

# VIRTUAL INFLUENCER ACTIVITIES ON INSTAGRAM SOCIAL MEDIA THROUGH THE PERSPECTIVE OF USER GENERATED CONTENT THEORY

Pramedistiyani N Ain Naya<sup>1</sup>, Dasrun Hidayat<sup>2</sup>, Nofha Rina<sup>3</sup>, Zikri Fachrul Nurhadi<sup>4</sup>

<sup>1,3</sup>Universitas Telkom, Bandung, Indonesia

<sup>2</sup>Universitas Adhirajasa Reswara Sanjaya, Bandung, Indonesia

<sup>4</sup>Universitas Garut, Garut, Indonesia

---

---

**Keyword:**

Technology; Artificial Intelligence; Virtual influencers; Instagram

**Abstract**

Rapid technological developments have given rise to new technologies, one of which is Artificial Intelligence (AI). Virtual Influencers are a phenomenon that is currently popular in Indonesia. The emergence of virtual influencers is based on the increasingly advanced existing technology. The emerging artificial intelligence has an influence on the marketing of products or services on social media, especially on the Instagram platform. This research aims to determine the virtual activities of influencers on Instagram. The research method used is a descriptive qualitative method that is in-depth on empirical findings containing related information about virtual influencers. Research results obtained from interviews with sources show that virtual influencers are an effective technological advancement in helping a brand market its products or services. Even though most of them received positive responses, it cannot be denied that virtual influencers also received negative responses. Virtual influencers are considered to be more able to adapt to a brand's wishes. In terms of marketing, virtual influencers are easier to control because basically behind virtual influencers there are humans who design the program.

---

---

## INTRODUCTION

Currently, the presence of technology is inevitable, many creative breakthroughs have been made by humans in the field of technology, including multimedia which has increased human imagination and creativity (Sookkaew & Saephoo, 2021). Change is constant because humans are constantly evolving and creating new things. Various changes

considerable influence on life. Public attention shifted from analog media to digital media as a result of the proliferation of digital technology. Human interaction is simplified with the expansion of the reach and accessibility of communication. As technology advances, this enables new forms of communication and the merging of human and AI efforts to achieve more than each individual can (Wirth, 2018).

that cannot be avoided often have a

---

**Corresponding Author:**

Universitas Telkom, Bandung, Indonesia

Jl. Telekomunikasi No. 1, Bandung Terusan Buahbatu – Bojongsoang, Kab. Bandung, Jawa Barat 40257

Email: [pramedistiyana@gmail.com](mailto:pramedistiyana@gmail.com)

Human artificial intelligence can analyze data, perform seemingly natural interactions, solve problems quickly, and be directed by its creator. The concept of an "influencer", or someone who owns and can influence an audience, is relatively new in the field of communication. Since its inception, the reach of influencers has expanded to all parts of the world, and they have gone through a number of changes. Humans are always adapting and evolving. At the end of the 21st century, theories about the origin of man began to emerge. The social networking infrastructure was developed with the merger of Facebook and Instagram, which allows users to exchange stories, photos, and suggestions with their followers (Block & Lovegrove, 2021). Today, those who have a large online following and can request payment from businesses are known as "influencers".

In order to accurately portray humans, humans are constantly developing new techniques. Artificial intelligence (AI) has the ability to speak, communicate, and build emotional connections just like humans do (Silva & Bonetti, 2021). People began to learn and create with this technology to produce 3D designs shaped like humans. Individuals according to the two-step flow communication theory (Littlejohn & Kimport, 2017, p. 157), will not receive the effects of social media but

will receive influence from social media delivered directly by opinion leaders.

Tourism, modeling, and sports are just some of the industries experiencing an increasing prevalence of online "influencers" (Sookkaew & Saephoo, 2021). There is no difference between influencer material and other forms of content uploaded by influencers (Choudhry et al., 2022). Thanks to developments in communication, networking, portability, and digitalization, new territories have opened up for human engagement with artificial intelligence (Mirowska & Arsenyan, 2023). Influencers are portrayed as human beings in general; they are given histories, personality traits, and appeals tailored to their narratives, enabling cross-domain engagement between traditional and digital influencers (Hanus & Fox, 2015). An expansion of the original phenomenon of "virtual idols" on YouTube, namely fictional characters in online video content, virtual influencers have emerged. Soon, this incident also attracted the attention of Instagram users. Instagram is a photo-sharing program that allows its users to add effects to their photos, share them with their followers, and even record short videos (Wibawa et al., 2022).

This virtual influencer phenomenon is currently rife in Indonesia, the first account to explode in Indonesia is @lentaripagi which is interpreted as a

female influencer with a beautiful face and charming stature. The frenzy surrounding the use of "Riri" as her stage name became a fresh inspiration for the advancement of artificial intelligence (AI) tools developed by humans for specific purposes. Instagram is a photo and video sharing app used on social media sites. In addition, the Instagram app provides more data for research on AI topics such as digital influencers. In addition to allowing users to share their personal stories through photos and videos, Instagram also allows users to add descriptive "captions" to their posts, which can be used to label specific locations or to create other notes.

These artificial intelligence technology designers didn't start working on these virtual influencers without a clear plan and goals. Despite their "online" lifestyle, these virtual influencers are designed for a specific purpose: earning rupiah, the Indonesian currency, and people's primary means of supporting themselves. As a kind of AI artificial intelligence, the emergence of virtual influencers has also affected human-generated communication. The larger and wider the social network generated by virtual influencers, the greater and more significant the impact. The career trajectory and even human work is influenced by virtual influences. The emergence of AI has attracted the attention of the business world

in producing more complex robots to facilitate labor. There are advantages and disadvantages to using virtual influencers. On the plus side, virtual influencers are adaptable personalities who never grow old or die, and their personalities can evolve in response to changing circumstances.

To prevent the release of harmful content, producers do not have an "offline life" as opposed to their "online personality" (Zacharaki et al., 2020). There is uncertainty as to whether there are material differences in business outcomes between virtual influencers and real humans (Sands et al., 2022), high investment requirements and legal challenges (Zacharaki et al., 2020), and so on.

Despite the potential advantages and disadvantages, the presence of virtual influencers has had a significant impact on technological advancement, and the advent of artificial intelligence requires people to be aware of the dangers posed by the ease of use it provides. Writing, painting, editing, and even controlling are tasks that can be performed by AI, not humans. Many businesses are rapidly adopting AI to perform tasks that humans previously performed. The future of the fashion, sales, and advertising industries undoubtedly depends on virtual influencers (Robinson, 2020).

There is no doubt that the presence of artificial intelligence developed in this way

does not necessarily improve the quality of human life. Like robots in general, AI also provides modifications to the way humans act towards invisible dimensions, especially human dignity, where autonomy, freedom, and privacy reside (Kouadri et al., 2021). Data leakage or intentional manipulation of data due to damage, human carelessness, or deliberate manipulation for some reason is one of the negative impacts of AI on human life. Of course, this is inevitable; in 2020, a company providing services in the Kreditplus Fintech industry suffered a data breach. This situation was revealed through a report by a cybersecurity organization from the United States, Clyne. The data of 890,000 Credit Plus subscribers was allegedly hijacked and sold on the Raidforums website, according to the report's conclusions. Information such as names, email addresses, passwords, physical addresses, and even family cards have been exposed in the hack, making it extremely sensitive. Artificial intelligence (AI) has the potential to analyze, collect, and process sensitive user data, requiring human guidance to do so. Although artificial intelligence (AI) and digital influencers are on the rise, humans will always play an important role in business, as the main goal of AI development is to make people's lives easier and their work more efficient. The development of artificial intelligence in various sectors has

led to the emergence of new jobs where humans oversee AI systems.

This research uses a systematic literature review approach, but also refers to previous research Wibawa et al., (2022), on potential topics and problems related to the growth of virtual influencers. The benefits, drawbacks, and moral implications of virtual influencers were also studied by Conti et al., (2022), although their research was limited to the virtual influencers themselves. Similar to research examining the impact of online opinion leaders on advertising and promotion. According to research, virtual influencers are becoming increasingly popular in brand promotion (Muttamimah & Irwansyah, 2023). The advantages of virtual influencers include total command, cost and time savings, and adaptability. In contrast, virtual influencers are perceived as less able to convey emotions and inspire trust. Even so, the use of virtual influencers has the potential to continue to increase in the future, especially in marketing communication practices. The use of virtual influencers as a brand and product promotion strategy has also been the subject of academic study.

Analysis of business operations of Lil Miquela (Rodrigo-Martín et al., 2021). Based on these findings, it is clear that online personalities have become an integral part of the modern advertising communications landscape. Another

research was also conducted entitled *The Potential Utilization of Indonesian Virtual Influencers for Indonesian Tourism Marketing* by Rustine & Indriana, (2023), with the results of the study showing that currently in Indonesia there are four female virtual influencers who are icons of several products and services. These four digital influencers have a large number of followers, high engagement rates, and a history of posting on topics important to Indonesian culture, all of which show that they can be useful in promoting Indonesia's tourism industry to the younger generation. Business actors and other stakeholders in Indonesia's tourism services sector can consider the findings of this research when they develop promotional plans.

Few studies have attempted to explain the point of view of virtual influencers in relation to communication strategies based on UGC theory or netizen journalism. By allowing anyone to make posts visible to others, social media platforms facilitate a kind of user-to-user communication known as "chat", as defined by Technopedia Inc. All user-generated content (UGC) is contributed by users or others. party (Sprout Social Inc., 2016). Many popular applications, such as Facebook and Twitter, incorporate UGC into their functions so that users can share content, including advertisements and information on trending topics (Lobato et

al., 2012). The study developed and modified the findings of several others who had explored the topic of online opinion leaders, but it did so in a unique way. New ideas and discoveries have the potential to emerge from these studies. The implications of this research will include a new concept that will help facilitate human activity in social media technologies: the study of virtual influencer activity on Instagram from the standpoint of User-Generated Content theory. Activity literature can also be obtained from this study. The research is believed to help clarify questions about the actions of virtual influencers on social media platform Instagram. New understandings, Instagram social media activity, and the daily behavior of virtual influencers will be researched to answer research questions.

## **BIBLIOGRAPHY**

### ***Methodology***

This study uses a qualitative method with a deep interpretation of the findings of empirical results regarding information related to virtual influencers. Qualitative research is one of the research procedures, which produces descriptive type data, namely speech or writing and the behavior of the observed person (Bogdan Taylor in Basrowi and Sukidin, 2002). The data collection methods in this study are observation, interviews, and documentation.

The object of this research is virtual influencer accounts on social media. In this study, the author chose @lenterapagi as the object of research.

This study uses unstructured interviews with key informants and also supporting informants. In conducting interviews, the author chose several people as resource persons related to virtual influencers, such as social media specialists as supporting informants and Content Creators as key informants. From the results of the interview, the author will process the data into a description related to the use of virtual influencers in social media contexts.

The researcher will also explain in more detail the use of User generated Content (UGC) in influencer virtual activities by collecting descriptive data.

### ***Conceptual Studies***

#### **User Generated Content**

User Generated Content (UGC) is all content in the form of photos, text, videos, or other content created by users to be posted and distributed on social media. The content produced is in the form of stories about users' experiences or opinions when using a particular product or service. A brand can find User Generated Content by looking at the mentions or hashtags of the brand used by its users. After that, the brand account owner will repost and display the content on their

social media. This content will be used as marketing material for the brand to display to its followers (Christoper & Sibarani, 2024).

#### **Virtual Influencer**

Influencers are one of the highlights in the context of social media. Influence is operationally a current in online behavior when a person does various ways to increase his or her reputation on the internet by utilizing technology such as videos, blogs, and other social networking sites (Rahmawan et.al, 2017). Ryan and Jones said that digital influencers are people who have a big influence on social media. The users of this influential account already have the trust of their online followers and their opinions can have a tremendous influence on online reputation, including for products or brands.

Usually a social media influencer is a real human, now a virtual influencer has emerged who is a fictional character based on computer technology but has human-like features. They have a physical appearance, personality, emotions, behavior, values, and lifestyle that resemble humans. Their personas, interactions, and social media uploads show human characteristics, thus causing their followers to connect closely and generate high popularity (Wibawa et al., 2022). Virtual influencers have a variety of design styles, ranging from 2D cartoons to 3D hyper-realistic (Neoreach, 2022). The

most attractive target is the millennial and gen z segments, but it does not rule out the possibility of its use for the older generation (Moustakas et al., 2020). The implementation of virtual influencers has its pros and cons. The advantage of virtual influencers is that they are flexible figures where they do not age and die and their personas can continue to develop as needed (Mingkwon, 2022).

## FINDINGS AND DISCUSSION

Social media as a technological development today can facilitate everyone to develop their potential. Everyone is free to express on social media, then they form a *self-presentation* on social media to be able to attract attention and increase followers of their social media accounts. According to Goffman,

"self-presentation is an activity carried out by certain individuals to produce a definition of a situation and social identity for actors and the definition of that situation affects the variety of interactions that are feasible and inappropriate for actors in the existing situation" (Mulyana, 2003, p. 112).

When someone already has a self-identity on someone's social media, it is easy to remember by the public and can influence others. Someone who gives influence to others is often called an influencer. According to Kadekova & Holiencinova "Influencers" are individuals with significant followings on social media

who are paid by a brand or product to promote their products to their followers, through product and free travel and/or cash payments per promotion. The goal is to persuade followers to buy such a product. Popular social media options for influencers are Instagram, Facebook, Snapchat and YouTube. Influencers have the power to influence other people's buying decisions because of their authority, knowledge, position or relationship with their audience. An important note, that these people are not simple marketing tools, but rather social relationship assets where they can collaborate to achieve marketing goals" (Sari Anjani, 2020).

Currently, the development of endorsements is not only limited to the use of celebrity endorsers but more to the use of non-celebrity endorsers such as influencers. Celebrity and non-celebrity endorsers have their own advantages and disadvantages. For celebrity endorsers, there are more followers, but endorsement rates are clearly more expensive and the time to keep products or services in feeds is only short. While non-celebrity endorsers certainly have cheaper rates, keep time is also longer, but the followers are much less so they will definitely reach consumers less (Rahayu, 2018). Influencer endorsements on Instagram are currently growing rapidly with the emergence of many endorsers from various social media, not only Instagram,

but also Youtube and other social media. Endorsements by influencers through Instagram are considered greater benefits than marketing through television media. With the help of influencers in promoting a product or service, it is considered to be able to provide a fairly high guarantee that followers will have trust and confidence in the quality of the endorsed product or service. Therefore, endorsement through social media is the most recommended form of marketing strategy for now and in the future (Indriana et al., 2019). An influencer can influence his or her followers to buy or use the product they are reviewing. This influence is what makes brands or institutions use influencers to attract public attention in their promotions or campaigns.

The rapid development of technology gives rise to new technologies, one of which is *Artificial Intelligence* (AI) or artificial intelligence. As one of the branches of computer science, *Artificial Intelligence* (AI) seeks to understand the essence of intelligence, and produce new types of intelligent machines that can respond in a similar way to human intelligence, with broad research areas regarding machines and deep learning, data science, data appending, knowledge discovery, knowledge reasoning, speech recognition, natural language processing, language recognition, image recognition, computer vision, planning, robotics,

games, and so on (Kenji, 2020). Due to recent technological breakthroughs in the field of AI, AI has become the hottest topic in almost all areas of research. People's expectations of AI are very high, due to the many interesting events that have occurred recently regarding AI. For example, the emergence of Virtual Influencers, namely human-like robots that become influencers to influence the public in the campaign activities of a product or institution.

In marketing strategy, Instagram users also play an important role in User Generated Content (UGC). UGC is creative content created by users without professional intervention and becomes a source of information for consumers in finding products and services (Halim & Candraningrum, 2021). The content used can be produced individually or collaboratively, modified, shared, or as a source of information for consumers in searching for a product or service. In this case, UGC on Instagram provides a new experience, usually using endorsements and celebrities to talk about the benefits and advantages of the product switching to UGC based on consumers' own experiences (Bahtar & Muda, 2016). The content created by UGC encourages users to be able to see the video and attract consumer buying interest or purchase intention (Dila Khoirin anisa & Novi Marlana, 2022).



According to O'Hern & Kahle there are four typologies of User Generated Content (UGC) on social networks, namely:

1. Information, in this case there are activities that become the user's process in creating content either in terms of giving praise or in the form of criticism of a product that can be reached by millions of other users about the product and there is an element of word-of-mouth (WoM) in UGC that can have an impact on the positive or negative image of a product. eWOM is a form of statement given by potential customers to a product, company, or review. Where the statement can be positive or negative published through the internet.

In the case of virtual influencers who are new on social media, every piece of content will have negative and positive comments. One of @lentaripagi's Instagram posts that has negative comments is related to its untidy visuals and edits. Because this virtual influencer is an edit or man-made that still needs to be paid attention to the details. For influencers' own virtual responses to negative comments tend to be ignored. Meanwhile, positive comments were responded by the virtual influencer. One of the Q1 speakers responded that bad exposure is brand exposure. Good and bad comments still give attention or attention to

the brand. But it is also necessary to minimize these negative comments. Because virtual influencers are technology that can be controlled by humans, so it must be more than human influencers themselves.

2. Co-Communicating, is a process of initiative carried out and the results depend on the creativity, requirements, and image of the company. This process is carried out to a company or brand commonly called user generated advertising, usually given in the form of contests.

Marketing strategies carried out by virtual influencers, will be different from human influencers. Entering into the aspect of providing a new understanding of virtual influencer activities, Q5 speakers gave responses regarding the strategy designed for virtual influencers,

"Okay. If for example, the strategy might just take care of the AI, for engagement, we must make sure, like between our audience and virtual influencers, it fits first. Then the second, make sure the virtual influencer is in line with our brand. That's it".

From the results of the overall interview, it can be concluded that the strategy that we can do for virtual influencers, we must know the target audience, brand or institutional needs, and virtual influencer personas.

3. Co-creating, is a process that depends on several factors, one of which is the motivation of the participants. In this process, users can create a design related to the brand to be promoted. The selected designs will be produced and launched in the future.

Virtual influencers in creating content will be able to follow more and in accordance with the wishes of the brand. Because virtual influencers are technology that humans can control. It is likely to be more effective virtual influencers compared to human influencers. In the interview results, there are those who agree if virtual influencers are more effective, but there are also those who disagree and say that virtual influencers are not effective in the campaign of a brand or institution. As the Q4 interviewee responded who disagreed if this virtual influencer was more effective,

"No. Because this AI can run with humans, yes and he said there that it is more effective because this AI does not have activities as busy as humans, but is the one who takes care of him humans. So I think it's still in my opinion that if there are still other humans who manage the account, it means that they are equally ineffective. Unless this AI can already run alone to make its own content plan, upload it yourself, if that's the case, it's more effective and definitely costs more because everything is automatic."

However, in contrast to Q1 speakers who agreed that virtual influencers are more effective to be used in campaigns,

"If I think I agree. I think it's more useful for virtual influencers. Because back again, technology is easy to control. So we can tell him to upload whatever we want. And also if suppose the influencer realizes that he has this scandal, that scandal and it affects the brand. If my position is what the name is, the job at the brand and I have to reckon, I prefer virtual influencers. And also that means what the name is more effective also in terms of budget, then also in terms of scheduling and will not follow the real scheduling of real humans".

4. Pioneering, is a process where consumers do not focus on making submissions intended for a brand or company, but intended for audiences outside the company. Therefore, UGC uploads made are voluntary and conscious by consumers but are not accompanied by a profit motive.

Virtual influencer activities, of course, are basically carried out with the aim of getting attention from the general public. Especially on social media, virtual activities will usually attract consumers to join a platform. Based on the results of the interview, the Q2 resource person revealed that the main purpose of this virtual influencer is of course to "reach", where the reach of views is the main purpose of having virtual influencers in an e-commerce. In addition, the development of traffic on social media also needs to be considered, according to him, this is one way to find out the sales statistics that

occur. This is of course done with the motive to make a profit. In contrast to the statements and intentions of the forerunners above. However, according to a Q3 source when interviewed, he said that the campaign by virtual influencers was carried out to find out whether a campaign had been achieved or not. Reach and insight are needed, but they are not focused on profit alone. If the reach, insight and goals of the campaign itself have been achieved. Then it can be said that it is enough.

## **DISCUSSION**

From the results of research and interviews conducted, it can be seen that the virtual activities of influencers on Instagram social media are really influenced by the times. With the presence of an influencer can help business actors in promoting their brand. Followed by the advancement of technology today, this has an effect on the advancement of influencer ways of promoting. Especially the development of technology known as *Artificial Intelligence* (AI).

With the presence of AI, it affects the creation of UGC (User Generated Content), where creative content can be created instantly thanks to the help of technology. This can build new experiences for consumers. With the presence of AI, it is considered to be able to provide high

reach and insight into a campagne or product.

Some data from sources shows that if a piece of content gets bad comments, then this is more ignored by virtual influencers themselves. Because most virtual influencers only reply to positive comments. The selection of strategies by virtual influencers must also be based on the target audience, as well as the needs of the brand itself. This is because virtual influencers must be designed in such a way as to remember virtual influencers are different from human influencers. Virtual influencers are also basically controlled by humans themselves so that the desires in creating content will be adjusted to the wishes of the brand.

Regarding the effectiveness of virtual influencers, the average resource person considers that virtual influencers are more effective. Although a small number also still consider that virtual influencers are not effective. Its effectiveness lies in the lack of budget that needs to be spent, usually brands will endorses to famous artists or celebrities with expensive fees. But with this virtual influencer, the brand can minimize budget expenditures, but also can still increase reach or views on its products by helping virtual influencers who are basically controlled by themselves.

## **KESIMPULAN**

The conclusion that can be obtained from the results of discussion and analysis of interview data is that it is known that the emergence of virtual influencers is influenced by the advancement of technology today. This is also based on great consumer interest in what virtual activities are, because they are considered to be able to provide new experiences in a promotion. From the results of the interview, it is also known that some of the interviewees admitted that using virtual influencers can be more effective and can help save the budget spent. Virtual influencers are also considered more able to follow the wishes of a brand in their promotion. The strategy carried out can also be adjusted to the wishes of consumers, and brand desires can also be achieved. In addition, these virtual influencers are basically still controlled by humans themselves, so the design can also be done carefully. From the interviews, it was also concluded that several UGCs uploaded on Instagram by a brand were done to get high reach and insight on their posts. Most expect profits, and a small percentage only hope that insights and views can be achieved on target and waive profits.

#### DAFTAR PUSTAKA

Bahtar, A. Z., & Muda, M. (2016). *The Impact of User – Generated Content (UGC) on Product Reviews towards*

*Online Purchasing – A Conceptual Framework. Procedia Economics and Finance*, 37(16), 337–342. [https://doi.org/10.1016/s2212-5671\(16\)30134-4](https://doi.org/10.1016/s2212-5671(16)30134-4)

Block, E., & Lovegrove, R. (2021). Discordant storytelling, ‘honest fakery’, identity peddling: How uncanny CGI characters are jamming public relations and influencer practices. *Public Relations Inquiry*, 10(3), 265–293. <https://doi.org/10.1177/2046147X211026936>

Choudhry, A., Han, J., Xu, X., & Huang, Y. (2022). ‘ I Felt a Little Crazy Following a ‘Doll’ ” Investigating Real Influence of Virtual Influencers on Their Followers’. *Proceedings of the ACM on Human-Computer Interaction*, 6(GROUP), 1–28. <https://doi.org/10.1145/3492862>

Christopher, G.V.H., & Sibarani, M. (2024). The Influence of User Generated Content and Company Generated Content as a Marketing Strategy on Customer Engagement (Case Study on PT Coca-Cola Indonesia Instagram Social Media). *Indonesia Interdisciplinary Journal of Sharia Economics (IJSE)*, 7(3).

Conti, M., Gathani, J., & Tricomi, P. P. (2022). Virtual Influencers in Online Social Media. *IEEE Communications Magazine*, 60(8), 86–91. <https://doi.org/10.1109/MCOM.001.2100786>

Elvinta, Ari Wibowo.(2021).*PENGARUH USER-GENERATED CONTENT (UGC) DAN KUALITAS PRODUK TERHADAP MINAT BELI KONSUMEN DAPUR MBOK SARMINAH.*

- Halim, E. M., & Candraningrum, D. A. (2021). *The Influence of User-Generated Content Towards Somethinc Skincare Purchase Intention. Proceedings of the International Conference on Economics, Business, Social, and Humanities (ICEBSH 2021)*, 570 (Icebsh), 831–836. <https://doi.org/10.2991/assehr.k.210805.131>
- 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/https://doi.org/10.1016/j.ijhcs.2015.07.004>
- Irwansyah, dan Sari Anjani.(2020).*Peranan Influencer Dalam Mengkomunikasikan Pesan Di Media Sosial Instagram [The Role Of Social Media Influencers In Communicating Messages Using Instagram ]*.
- Jimmy Prawira Samudra, Sherley, Veren, Wisely Liang, dan Afandi.(2021).*Pengaruh Endorsement Influencer Instagram Terhadap Keputusan Pembelian pada Generasi Z*.
- Kouadri, S., Elbeltagi, A., Islam, A. R. M. T., & Kateb, S. (2021). Performance of machine learning methods in predicting water quality index based on irregular data set: application on Illizi region (Algerian southeast). *Applied Water Science*, 11(12), 190. <https://doi.org/10.1007/s13201-021-01528-9>
- Littlejohn, K. E., & Kimport, K. (2017). Contesting and Differentially Constructing Uncertainty: Negotiations of Contraceptive Use in the Clinical Encounter. *Journal of Health and Social Behavior*, 58(4), 442–454. <https://doi.org/10.1177/0022146517736822>
- Lobato, R., Julian, T., & Hunter, D. (2012). Histories of user-generated content: Between formal and informal media economies. In *Amateur Media* (pp. 3–17). Routledge.
- Luthfiany, Madiawati, P.N. Analisis Celebrtiy Endorser (Selebgram) Terhadap Minat Beli Skincare dengan Advertising Appeal sebagai Variabel Intervening.(*E-Procceding of Management*, 5(1).
- Mingkwon, S. (2022). *An Exploratory Study of Virtual Influencers in Thailand [Magister Thesis]*. Mahidol University
- Mirowska, A., & Arsenyan, J. (2023). Sweet escape: The role of empathy in social media engagement with human versus virtual influencers. *International Journal of Human-Computer Studies*, 174, 103008. <https://doi.org/https://doi.org/10.1016/j.ijhcs.2023.103008>
- Moustakas, E., Lamba, N., Mahmoud, D., & Ranganathan, C. (2020). Blurring lines between fiction and reality: Perspectives of experts on marketing effectiveness of virtual influencers. *International Conference on Cyber Security and Protection of Digital Services, Cyber Security 2020*. <https://doi.org/10.1109/CyberSecurity49315.2020.9138861>
- Muttamimah, L., & Irwansyah, I. (2023). Pemanfaatan Influencer Berbasis Virtual dalam Komunikasi Pemasaran. *WACANA: Jurnal Ilmiah Ilmu Komunikasi*, 22(1), 31–42.

- <https://doi.org/10.32509/wacana.v22i1.2322>
- Neoreach. (2022). 2022 *Virtual Creators* Report.  
<https://neoreach.com/quarterlyreports/virtual-creators/>
- Putri, Vania Jovita.(2020).*Pengaruh User-Generated Content (Ugc) Dan Kualitas Produk Terhadap Minat Beli Konsumen Dapur Mbok Sarminah.*
- Robinson, B. (2020). Towards an ontology and ethics of virtual influencers. *Australasian Journal of Information Systems*, 24.  
<https://doi.org/10.3127/ajis.v24i0.2807>
- Rodrigo-Martín, L., Rodrigo-Martín, I., & Muñoz-Sastre, D. (2021). Virtual influencers as an advertising tool in the promotion of brands and products. Study of the commercial activity of lil miquela. *Revista Latina de Comunicación Social*, 79, 70–91.  
<https://doi.org/10.4185/RLCS-2021-1521>
- Rustine, M., & Indriana, I. (2023). Potensi Penggunaan Influencer Virtual Indonesia Bagi Pemasaran Pariwisata Indonesia. *Altasia Jurnal Pariwisata Indonesia*, 5(2), 16–27.  
<https://doi.org/10.37253/altasia.v5i2.7875>
- Sands, S., Campbell, C., Plangger, K., & Pitt, L. (2022). Buffer bots: The role of virtual service agents in mitigating negative effects when service fails. *Psychology & Marketing*, 39(11), 2039–2054.  
<https://doi.org/10.1002/mar.21723>
- Silva, E. S., & Bonetti, F. (2021). Digital humans in fashion: Will consumers interact? *Journal of Retailing and Consumer Services*, 60, 102430.  
<https://doi.org/10.1016/j.jretconser.2020.102430>
- Sookkaew, J., & Saephoo, P. (2021). “Digital influencer”: development and coexistence with digital social groups. *International Journal of Advanced Computer Science and Applications*, 12(12).  
<https://doi.org/10.14569/IJACSA.2021.0121243>
- Sprout Social Inc. (2016). *User-generated content: 5 steps to turn customers into advocates.*  
<http://sproutsocial.com/insights/user-generated-content-guide/>
- Suzuki kenji.(2020).*AI: A New Open Access Journal for Artificial Intelligence.*
- Wibawa, R. C., Pratiwi, C. P., Wahyono, E., Hidayat, D., & Adiasari, W. (2022). Virtual influencers: is the persona trustworthy? *Jurnal Manajemen Informatika (JAMIKA)*, 12(1), 51–62.  
<https://doi.org/10.34010/jamika.v12i1.6706>
- Wietske, Wolff.(2022).*A Trend or is Future of Influencer Marketing Virtual? The effect if virtual influencer and sponsorship disclosure or purchase intention, brand trust and consumer engagement.*
- Wirth, N. (2018). Hello marketing, what can artificial intelligence help you with? *International Journal of Market Research*, 60(5), 435–438.  
<https://doi.org/10.1177/14707853187768>
- Zacharaki, E. I., Deltouzos, K., Kalogiannis, S., Kalamaras, I., Bianconi, L., Degano, C., Orselli, R., Montesa, J., Moustakas, K., Votis, K., Tzovaras, D., & Megalooikonomou, V. (2020). FrailSafe: An ICT Platform

for Unobtrusive Sensing of Multi-Domain Frailty for Personalized Interventions. *IEEE Journal of Biomedical and Health Informatics*, 24(6), 1557–1568.  
<https://doi.org/10.1109/JBHI.2020.2986918>