016 that virtual influencers carved out their own space in influencer marketing, offering new opportunities for brands to connect with consumers, especially millennials and Generation Z (Jhawar et al., 2023). The first examples of this occurred in 2016, when computer-generated characters began to be used by brands to reach specific target groups through their digital personalities (Ameen et al., 2024). Nine years later, one of the most famous influencers remains Lil Miquela, created in 2016 by the Brud agency.

In addition, the COVID-19 pandemic has accelerated the adoption of digital technologies, increasing the relevance of virtual influencers in digital marketing (Joshi et

al., 2023). In Spain, the first virtual influencer, David Backpacker, was created in 2019. Since then, the industry has advanced significantly, with agencies such as The Clueless creating virtual models such as Aitana López and Maia Lima, who have collaborated with brands and generated substantial revenue through exclusive content platforms. The recent creation of Alba Renai by VIA Talents Agency, with a focus on ethics and responsibility in the use of artificial intelligence, which will be discussed later, underscores the importance of these new players in digital marketing. Virtual influencers allow brands complete control over image and behaviour due to their ability to interact with audiences in a similar way to human influencers (Thomas and Fowler, 2021).

This phenomenon reflects an evolution in digital marketing strategies, where authenticity and technological innovation converge to capture consumers' attention (Gao et al., 2023). Unlike human influencers, virtual avatars are not subject to physical or emotional limitations, allowing for continuous, uninterrupted interaction with followers (Jhawar et al., 2023). This capacity for omnipresence, for communicating tirelessly, for avoiding personal controversies, and for not making mistakes in communication makes virtual influencers an attractive option for brands seeking to minimise risks and maximise control over their advertising campaigns (Gerlich, 2023; Mrad et al., 2022).

Its use has also been boosted by the growing acceptance of artificial intelligence, not only in the professional sphere but also in everyday life. Consumers are becoming increasingly familiar with interacting with virtual agents and using these types of tools in their professional and social environments. This trend goes hand in hand with growing investment in artificial intelligence technologies and the development of advanced tools for creating and managing virtual influencers, suggesting a promising future for this innovative form of marketing (Moustakas et al., 2020).

The ability of these virtual agents to display human characteristics, interact socially, and generate content represents a significant advance in human-machine interaction, challenging the boundaries between the human and the virtual (Ma and Li, 2024). They accumulate millions of followers, which can largely be explained by the uses and gratifications theory; in this context, Lou et al. (2023) highlight motivations such as novelty, information, entertainment, surveillance, aesthetics, and social interaction. Notable examples include the aforementioned Lil Miquela, who has collaborated with luxury brands such as Prada and Samsung and has been recognised as one of the most influential people on the internet by Time magazine (Shen, 2024).

1.2. Concept and typology of virtual influencers

As design and interaction capabilities improved, the definition of virtual influencers evolved. Hanus and Fox (2015) referred to digital agents equipped with avatars designed to look human, operating on social media platforms with the aim of influencing the opinions and behaviours of their audiences.

Artificial intelligence would soon be incorporated into the definitions, so virtual influencers can be considered virtual agents created using artificial intelligence and computer graphics, designed to interact with consumers on social media platforms. It did not take long for the concept of 'avatar' to appear and, in its application, digital avatars (Gerlich, 2023).

Firstly, they can be classified into two main types: human-like, which realistically mimic human characteristics in terms of appearance and behaviour, and anime-like, which have more stylised and cartoonish features with a more artistic and exaggerated style that can appeal to specific audiences who appreciate anime aesthetics and pop culture (Arsenyan and Mirowska, 2021). Ma and Li (2024) divide them into three main categories according to their degree of human resemblance: high, moderate, and low. Shen (2024) goes further after analysing the cases of 33 virtual influencers on Instagram. He observed that those who are not associated with brands generate more engagement than those who are. He divided them into additional categories based on their appearance and authenticity: animalistic, 2D animated, doll-like, and humanoid. Animalistic ones have animal characteristics and are often used for campaigns that seek to highlight cuteness or a connection with nature. 2D animated ones are two-dimensional characters reminiscent of traditional cartoons. They tend to be popular with younger audiences. Doll-like types have a doll-like appearance, with exaggerated and stylised features. They are common in the fashion and beauty industry. Finally, humanoids (virtual humanoid influencers) have an appearance very similar to real humans, which allows them to generate a high level of authenticity and connection with followers.

A priori, virtual influencers with more human characteristics are perceived as more credible and generate better attitudes towards messages compared to anime-type influencers (Kim et al., 2023). The interaction between social media users and virtual influencers is conditioned by parasocial interaction and the credibility of the source, leading to user acceptance and brand promotion opportunities (Jhawar et al., 2023).

In fact, the theory of Computers as Social Actors (CASA) suggests that people react to virtual agents in a similar way to humans, especially when these agents have anthropomorphic characteristics (Gambino et al., 2020). However, the uncanny valley theory suggests that virtual influencers can cause discomfort if their appearance is too realistic compared to the persuasive power of more humanised virtual influencers (Vila-López et al., 2023).

Along these lines, authors such as Joshi et al. (2023) and Dondapati and Dehury (2024) explain how users develop relationships with virtual influencers based on empathy, perceived similarity, physical attraction, perceived homophily, source credibility theory, and parasocial interaction theory. It is therefore worth exploring the differences between virtual and human influencers that may tip the balance for brands in favour of one or the other, depending on their advantages and risks.

1.3. Virtual influencers vs. human influencers

The comparison between virtual and human influencers reveals significant differences in terms of control, authenticity, credibility, effectiveness, and public perception. This contrast has been studied in recent experimental designs focusing on the effectiveness of virtual influencers, comparison with human influencers, and results in terms of performance for the brand in question (Belanche et al., 2024; De Cicco et al., 2024; Li et al., 2023; Özdemir et al., 2023; Volles et al., 2024).

While human influencers bring authenticity based on real-life experiences and a genuine emotional connection with their followers. In contrast, virtual influencers offer brands

complete control over content and image, eliminating risks associated with unpredictable behaviour (Lou et al., 2023). However, the perceived lack of authenticity in virtual influencers may limit their effectiveness in certain campaigns, especially those that require a deep emotional connection with the audience (Gerlich, 2023).

Human influencers, due to their real nature, can generate greater trust and credibility among consumers. Their ability to share personal and authentic experiences allows them to establish stronger and more lasting relationships with their followers (Jiménez-Castillo and Sánchez-Fernández, 2019). However, human influencers are also subject to risks such as personal scandals and fluctuations in popularity, which can negatively affect the brands that sponsor them (Hirschmann, 2021).

On the other hand, virtual influencers, being digital creations, do not entail these risks and can maintain a consistent, controlled image free from scandal. However, they often lack the authenticity and vulnerability that followers value in human influencers (Allal-Chérif et al., 2024). The former allows brands to plan and execute long-term campaigns without worrying about unforeseen events related to the influencer's personal life (Lou et al., 2023). However, the perception of virtual avatars as artificial entities can generate mistrust among some consumers, underscoring the importance of balancing the use of virtual influencers with strategies that reinforce their authenticity and credibility (Moustakas et al., 2020). Furthermore, it has been observed that explicitly disclosing the virtual origin and using emotional narratives influence perceived credibility and the parasocial relationship (Lim and Lee, 2023).

Due to these characteristics, a priori, virtual influencers appear to be more effective in promoting hedonic products, where emotional connection and product identity play a crucial role (Ameen et al., 2024). Studies such as those by Kim et al. (2023) show that virtual influencers are effective in increasing brand awareness and improving brand image, but have limited influence on purchase intention due to their lack of authenticity and weak parasocial relationships with followers.

This last part contrasts with the findings of Stein et al. (2024), which indicate that virtual influencers with a high degree of human likeness can generate parasocial interactions that are as effective as those of human influencers, although they can also provoke negative reactions if their appearance is perceived as too artificial. Given this panorama of diverse academic approaches that depend on the type of product or service, as well as the target audience to which they are applied, it is worth summarising, before moving on to the study itself, the pros and cons found in the literature review on the challenges and potential of using virtual influencers versus human influencers and vice versa.

1.4. Main challenges and potentialities in the context of digital marketing

We can infer that among the major challenges facing virtual influencers are the perception of authenticity and ethics in the use of digital characters, which can generate mistrust among consumers (Franke et al., 2023; Lou et al., 2023). Likewise, the role of advertising recognition as a mechanism that conditions the effectiveness of virtual influencers has been highlighted (Deng et al., 2024).

The lack of a genuine emotional connection and the perception of manipulation can negatively affect the effectiveness of marketing campaigns. In addition, there are ethical

concerns related to transparency and honesty in the representation of these characters, as well as the potential to perpetuate stereotypes and biases (Hermann, 2022; Kim and Wang, 2023). In terms of advertising effectiveness, source credibility and authenticity operate as mediating mechanisms (Kim & Wang, 2024), while the degree of humanisation can trigger responses linked to the uncanny valley and social presence (Gutuleac et al., 2024; Ma and Li, 2024).

However, virtual influencers also offer significant advantages, such as the ability to customize them, their constant availability, and the reduction of risks associated with the public image of real-life individuals (Kim and Park, 2024). They can be designed to meet the aesthetic and behavioural standards desired by brands, while also having the ability to quickly adapt to market trends and preferences. In the Spanish-speaking world, Rodrigo-Martín et al. (2021) document the advertising use of Lil Miquela and her commercial activity, while Rodrigo-Martín et al. (2022) highlight the potential of virtual influencers as opinion leaders in political communication and emphasise the greater strategic control of the message. These uses have been documented in both commercial and political-communicative contexts (Rodrigo-Martín et al., 2021; Rodrigo-Martín et al., 2022).

This flexibility is crucial in a fluctuating digital environment. Added to this is the use of advanced algorithms and machine learning techniques, enabling these virtual influencers to analyse large volumes of data on consumer behaviour and preferences to create highly relevant and visually appealing content at any time. This potential for innovation in storytelling undoubtedly helps brands stand out in a market saturated with both supply and messages. Complete control over the virtual influencer's image and message also allows brands to maintain consistency and coherence.

There is no doubt that virtual influencers have great potential to revolutionise digital marketing. This balance between benefits and challenges, combined with ethical and transparent management, can help brands make the most of the advantages of virtual avatars in digital marketing by adapting to the needs and expectations of their target audience (Zhou et al., 2024). It is also important to be aware, as was the case with human influencers, of regulatory efforts by governments to ensure that these characters are used transparently and ethically, protecting both consumers and brands. Recent literature on the subject even points to scenarios in which virtual influencers can match or surpass humans in certain metrics, albeit with important contextual conditions (Allal-Chérif et al., 2024; Dondapati and Dehury, 2024).

2. Methodology

Through an exploratory study, this article analyses the posts with the highest engagement from the ten most followed virtual influencers on Instagram (global selection), published between July 2023 and July 2024. This analysis aims to achieve three specific objectives:

O1: Describe the type of posts with the highest interaction rate made by virtual influencers with the most followers on Instagram.

O2: Characterise the content strategy and identify best practices in the use of this communication tool by its editors.

O3: Gauge the reactions and social dialogue generated by the activity of these avatars.

The research is conducted on Instagram, one of the most widely used social networks globally. According to the Digital 2023 report by We Are Social and Meltwater (2023), the platform maintains intensive use and high penetration among young audiences. The sample consists of the ten virtual influencers with the highest number of followers, a criterion that authors such as Jhawar et al. (2023) and Lou et al. (2023) consider indicative for measuring the reach and impact of this type of initiative. In terms of geography, the research is not limited to a specific area. We worked with a ranking and profiles with global reach, given that the selection criterion was based on the number of followers on Instagram. The initial sample included virtual influencers with public Instagram accounts. Profiles explicitly described as avatars or digital identities were included, with a visible number of followers and activity during the time period analysed. Profiles of human beings who only use filters or partial avatars were excluded, as were accounts with no posts during the period or with restricted access. The final sample was obtained through purposive sampling: for each profile, the three posts with the highest engagement—operationalised as the sum of likes and comments—were selected, resulting in a total of 30 posts.

Table 1. Virtual influencers analysed.

Name	Profile	Number of followers	Total interactions
Magazine Luiza	instagram.com/magazineluiza	7.095.999	5.074.636
Lil Miquela	instagram.com/lilmiquela	2.565.279	133.163
Leyalove Nature	instagram.com/leyalovenature	553.592	54.600
Gio Alemann	instagram.com/gioalemann	504.267	582.668
Noonoouri	instagram.com/noonoouri	473.020	872.552
Imma	instagram.com/imma.gram	388.960	17.715
Qai Qai	instagram.com/realqaiqai	341.018	36.684
Aitana Lopez	instagram.com/fit_aitana	324.498	1.926.926
Naina	instagram.com/naina_avtr	317.588	508.119
Sika Moon	instagram.com/sika.moon	310.230	1.489.794

Source: Own elaboration

The qualitative research technique was based on content analysis, a valid resource ‘for studying any type of communication in an “objective” and systematic manner’ (Hernández-Sampieri et al., 2010, p. 260).

Initially, data was extracted using the CrowdTangle tool. For each post, the following variables were recorded: format, content, publication date, interactions, existence of a

sponsoring brand, reactions, hashtags, use of emojis or other elements, and type of language used.

On this basis, the use of Instagram by AI generated virtual influencers and the impact they have on their audience was analysed. From the point of view of message reception, reactions to posts were examined using parameters such as the length of comments, the use of emoticons, the number of likes, the number of responses, the nature of the dialogue between the comment and the responses, and the type of comment. To this end, previous methodological contributions such as those by Rossetti and Marcusso (2014) or Pokharel and Bhatta (2021) were considered, which classify comments as positive, negative, interrogative, imperative, corrective, or within a miscellaneous category.

3. Results

For the sake of clarity, the research results are divided according to the research objectives set:

3.1. Description of the type of publications analyzed

The 30 posts analysed are aimed at a diverse audience, including young adults interested in fashion, technology, fitness, beauty and social causes. The formats include images, videos and graphic carousels. Among them, images and videos are the most abundant, in equal proportions (specifically 43.33%; 13 references for each).

The content covers collaborations with brands, events, awareness campaigns and artistic projects. Eight posts (26.67%) communicate product promotions and opportunities to their audience; seven (23.33%) correspond to charitable or social responsibility actions; four (13.33%) are linked to events and another four show leisure activities. In two cases (6.67%), co-branding actions are carried out. Other types of content appear occasionally (one case each; 3.33% of the total), such as travel, tutorials, branded content, product launches and prize draws among the profile's followers.

Half of the cases (15, or 50%) are organic posts that recount the avatar's impressions, travels, or daily routines, while the other half are advertising actions sponsored by a commercial brand. Among the latter, the economic sectors referred to in the posts with the highest interaction rates are fashion (present in 5 cases, 33.33% of advertising content posts), technology (20%), health, sport and well-being (20%), associations (13.33%) and the environment (6.67%).

3.2. Creation and content routines

Although the content strategy is tailored to each influencer's type of users and their interests, the positive and optimistic approach of all the messages analysed is striking, showing the avatar's evaluative reflections on a given topic (which occurs in 11 cases,

36.67% of the posts analysed), highlighting the quality of the products presented (7 cases; 23.33%), calling on the audience to participate (7 cases; 23.33%), reflecting on issues related to technological innovation (3 cases; 10%) or raising awareness among their followers about sustainability (2 cases; 6.67%).

Their language tends to be friendly, empathetic and motivating (12 cases; 40%). On four occasions (13.33%), an elegant tone was adopted (especially in posts related to the world of fashion), and on the same number of occasions, a descriptive or neutral tone was used. On three occasions (10%), familiar or artistic registers were chosen, and on two occasions (6.67%), informal language was used. Taken together, these data point to a high degree of flexibility and customisation, as well as total control of the image and message by the virtual influencer's editors, something that can be more difficult to guarantee with human influencers.

In all cases, posts are accompanied by hashtags and emojis that serve to amplify the message. Hashtags help increase the visibility of posts and contain a series of keywords that help reinforce the message, as is the case with the brands sponsoring the post. Emojis are also present in all posts and their use varies depending on the tone of the post, ranging from descriptive to motivational, elegant and creative.

3.3. Audience reactions and social dialogue

The interaction between virtual influencers and their followers is very high. On average, each of the posts analysed had 115,000 likes, generated 4,900 comments and was shared 1,700 times, with a clear trend towards greater engagement in video posts and commercial messages.

When assessing the large number of comments that each post attracts and the discourse that is generated, it is important to distinguish between the audience's response and the dialogue with the virtual influencer.

The audience's comments are mostly positive, including a large number of thanks, comments on the quality of the content, the effectiveness of the products presented (in the case of commercial posts) and some questions about the content. However, they are not exempt from certain criticism from users, who penalise the lack of authenticity (derived from the artificial nature of these characters) and show signs of feeling deceived (by the veiled use of these channels for advertising purposes), which can lead to an emotional disconnect on the part of the audience.

Interaction is high and influencers respond elegantly to most comments, which encourages greater audience participation and loyalty. All avatars actively respond to comments, thanking supporters and answering specific questions about the content of their posts. The tone and style of the comments vary depending on the content of the post, ranging from motivational and educational to elegant and sophisticated, adapting to each influencer's target audience and the theme that occupies most of their activity. Table 2 summarises the most notable results linked to the three objectives of the study.

Table 2. Summary of key findings (n=30).

Dimension	Indicator	Result (n=30)	Implication for brands
Post format	Type of publication	Image and video: 13 each (43.33%); carousel: 4 (13.33%).	Performance tends to concentrate on audiovisual formats; prioritising video and visual creativity is advisable.
Nature of the content	Organic vs. sponsored	Organic: 15 (50%); sponsored: 15 (50%). Sectors most present in sponsored content: fashion (33.33%), technology (20%), health/wellness (20%).	Balance narrative content and brand partnerships; select categories with stronger product–influencer fit.
Message focus	Communicative intention	Reflections/evaluations: 11 (36.67%); product quality: 7 (23.33%); call to participate: 7 (23.33%); innovation: 3 (10%); sustainability: 2 (6.67%).	Balance narrative content and brand partnerships; select categories with stronger product–influencer fit.
Register and tone	Discursive style	Close/empathetic/motivational: 12 (40%); elegant: 4 (13.33%); neutral/descriptive: 4 (13.33%); other registers: remainder.	Capacity for personalisation and editorial control; adapt tone to the audience while avoiding brand inconsistencies.
Engagement and dialogue	Audience reaction	Averages per post: 115,000 likes, 4,900 comments and 1,700 shares. Higher engagement in videos and commercial messages; comments mostly positive, with some criticism regarding authenticity and transparency.	Useful for awareness and conversation, but requires disclosure and ethical management to avoid perceptions of deception.

4. Discussion and conclusions

The results obtained allow us to achieve the objectives set at the beginning of this research, which, within the framework of an exploratory study, sought to describe the type of posts with the highest interaction rate made by virtual influencers with the most followers on Instagram (O1), characterise the content strategy used by their editors (O2) and gauge the reactions and social dialogue provoked (O3).

In relation to O1, the distribution of formats (predominance of images and videos) and the greater interaction in videos and commercial posts suggests that aesthetic,

entertainment and technological novelty gratifications act as drivers of engagement. This pattern is consistent with uses and gratifications theory and with evidence that social presence intensifies when the avatar directly and audiovisually addresses the user (Lou et al., 2023; Kim and Park, 2024).

With regard to O2 and O3, the consistently positive tone and active response to comments function as anthropomorphisation devices, facilitating parasocial interactions and encouraging users to treat the virtual influencer as a social actor (CASA), in line with the precepts of Gambino et al. (2020). However, the presence of criticism regarding lack of authenticity or possible deception points to the dilemma described in the literature between control and consistency on the one hand, and credibility on the other, as well as the risks of perceived manipulation or uncanny valley (Lou et al., 2023; Franke et al., 2023). These findings allow us to refine previous positions: while some studies highlight the limited effect of virtual influencers on purchase intent due to their lack of authenticity (Kim et al., 2023), others show that human likeness can generate parasocial interactions comparable to those of human influencers (Stein et al., 2024). In our case, high interaction in commercial posts reinforces their potential as a tool for awareness and conversation; however, criticisms regarding transparency suggest that their commercial performance will depend on explicit transparency and identification strategies, as well as an appropriate product/brand-influencer match (Kim and Wang, 2023; Kim and Park, 2023). In this regard, recent studies warn of possible negative effects on brand authenticity and propose mitigation strategies (Song et al., 2024).

In descriptive terms, the profiles analysed bring together very large communities and exhibit a consistent ability to produce credible discourse, especially in commercial and lifestyle registers. This credibility is supported by narrative construction, continuity of posts and editorial control, elements that reinforce the perception of social presence (Kim and Park, 2024).

This use of advertising, noted by Ameen et al. (2024), is particularly evident in sectors with a high affinity for digital media and lifestyle (e.g., technology, travel, fashion, and wellness). Even areas with greater restrictions in the analogue sphere, such as certain pharmaceutical products, found in digital media—and, specifically, in these virtual influencers—a channel for expression and conversation with segmented communities. This predominance of commercial content converges with the findings of Rodrigo-Martín et al. (2021) in their study of Lil Miquela's advertising activity, which highlights the integration of brands and products as a recurring theme in the avatar's narrative.

In terms of content, virtual influencers alternate between product promotions, social responsibility actions, coverage of corporate events, and contests or activations, maintaining a predominantly positive tone and friendly language. The systematic use of hashtags and emojis helps to increase visibility and establish brand associations, functioning as semiotic markers that reinforce the framing of the message on Instagram.

Interaction on their channels is high: users accept the existence of these avatars relatively naturally and interact with them by asking questions, offering praise and commenting on the products or topics discussed. The fact that the profiles respond actively and consistently, thanking users for their support and answering questions, helps to sustain a parasocial dynamic and reinforce the attribution of social agency to the avatar (Gambino et al., 2020; Stein et al., 2024). A dialogue between machine and human is perfectly controlled by its editor (as noted by Allal-Chérif et al., 2024) and with an almost infinite capacity to automatically personalise responses (in line with the theses of Kim and Park,

2024). This community and follow-up dynamic is consistent with studies analysing the relationship between virtual influencers and brand followers (Guo et al., 2025).

As brands become more accustomed to using these technologies on social media, several avenues for future research are opening up. First, it is important to move beyond engagement to more specific commercial impact metrics (attribution, conversion, purchase intent and return on investment) to determine under what conditions virtual influencers outperform—or complement—human influencers. Secondly, it is worth exploring the ethical and regulatory challenges associated with the transparency of sponsored content, the possible confusion between fiction and reality, biases in representation, data protection and image rights. Not unexpectedly, the first Code of Conduct for advertising through influencers has just been approved, defining them as ‘a natural or legal person acting on their own behalf or through a virtual entity, a content creator with sufficient influence on digital platforms (such as Facebook, Instagram, TikTok, Twitch, YouTube, or X, among others)’ (Spanish Association of Advertisers et al., 2025, p.3). Likewise, in line with Rodrigo-Martín et al. (2022), it is appropriate to explore comparatively the role of these avatars as opinion leaders in contexts of political and civic communication, as well as the regulatory and ethical implications associated with their use. Finally, it would be valuable to replicate the analysis on other platforms (e.g., TikTok, YouTube, Twitch, or immersive environments) and in different cultural contexts, as well as to conduct longitudinal studies to observe the evolution of social acceptance and the persuasive effectiveness of these avatars.

5. References

Allal-Chérif, O., Puertas, R., & Carracedo, P. (2024). Intelligent influencer marketing: How AI-powered virtual influencers outperform human influencers. *Technological Forecasting and Social Change*, 200, 123113. <https://doi.org/10.1016/j.techfore.2023.123113>

Ameen, N., Cheah, J.-H., Ali, F., El-Manstrly, D., & Kulyciute, R. (2024). Risk, Trust, and the Roles of Human Versus Virtual Influencers. *Journal of Travel Research*, 63(6), 1370-1394. <https://doi.org/10.1177/00472875231190601>

Arsenyan, J., & Mirowska, A. (2021). Almost human? A comparative case study on the social media presence of virtual influencers. *International Journal of Human-Computer Studies*, 155, 102694. <https://doi.org/10.1016/j.ijhcs.2021.102694>

Asociación Española de Anunciantes (aea), AUTOCONTROL e IAB Spain (2025). Código de Conducta de publicidad a través de influencers 2025. En: <https://share.google/T9XFVWKjuhiZX7ovA>

Belanche, D., Casalo, L. V., & Flavián, M. (2024). Human versus virtual influences, a comparative study. *Journal of Business Research*, 173, 114493. <https://doi.org/10.1016/j.jbusres.2023.114493>

Calderón, R. (2024). Influencers virtuales. Una nueva realidad desdibujada. IPMARK: información de publicidad y marketing, 911, 66-67. En: <https://ipmark.com/informes/especial-ipmark-branded-content-marketing-influencers-2024/>

- De Cicco, R., Iacobucci, S., Cannito, L., Onesti, G., Ceccato, I., & Palumbo, R. (2024). Virtual vs. human influencer: Effects on users' perceptions and brand outcomes. *Technology in Society*, 77, 102488. <https://doi.org/10.1016/j.techsoc.2024.102488>
- Deng, F., Tuo, M., Chen, S., & Zhang, Z. (2024). Born for marketing? The effects of virtual versus human influencers on brand endorsement effectiveness: The role of advertising recognition. *Journal of Retailing and Consumer Services*, 80, 103904. <https://doi.org/10.1016/j.jretconser.2024.103904>
- Dondapati, A., & Dehury, R. K. (2024). Virtual vs. Human influencers: The battle for consumer hearts and minds. *Computers in Human Behavior: Artificial Humans*, 2(1), 100059. <https://doi.org/10.1016/j.chbah.2024.100059>
- Franke, C., Groeppel-Klein, A., & Müller, K. (2023). Consumers' Responses to Virtual Influencers as Advertising Endorsers: Novel and Effective or Uncanny and Deceiving? *Journal of Advertising*, 52(4), 523-539. <https://doi.org/10.1080/00913367.2022.2154721>
- Gaines, B.R. (2019). From facilitating interactivity to managing hyperconnectivity: 50 years of human-computer studies. *International Journal of Human-Computer Studies*, 131, 4-22. <https://doi.org/10.1016/j.ijhcs.2019.05.007>
- Gambino, A., Fox, J., & Ratan, R. A. (2020). Building a stronger CASA: Extending the computers Are social actors paradigm. *Human-Machine Communication*, 1, 71-86. <https://doi.org/10.30658/hmc.1.5>
- Gao, W., Jiang, N., & Guo, Q. (2023). How do virtual streamers affect purchase intention in the live streaming context? A presence perspective. *Journal of Retailing and Consumer Services*, 73, 103356. <https://doi.org/10.1016/j.jretconser.2023.103356>
- Gerlich, M. (2023). The Power of Virtual Influencers: Impact on Consumer Behaviour and Attitudes in the Age of AI. *Administrative Sciences*, 13(8), 178. <https://doi.org/10.3390/admsci13080178>
- Guo, Z., Yang, H., & Yang, W. (2025). A new social media programme for brands? A study of the relationship between virtual influencers and brand followers. *Journal of Retailing and Consumer Services*, 84, 104241. <https://doi.org/10.1016/j.jretconser.2025.104241>
- Gutuleac, R., Baima, G., Rizzo, C., & Bresciani, S. (2024). Will virtual influencers overcome the uncanny valley? The moderating role of social cues. *Psychology & Marketing*, 41(7), 1419-1431. <https://doi.org/10.1002/mar.21989>
- Hanus, M. D., & Fox, J. (2015). Persuasive avatars: The effects of customizing a virtual salesperson's appearance on brand liking and purchase intentions. *International Journal of Human-Computer Studies*, 84, 33-40. <https://doi.org/10.1016/j.ijhcs.2015.07.004>
- Hermann, E. (2022). Leveraging artificial intelligence in marketing for social good—an ethical perspective. *Journal of Business Ethics*, 179(1), 43-61. <https://doi.org/10.1007/s10551-021-04843-y>
- Hernández-Sampieri, R., Fernández-Collado, C. y Baptista-Lucio, P. (2010). *Metodología de la investigación* McGraw Hill.
- Hewapathirana, I. U., & Perera, N. (2024). Navigating the age of AI influence: A systematic literature review of trust, engagement, efficacy and ethical concerns of virtual

influencers in social media. *Journal of Infrastructure, Policy and Development*, 8(8), 6352. <https://doi.org/10.24294/jipd.v8i8.6352>

Hirschmann, R. (2021). Virtual Influencers' Impact on Purchasing Decisions. En: <https://www.statista.com/statistics/1103884/singapore-impact-of-virtual-influencerson-purchasing-decision>

Jhawar, A., Kumar, P., & Varshney, S. (2023). The emergence of virtual influencers: A shift in the influencer marketing paradigm. *Young Consumers*, 24(4), 468-484. <https://doi.org/10.1108/YC-05-2022-1529>

Jiménez-Castillo, D., & Sánchez-Fernández, R. (2019). The role of digital influencers in brand recommendation: Examining their impact on consumer behavior. *Journal of Business Research*, 109, 1-9. <https://doi.org/10.1016/j.jbifomgt.2019.07.009>

Joshi, Y., Lim, W. M., Jagani, K., & Kumar, S. (2023). Social media influencer marketing: Foundations, trends, and ways forward. *Electronic Commerce Research*, 25, 1199–1253 . <https://doi.org/10.1007/s10660-023-09719-z>

Kim, D., & Wang, Z. (2023). The ethics of virtuality: Navigating the complexities of human-like virtual influencers in the social media marketing realm. *Frontiers in Communication*, 8, 1205610. <https://doi.org/10.3389/fcomm.2023.1205610>

Kim, E. (Anna), Kim, D., Zihang, E., & Shoenberger, H. (2023). The next hype in social media advertising: Examining virtual influencers' brand endorsement effectiveness. *Frontiers in Psychology*, 14, 1089051. <https://doi.org/10.3389/fpsyg.2023.1089051>

Kim, H., & Park, M. (2023). Virtual influencers' attractiveness effect on purchase intention: a moderated mediation model of the product–endorser fit with the brand. *Computers in Human Behavior*, 143, 107703. <https://doi.org/10.1016/j.chb.2023.107703>

Kim, H., & Park, M. (2024). When digital celebrity talks to you: How human-like virtual influencers satisfy consumer's experience through social presence on social media endorsements. *Journal of Retailing and Consumer Services*, 76, 103581. <https://doi.org/10.1016/j.jretconser.2023.103581>

Kim, D., & Wang, Z. (2024). Social media influencer vs. virtual influencer: The mediating role of source credibility and authenticity in advertising effectiveness within AI influencer marketing. *Computers in Human Behavior: Artificial Humans*, 2(2), 100100. <https://doi.org/10.1016/j.chbah.2024.100100>

Li, H., Lei, Y., Zhou, Q., & Yuan, H. (2023). Can you sense without being human? Comparing virtual and human influencers endorsement effectiveness. *Journal of Retailing and Consumer Services*, 75, 103456. <https://doi.org/10.1016/j.jretconser.2023.103456>

Lim, R. E., & Lee, S. Y. (2023). “You are a virtual influencer!”: Understanding the impact of origin disclosure and emotional narratives on parasocial relationships and virtual influencer credibility. *Computers in Human Behavior*, 148, 107897. <https://doi.org/10.1016/j.chb.2023.107897>

Lou, C., Kiew, S. T. J., Chen, T., Lee, T. Y. M., & Ong, J. E. C. (2023). Authentically fake? How consumers respond to the influence of virtual influencers. *Journal of Advertising*, 52(4), 540-557. <https://doi.org/10.1080/00913367.2022.2149641>

Ma, Y., & Li, J. (2024). How humanlike is enough?: Uncover the underlying mechanism of virtual influencer endorsement. *Computers in Human Behavior: Artificial Humans*, 2(1), 100037. <https://doi.org/10.1016/j.chbah.2023.100037>

Moustakas, E., Lamba, N., Mahmoud, D., & Ranganathan, C. (2020). Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers. *2020 International Conference on Cyber Security and Protection of Digital Services (Cyber Security)*, Dublin, Ireland, 2020, pp. 1-6, <https://doi.org/10.1109/CyberSecurity49315.2020.9138861>

Mrad, M., Ramadan, Z., & Nasr, L. I. (2022). Computer-generated influencers: The rise of digital personalities. *Marketing Intelligence & Planning*, 40(5), 589-603. <https://doi.org/10.1108/MIP-12-2021-0423>

Özdemir, O., Kolfal, B., Messenger, P. R., & Rizvi, S. (2023). Human or virtual: How influencer type shapes brand attitudes. *Computers in Human Behavior*, 145, 107771. <https://doi.org/10.1016/j.chb.2023.107771>

Pokharel, R., & Bhatta, D. (2021). Classifying YouTube Comments Based on Sentiment and Type of Sentence. arXiv preprint. <https://doi.org/10.48550/arXiv.2111.01908>

Rossetti, R., y Marcusso, A. (2014). Comentarios no YouTube sobre filmes publicitários dissonantes. *Fronteiras - Estudos Midiáticos*, 16(3), 201-214. <https://doi.org/10.4013/FEM.2014.163.06>

Rodrigo-Martín, I., Muñoz-Sastre, D., & Rodrigo-Martín, L. (2022). Los influencers virtuales como líderes de opinión y su empleo en técnicas en comunicación política. *Revista Mediterránea de Comunicación*, 13(1), 251-266. <https://doi.org/10.14198/MEDCOM.20751>

Rodrigo-Martín, L., Rodrigo-Martín, I., & Muñoz-Sastre, D. (2021). Los influencers virtuales como herramienta publicitaria en la promoción de marcas y productos. Estudio de la actividad comercial de Lil Miquela. *Revista Latina de Comunicación Social*, 79, 69-90. <https://doi.org/10.4185/RLCS-2021-1521>

Shen, Z. (2024). Shall brands create their own virtual influencers? A comprehensive study of 33 virtual influencers on Instagram. *Humanities and Social Sciences Communications*, 11(1), 177. <https://doi.org/10.1057/s41599-024-02698-y>

Song, X., Lu, Y., & Yang, Q. (2024). The negative effect of virtual endorsers on brand authenticity and potential remedies. *Journal of Business Research*, 185, 114898. <https://doi.org/10.1016/j.jbusres.2024.114898>

Stein, J.-P., Linda Breves, P., & Anders, N. (2024). Parasocial interactions with real and virtual influencers: The role of perceived similarity and human-likeness. *New Media & Society*, 26(6), 3433-3453. <https://doi.org/10.1177/14614448221102900>

Thomas, V. L., & Fowler, K. (2021). Close encounters of the AI kind: use of AI influencers as brand endorsers. *Journal of Advertising*, 50(1), 11-25. <https://doi.org/10.1080/00913367.2020.1810595>

Vila-López, N., Kuster-Boluda, I., Mora-Pérez, E., & Pascual-Riquelme, I. (2023). A bibliometric analysis of virtual influencers in the Web of Science. *Journal of Marketing Analytics*, 13, 145-161. <https://doi.org/10.1057/s41270-023-00262-2>

Volles, B. K., Park, J., Van Kerckhove, A., & Geuens, M. (2024). How and when do virtual influencers positively affect consumer responses to endorsed brands? *Journal of*

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Business Research, 183, 114863. <https://doi.org/10.1016/j.jbusres.2024.114863> defin

We Are Social y Meltwater (2023). Digital 2023. <https://wearesocial.com/es/blog/2023/01/digital-2023/>

Zhou, Q., Li, B., Li, H., & Lei, Y. (2024). Mere copycat? The effects of human versus human-like virtual influencers on brand endorsement effectiveness: a moderated serial-mediation model. *Journal of Retailing and Consumer Services*, 76, 103610. <https://doi.org/10.1016/j.jretconser.2023.103610>

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