**Anthropomorphic** influencers

What is the scope

AI influencers’ category, focus more 3D

Recommendation system, play a role

Broadly define the influencers, lay out the structure,

Cut off the chatbot

What is the role of influencers in nowadays’ advertising

Annotation.

~~CH 1 is still making argument: why do we care, why AI is important is important in marketing field? Are there any pros and cons, compare with human being influencers? Why chatbot and 3D influencers are important to marketing field, visual part is more recent, it was developed from chatbot,~~ [Theoretical framework to explain, this technology, project a human like avatar, (human like features, evolution coded), Why they are effective, how they are effective, what is missing here, 「different kinds of effectiveness/ Outcome: interpersonal conncetion, , preview of the effectiveness,

construct, variables,

~~human-like features, interaction, tailoring function~~, [conceptuaon, they are concepts, factors]: board two or three categories.

~~how they are different the human being influencers,~~

how and why : conceptional

Conclusion in the ch1: I’ve taled a lot and I will fill the gap in Ch 2

CH 2 : Structure,why body size matter, how body size matter, what is missing here [too good to be true, arise the anxiety] 所以可能还是

Because of the evolution, human brain is still easily to be attracted to robots, ruling out the factors that

Define the scope of marketing [limitation]

Stimlus & Measurement

Measurement: social psycophycial , targeting idetifition, measurement of , define measurement and effectiveness

Christin Harrison

Hi Cindy, great work so far! One core issue you would need to further address in this overall lit review chapter: how do you define the relationships between AI influencers, chatbot, and 3D influencers? Why do you want to spend a lot of time discussing different forms of chatbots, and their history of development, while the focus, judged from the Introduction section, seems to be on 3D influencers? More importantly, given all the discussions around chatbot, how would that body of literature inform your understanding about 3D influencers?

It appeared that you could open with a general discussion on the roles of AI influencers in communication, or advertising/marketing more specifically. You could make an argument that chatbot and more recently, 3D influencers, are both specific types of AI influencers. Then, your discussion of chatbots should be more focused on its applications in advertising/marketing, given your overall focus of the thesis.

Then, for the bulk of the lit review, I’d like to see you moving away from a chronical recount of the devleopment of both technologies, and also from a simple summary of existing studies (repeating their typologies, repeating their main conclusions, etc.). Instead, I’d like you to reorganize the literature to address the following key questions

* Why chatbots and 3D influencers are both AI influencers? In what sense? I think you already touched upon this.
* In what ways do chatbots and 3D influencers revolutionize the advertising/marketing industry? Or you could pick a more specific angle---how do chatbots and 3D influencers affect consumers’ experiences and shape their purchase decisions?
* In what ways do 3D influencers differ from chatbots? And why should we more carefully study 3D influencers? This section probably will be closer to the end of this chapter, so that it helps transition to your empirical chapters.

Overall, I think you already got most of the materials from lit review, which is awesome! The next step is to reorganize these materials so that the flow of argument is in service of the major points you’d want to make. Again, compared with your empirical chapter, this overall intro chapter will be broader in scope---however, it is still aiming to form an argument (e.g., what are AI influencers? How are chatbots and 3D influencer and other forms of AI influencers similar or different from each other in shaping advertising/marketing?). It is not so much to repeat the history of technologies but to outline a conceptual framework to help your readers, who might have never heard about AI influencers before, appreciate their increasing importance in today’s online communication environment, while at the same time, begin to develop a conceptual model, no matter how rudimentary, to understand the ways they could influence consumers.

1. **Introduction**

Along with the increasing position of Internet use in people’s daily life, especially social network services (SNS), influencers has become increasingly important. People use SNS to share their lives as well as to gain new information. As the SNS becomes more active, there are a certain group of people who have many followers not because they are famous actors or singers, but because the content they uploaded are attractive in some ways or another. Such people are called “influencers”, partly because they have huge influence on their followers. The opinions and evaluations of products or brands that they upload on social media have a great influence on consumers' perceptions and purchasing decisions (Kim, 2017). According to a report in the United States, when asked about the influence of influencers on the consumer buying decision process in 2018, 76% of all respondents said that they actually obtained product information from influencers before purchasing the product (Hahm Shout, 2018). Since the influence of influencers has begun to attract people's attention, social network marketing and promotion activities using influencers have been actively carried out in the industry. Influencer marketing has become a newly rising topic in the last 20 years, and has gained increasing attention in the marketing field.

In the past, fashion brands pursued a marketing strategy that encouraged consumers to visit stores and purchase products. Now, they are committed to receiving positive responses by delivering product information and images through SNS. In recent years, as image-oriented information transmission has become more and more important, fashion companies are applying various information technology (IT) technologies to effectively present images of fashion products. Some luxury fashion brands use 3D (3-dimensional) virtual models, in other words, AI influencers, active on SNS as advertising models, and fashion products created using 3D graphics are used as advertising images or exposed in online shopping malls (Yoon, 2018). Some AI fashion models operate their accounts on SNS and are active as influencers with many followers and attract the attention of fashion brands (Yoon, 2018). By grafting the fashion industry and IT departments, 3D avatar models created based on 3D digital technology and 3D shopping mall use cases are constantly increasing.

It provides people with freshness (Yang & Choi, 2013). Due to this phenomenon, studies are being attempted to examine the effectiveness of 3D fashion technology. Until recently, research on the application of innovative IT technologies in the field of fashion has focused on topics related to the application of virtual reality (VR) and augmented reality (AR), and research on 3D virtual influencers and their influence in fashion field have not been thoroughly studied. In the advertising field, the characteristics of advertising models and the corresponding consumer responses have been actively evaluated (Kang, 2012; Kim, 2008; Oh, 2017), but 3D AI virtual models or 3D AI influencers are not real human influencers. The advertisements using 3D virtual influencers are transferred to the image of the brand, the brand recognition and the influence of followers’ purchase behavior. The purposes of this research are as follows: investigating 3D AI influencers and their performance in fashion field, as well as the comparison to real human influencers in terms of advertising products. The performance of advertising will be measured through the degree of the shopping intentions of influencers’ followers. We will study consumer perceptions of influence. Third, we will explore ways to expand the scope of use of 3D AI influencers. In this way, we intend to gain the market influence of using 3D AI influencers, which is expected to continue to expand in the future.

1. **Literature Review**

Along with the development of social media and technology, the category of social media AI robot has been developing. From only communicating via texts, to voice with text, to nowadays the influencer with 3D modeling.

1. **Definition of Artificial Intelligence**

Artificial Intelligence is defined as a system’s ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation (Kaplan & Haenlein, 2019).

Kaplan and Haenlein (2019) defines AI in the following three categories: analytical AI, human-inspired AI, and humanized AI. Analytical AI has only characteristics consistent with cognitive intelligence. These artificial intelligence systems generate cognitive representations of the world and use learning from past experiences to inform future decisions. Most of the artificial intelligence systems used by businesses today fall into this category, such as those used for financial services, image recognition or fraud detection in self-driving cars.

Ai Inspired by humans contains elements of cognitive and emotional intelligence. In addition to the cognitive elements, these systems also understand human emotions and take them into account when making decisions. AFFECTIVA, an artificial intelligence company founded by the Massachusetts Institute of Technology, uses sophisticated visual systems to recognize emotions like joy, surprise and anger, which are on the same (and often better) level as humans. Companies can use the system to identify customer interactions or emotions when hiring new employees. We’ll discuss more examples in the next section.

Humanized AI features all types of abilities, namely cognitive, emotional, and social intelligence. Such a system would be capable of self-awareness and self-awareness.

1. **Chat Bot**

Chatbot is one of the most fundamental AI that could interact with human beings. It is a conversation software system designed to simulate the human ability to automatically interact with users. It represents a new, modern form of customer service driven by AI through a chat interface (Nuruzzaman & Hussain, 2018).

The development of AI chatbot can date back to 1950. Inspired by the turing test proposed in 1950, researchers and engineers developed multiple chat-conversation systems (Weizenbaum, 1966; Colby, 1975, Shieber, 1994; Wallace, 2009) . These early chatbots were computer programs that used audio or text for conversation. Such programs are often designed to mimic human behavior as a chat object and use the turing test as a criterion for success.

Eliza, created by Joseph Weizenbaum in 1966, may have been the first Chatbot to become known to the public. It can communicate with humans according to a manual script (Weizenbaum, 1966). These scripts mimic the Rogers psychotherapists and accept only text input. It doesn’t understand the content of the conversation, just searches for the appropriate response through pattern matching and smart phrases. Eliza has a limited range of knowledge and can only talk to people in certain areas. Still, when Eliza first came out, many users thought they were talking to a real person.

Parry is a chat robot developed by Kenneth Colby (1975) that mimics paranoid patients.

Although Parry passed the turing test, it is still rule based, with a structure similar to Eliza, but with better control structures, language comprehension, and, in particular, a mental model that can mimic a robot’s emotions. For example, if anger levels are too high, Parry will respond with hostility.

Alice by Richard Wallace (2009) allows users to customize their chatbot. It uses Artificial Intelligence Markup Language (AIML), and AIML’s tag enables the robot to recursively invoke pattern matchers to simplify the Language. Alice won the Loebner Prize three times, in 2000,2001 and 2004, for the most human-like system (Shieber, 1994). However, due to the limitations of AIML, the capabilities of these chat robots are also limited. For example, Alice failed the turing test, in part because a chat system built with AIML does not maintain long conversations.

The study of Sycara, Katia P. (1990) also shows AI chatbots also have the communicating potential in terms of negotiation. The research uses content analysis, reviewing the previous negotiation cases. IV is different characteristics of a negotiation (environment, features of negotiators); DV is whether the negotiation reached a solution or not. In a real negotiation case, if a solution that satisfies both sides is needed, there are infinite compromise choices left. AI is competitive since it could not only store a large amount of data but also utilize that data to cover almost all of the compromise choices.

First and foremost, AI is programmed to organize similar concepts based on the stored cases. This high-level knowledge structure that is used to organize similar concepts in memory is called a generalized episode. AI takes advantage of generalized episodes, categorize similar cases, finding out those failures first, then analyze the reasons for failure and store them. Failure doesn't equal to useless, since AI needs to conduct a specific analysis of specific issues. After failure analysis, AI will store all the successful experiences.

When it comes to the real negotiations, AI depends on several same or similar index/ characteristics to locate the similar cases it stored, then retrieve all the instances and pinpoint useful arguments in those cases. Once an argument has been identified and selected, AI negotiators will adjust and change some dimensions to better fit the current situation.

The study of Nuruzzaman & Hussain (2018) divided the current AI chatbots into four groups, which are goal-based, knowledge-based, service-based, and response-based.

Goal-based chatbots are classified according to the main targets. They’re designed for specific tasks and settings, to get information from the user through a short conversation. For example, a company deploys chatbots on their website to help customers answer their questions or solve problems.

Knowledge-based chatbots are classified according to the amount of knowledge they get from the underlying data source or the amount of data they receive. The two main data sources are open domain and closed domain. The answer to an open domain data source depends on the general subject, topic, and appropriate response. Examples of the open field are Allen Ai Science and the Quiz Bowl. Closed Domain data sources are concentrated in a specific domain of knowledge. All the information needed to answer the question is provided in the dataset itself, such as the Daily Mail, MCTest, and Babi.

Service-based chat robots are classified according to the facilities provided to customers. It can be used for personal or commercial purposes. Logistics companies, for example, can provide copies of shipping documents, through chatbots, rather than over the phone or with customers, and customers can order from McDonald's.

Chatbots are widely used for communication on business platforms, saving time and effort. For example, it makes it easy for customers to get answers to their queries in a convenient way without having to spend time in a phone queue waiting or sending duplicate emails. Chatbots can reduce the number of calls a customer makes, the average processing time, and the cost of customer service. However, it’s not easy to do this, because it requires all sorts of complex interactions between systems (Nuruzzaman & Hussain, 2018).

To respond to user requests on social media, many brands have a special team consisting of dozens, if not hundreds, of trained human agents to meet user needs. However, handling requests manually is time-consuming and often does not meet the user’s expectations. According to a recent study, 72% of people who contact brands on Twitter expect a response within an hour. However, Xu etl. (2017) analysis of 1 million conversations shows an average response time of 6.5 hours. This gap has led Xu etl. (2017) to explore the feasibility of using chatbots for customer service on social and social media.

They use two LSTM neural networks and word embedding. Then they use qualitative analysis methods:, two hundred requests were sampled and coded using a bottom-up approach. The requests were first segmented into the smallest logical units. A first pass was then performed to assign categories to the units and subsequent passes were made to revise and aggregate the categories. Then they use qualitative analysis. The results were valued in two aspects: Appropriateness and sympathy. They found that in all three aspects, the deep learning system does better than information retrieval (IR), especially in terms of dealing with emotional information. The advantage of deep learning over IR was more evident on emotional than informational questions. However, the performance of both deep learning and IR agents dropped significantly when requests became informational, Post hoc comparisons indicated that human agent performed equally well on different requests.

Another interesting finding is that, unlike IR, the deep learning agent can borrow some writing styles from one brand to another. For example, banks and customer service agents often use formal language, such as “I apologize for a bad user experience. ”. However, the response of our system becomes more casual and “I’m sorry you feel that way” . Most brands probably use an informal style on social media. Our system learns these styles and applies them to other brands.

The response-based chatbots are classified according to the actions they perform during the response generation. The response model uses natural language text input and output. The dialog manager is responsible for putting together the response model. To generate and respond, the dialog manager follows three steps. First, it uses all of the responses, the response model, to generate a set of responses. Second, a priority-based response is returned. Third, if there is no priority response, the response is chosen by the model selection strategy.

Based on the study of Nuruzzaman and Hussain (2018), the existing Chatbot’s conversational abilities are too inflexible. Only if there is a pattern (lexical) match between the user, Query, and question-answer set stored in the knowledge base, the chatbots are able to answer a user’s question. The answer is given using a predefined set of responses. The traditional existing chatbots lack the intuitive ability to see meaning, relationships, and possibilities. Nuruzzaman and Hussain (2018) listed the following limitations:

Fixed rules-based: Existing chatbots were built with fixed rule sets, template-based matching, and a very simple machine learning approach.

Syntax error: it does not recognize syntax errors.

Pre-defined or closed domain: most errors can only be answered in a closed domain or by predefined questions in a database based on the data.

Ambiguity: The context and meaning of a sentence is unclear or inappropriate for the meaning of a word.

Language structure: each language has a different sentence structure. For example, text structure, punctuation, and whitespace vary from language to language. Existing chat bots can’t tell them apart.

Semantics: semantics is the meaning of sentences or words in the form of natural human language. Existing chatbots could not cope with natural language processing, either to create responses or to analyze problems.

Sentiment analysis: existing chatbots can’t detect the emotions of a human being talking about a topic. Chatbots should be able to judge whether a human is angry, sad or happy by the way text or voice patterns are presented.

Recommendation System: existing chatbots do not ask questions, explain, or suggest user topics. They simply gather information from the knowledge base and provide a response. The chatbot should be able to write out questions based on previous answers.

Accuracy: chatbots are programmed to talk through tasks, just like humans do. However, existing chatbots have a bad tendency to suddenly change the subject and have unpredictable reactions. Sometimes it reacts without context. Therefore, the accuracy can not reach a satisfactory level.

Self-learning: Existing chatbots did not use supervised learning methods. They can not learn new languages or vocabulary patterns, and they can not find context through interaction and logical reasoning. Most of them can not train the classifier to map sentences, to intents, and sequence models to slit filters.

Support for third-party integration: Existing chat robots do not support third-party integration, such as knowledge-based, nor multilingual. Most of them only support English. Embedding web pages is also difficult because of the critical process of web integration.

Data Processing: they do not directly process structural data, nor do they have relational databases. Beyond that, data set preparation is complex, and statement and entity mapping are key.

User interface: The existing chat bots do not have an interactive user interface and are poorly documented.

According to Nuruzzaman and Hussain (2018), a new chat robot needs to have deep learning ability to overcome the above limitations. It can not only analyze human input information, but also produce the appropriate response. If the chatbot is well trained, it can recognize the natural language of humans, and respond to any situation accordingly.

Based on artificial intelligence, chatbots can understand natural language, recognize meaning, emotions, and design meaningful responses. The main goal of social chatbots is to build an emotional connection between a human and an AI, or an AI partner. Social Emotions and social belonging are basic human needs (Maslow, 1943), so building social chatbots to address these emotional needs is valuable to our society. To meet these demands, social robots must demonstrate enough emotional intelligence (Beldoch 1964; Gardner 1983; Goleman 1995; Goleman 1998; Murphy 2014). Therefore, social robots need to have the following abilities: empathy, social skills, personality, Eq and Iq.

Understanding users: social robots must be empathetic. It needs to be able to identify the user’s emotions from the conversation, to detect how emotions move over time, and thus to understand the user’s emotional needs. This requires the robot to understand the query, analyze the user, detect emotions, identify emotions, and dynamically track the user’s emotional changes in the dialogue. Therefore, the modeling of contextual information and the knowledge of general knowledge is very important for understanding the user.

Building Relationships: social robots must demonstrate enough social skills. Because users may have different backgrounds, personal interests, and unique needs, social robots must be able to generate personalized conversations for different users. Social robots need to generate emotionally appropriate responses, encouragements, and incentives and meet the needs of the user’s interests. It also needs to lead the conversation topics and manage interpersonal relationships to make users feel well understood and stimulate more communication. It also needs to be aware of inappropriate information to avoid generating biased or offensive conversations.

Personality: Social Robots need to present a coherent and consistent personality so that they can gain users’ continued trust. The chatbot’s coherent personality helps users set appropriate conversation expectations that are neither too high nor too low. Personality settings include age, gender, language, speaking style, general opinion, level of knowledge, field of expertise, and appropriate accent. All of these settings affect the social robot’s response to users, so social robot needs to improve its interaction with users through active learning and adaptive learning.

Integration of EQ and IQ: In addition to small talk, social robots also need to master a range of skills to help users accomplish certain tasks. They need to analyze the user’s request and perform some reasoning in response to these questions. So social robots need enough IQ to model knowledge and memory, to understand, reason, generate and predict images and languages. These iqs are not just basic technologies, they are also fundamental to building higher Eq.

Social robots provide feedback in a way that users can understand, and they should suggest or encourage new topics to further expand the conversation.

1. **Chat and Voice Bot/Assistant**

Figure 1 Five common voice bot assistant in the market

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Duer** | **Allo** | **Little Ice** | **Siri** | **Cortana** |
| **Belongs to** | Baidu | Google | Microsoft | Apple | Microsoft |
| **Supporter** | Baidu App | Allo App | Wechat, Weibo | Apple devices | Lumia phone Cortana App |
| **Access** | “Nihao Dumi” | Build-in GoogleAssistant | Third-party platforms | Press Home button for long or “Hey,Siri” | Press search long or “Nihao, Xiana” |
| **Time of Foundation** | 2015 | 2016 | 2014 | 2011 | 2014 |

Voice assistant is an emerging form of AI bots in recent years. Voice assistants have basically the same functions as chatbots. The only difference is voice assistants can chat with users by not only texts but also voice, and they could also serve as search engines.

Mou, Y., & Xu, K. (2017) conducts a study about AI influencers. Ten volunteers were recruited through a snowball sampling to provide two copies of his/her conversation transcripts on WeChat: One with Little Ice and one with a normal human friend. Those targets were evaluated by 277 viewers on their personality and communication attributes. IV is human communicator or AI communicator; DV is the degree of participants' neurotic response.

The results showed that when the target people interacted with Little Ice, they showed different personality and communication characteristics when they interacted with humans. In particular, users tend to be more open, friendly, outgoing, serious and self-revealing in their interactions with humans than they are with artificial intelligence. Users are thought to have higher levels of neuroticism in their interactions with ice. This may confirm what Nass and Lee (2001) found that computer users prefer to communicate with people who share their personality traits. Since Little Ice is designed to be a naughty girl who can tell jokes, recite poems and tell horror stories, users may prefer to respond to Little Ice in a more neurotic way. At the same time, a combination of playful personality and multiple social functions may make users feel insecure and reluctant to reveal their information to the AI.

Despite Microsoft's claim that more than 90 million users have used Little Ice to conduct conversations, it has been difficult to find the right person to conduct the study because of the strict and standardized recording of conversations. That's why the study only recruited six subjects. As a result, the study's universality is limited. In addition, this study was conducted in China. Although Chinese Culture emphasizes adherence to social rules, individuals in Chinese culture may feel more pressure than individuals in other cultures to act in a socially appropriate way in an interpersonal communication environment (Hofstede, 1984). Stuart (2016) also suggested that human responses to social robots may be influenced by their cultural background. Future Studies may consider cross-cultural comparisons of individuals' attitudes toward chatbots.

Another study done by Boyd and Wilson finds that in terms of searching, Google laptop internet performs better than AI voice assistant like Siri (apple) or Cortana (Google). Siri (apple) and GA (Google) were chosen because they were widely used as personal digital assistants in a pilot study in October 2017. With the increasing use of smartphones, the study of Health Information obtained by digital assistants on smartphones is also a special case. The literature on the use of digital assistants is limited. So they aim to use digital assistant Siri and Google Assistant (Ga) to assess the situation and compare it with Internet search.

The first set of questions (n = 35) were adapted from the most detailed “frequently asked questions (FAQ)” researchers could identify: that of the UK National Health Service (NHS) smokefree web-site. The next set of questions (n = 17) were related to the most comprehensive list of short videos on smoking-related disease that researchers could identify: those produced by the Centers for Disease Control and Prevention (CDC) in the USA for the “Tips From Former Smokers” Campaign. The final set of questions (n = 28) were those devised by us to test responses to a range of features such as, finding smoking-related pictures, diagrams, instructional videos; and navigating to the nearest service/retailer for quitting-related products.

Speaking into a smartphone, the two researchers (both with New Zealand accents) tried each question up to three times. The smartphones used were the iPhone 5s and the iPhone 7, set to the English (New Zealand) . For Google searches on laptops, the site used is New Zealand. GOOGLE.CO.NZ/ and using Google Chrome. Only the first non-ad link or returned information is considered in the analysis. All searches were conducted in October 2017, and both researchers were in New Zealand (the capital and a rural town 250 kilometers away).

They use a hierarchy to rank the results to see which returns the most scientific results. The research finding shows that compared to laptop website research returns information from Health agencies which had medical expertise whether local or international, virtual assistants tend to return lower levels of information (Sites with “some expertise” or online news items, online magazines and internet sites run by individuals and non-health organisations).

1. **AI Influencers**

As the use of social media becomes more common, a new type of opinion leader has emerged that can lead opinions on social networks and Garner support from users (Moon, 2020). Internet opinion leaders refer to those people who have a significant influence on social media like YouTube bloggers, Instagram celebrities. Social influencers who have an impact on social media are increasing the number of followers based on a variety of digital media, and the perception and evaluation of the product or brand they upload has a significant impact on the consumers who follow them (Kim, 2017). Followers of social influencers use content uploaded by influencers, interact with influencers and build trust with influencers, and ultimately, they can easily be positive and positive about the products or services they offer (Kotra, 2017). The industry is looking at the influence of these influencers and using them to strengthen marketing campaigns. Since they have an enormous impact, a greater number of brand leaders consider Internet opinion leaders promotion as a significant part of their sale process. At first only some small brands of cosmetics or clothing are sought to promote them, but later with the rise of influencer marketing, many luxury brands see the opportunity: compared to the traditional celebrity advertising, influencer marketing has a higher rate of return, and so those luxury brands also begins to put more emphasis on influencer marketing. According to the research that conducted by Lee and Watkins (2016), luxury brand managers consider social media as a great tool to build a long-term relationship with consumers by letting YouTube bloggers make positive comments on their brand and items (p. 5759). The followers of these Internet opinion leaders make up a great part of luxury consumers.

AI influencers are a huge advancement over text chatbot and voice assistant/chatbot. The current famous AI virtual influencers have 3D models and human-like appearances in their photos, they can even move like humans in the videos; still, there are evidently differences from real human beings.

Figure 2 Some famous AI influencers

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Influencer Category** | **Name** | **Job** | **Company/debut year** | **SNS channel/No. of Followers (10,000)** | **Feature** |
| Micro | Dagny | Model | The Diigitals(US)/ 2018 | Instagram/ 0.6 | - Advertising model of ‘Gucci’, ‘Stella McCartney’, etc.  -https://www.thediigitals.com/dagny |
| Micro | Lil wavi | Model | Waviboy(UK)/ 2018 | Instagram/ 1.6 | - Model of ‘Waviboy’ (street wear brand launched by Emily Groom based in London)  -https://www.instagram.com/lil\_wavi/ |
| Macro | Blawko | Unknown | Brud(US)/ 2018 | Instagram/ 21.9 | - Advertising model of ‘Burberry’, ‘Off-white’, etc. -https://www.instagram.com/blawko22/ |
| Macro | Imma | Model | Aww(JP)/ 2018 | Instagram/ 17.7 | - Advertising model of ‘Burberry’, ‘Valentino’, etc.  - Advertising model of ‘Porsche’  -https://www.instagram.com/imma.gram/ |
| Macro | Noonoouri | Model | IMG Models(US)/ 2017 | Instagram/ 35 | - Advertising model of ‘Dior’, ‘Chanel’ and ‘Versace’ etc. - Magazine model of ‘VOGUE’ and ‘BAZAAR’.  -https://www.instagram.com/noonoouri/ |
| Macro | Shudu | Model | The Digitals(US)/ 2017 | Instagram/ 20 | - Advertising model of ‘Pierre Balmain’, ‘Ellesse’, etc.  - Magazine model of ‘VOGUE’, ‘GQ’, and ‘BAZAAR’  -https://www.thediigitals.com/shudu |
| Mega | Lilmiquela | Musician and Model | Brud(US)/ 2016 | Instagram/ 231 | - Advertising model of ‘Prada’, ‘Givenchy’, ‘Calvin Klein’, etc. - Magazine model of ‘VOGUE’ and ‘ELLE’. -https://www.instagram.com/lilmiquela/ |

Empirical research on the effects of 3D virtual actors is rare, but a similar study was conducted on the characteristics of 3D virtual characters (Yoon, 2011).

It was originally used as a graphical icon to express oneself in 3D or virtual reality games, or to chat on the Internet in an existing Internet environment, it has recently expanded its use to online shopping malls. Although 3D is similar to a virtual influencer, it differs from a virtual influencer in that the Avatar is used as a means of expressing the user. Depending on the purpose and image of the brand, virtual influencers can be produced on demand, with a wide range of applications.

1. **Effect as a 3D influencer Ad Model**

Compared with traditional online advertising, advertising using 3D graphics and Virtual Reality Technology will double the pleasure of shopping, arouse the emotional reaction of consumers, and stimulate the rational reaction of consumers through rich information transmission (Cha & IM, 2009). According to the research on the advertising effect of the general advertising model, the good emotion of the advertising model is transferred to the image of the advertising brand, which is the reason for choosing the product. Brand image is a concept that encompasses the subjective perception, association, and rational judgment of various attributes associated with products, services, and brands (Kang, 2012). Oh (2017) pointed out that the positive attitude of consumers to the advertising model will affect the choice of products, especially when there is an advertising model to provide a sense of novelty and comfort, it is very likely to attract consumers’ attention.

According to Joseph (1982), advertising models with a high degree of idealized appeal can satisfy consumer needs, attract consumer attention, and have a positive impact on product attitudes and willingness to buy. Purchase intention refers to the consumer’s planned behavior and purchase purpose into action, in general, if the consumer has a positive attitude toward the product, it is likely to lead to purchase intention (Yang, 2019). If the 3D virtual influencer is used as an advertising model, the characteristics of the model can be predicted to influence the attitude towards the model and the purchase intention.

The fact that 3D AI influencers can implement various body models, customize image models, and have no restrictions on posture or shooting environment. The view was expressed that only maximizing and applying the advantages of the model was necessary. In addition, the view was expressed that the use of virtual models could be further expanded if they could improve public visibility. Next, there is an answer that it would be useful to extend the capabilities of the virtual model with technical enhancements, such as 360-degree views and enlarged views (Koon, 2012).

Taken together, these results suggest that consumers are still unfamiliar with AI influencers, but consider the advantages that only virtual models can have, and if those advantages are maximized, the virtual models of the future of fashion will become a reality. Is considered to be an economical and efficient model. Brands can have their own models, which are important in many ways, such as management costs, by planning influencers’ activities tailored to the brand’s intent and actively presenting them on social media, permanent use and 24 hour use could be an innovative alternative (Kim, 2008). Currently active AI influencers still lack public awareness and are in the early stages of applying it to marketing campaigns, but many followers have expressed interest and interest in virtual influencers, no different from the real influencers. Believe that the development potential of the advertising marketing market using this method is very high. On the other hand, consumers prefer virtual model styles, so if virtual models are developed that reflect different races, ages, and degrees of virtuality, and are applied in the future to capture the influence of influencers, the various taste segments believe it will be able to attack (Kang, 2012).

In Kang’s study, qualitative data were used to investigate how 3d virtual influences and consumers perceived their use. The results will help to understand the marketing activities of those who use AI influencers, and are expected to be significantly expanded in the future, providing important foundation data for deriving the ideas of those who use these virtual influencers effectively. Because the limitations of the study were the result of qualitative data collection and analysis for a limited number of respondents, the results were considered to be biased, and there are some limitations in extending this result to all consumers. The hope is that quantitative research will attempt to study the consumer response of AI influencers by selecting targets that cover a wide range of niche areas in subsequent research.

1. **Conclusion**

From the previous studies and research, Artificial Intelligence is always in the process of developing. From the text bot to nowadays 3D influencer, artificial intelligence is progress in the communication field.

To satisfy the basic needs, customer services for example, text bot seems to be enough. Not many brands are using advanced chatbots right now, most chatbots are still on the stage of finding specific keywords in databases and answering in an indifferent tone. If there are higher level of requests, customers will be transferred to agents. But as discussed in study, advanced technology in chatbot has a bright perspective in terms of replacing agents.

Compared to text bot, voice assistants have more intelligence, they possess the skills of researching and speaking. And the 3D influencers are one of the most advanced AI so far, they are more like real human beings because of their human-like appearance and social media posts with human tones. However, they still have several potential limitations. Firstly, though many AI influencers could interact with people by replying comments like real humans influencers, they seem to lose some abilities of voice and text chatbot--when you send direct messages to AI influencers, they will not reply to you either in voice or text.

However, since what's behind text, voice chatbot and AI influencers are primarily the same--they are all programmed. In other words, the AI influencers have the potential of possessing the ability to reply followers with voice/text. By utilizing the functions of chatbot and voice assistants, 3D influencers can use texts and sounds to increase their interpersonal skills. However, could AI influencers achieve the same marketing effect as real human influencers? So far, the existing research all focus on studying current AI influencers and human beings influencers separately, there is no existing research that compares and predicts future AI influencers and human being influencers: will future AI influencers have better marketing effectiveness than human beings? Will future AI influencers replace real human influencers? Thus, this thesis will explore those kinds of questions. Note that unless otherwise noted, in the rest of the thesis, AI influencers/AI virtual influencers refer to the potential future AI influencers, the ones who have the pros of text/voice chatbots and also fixed the cons of them. AI influencers that have been researched by current studies will be referred to as current AI influencers.