VIRTUAL AVATARS RISING
THE SOCIAL IMPACT BASED ON A CONTENT ANALYSIS AND A QUESTIONNAIRE IN THE CONTEXT OF FASHION INDUSTRY

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Abstract
Innovative technologies and their ability to grow rapidly are known to be a great source of controversy and paranoid reactions amongst people. The aim of this research is to examine the acceptance and perception of the technology of digital supermodels and influencers. This will be done in the global market of end-users where this technology has proliferated or has the potential to emerge. Digital supermodels and influencers were regarded specifically in a marketing context for this research, since the whole essence of their existence is for marketing purposes, and was approached as a new innovative technology. The research was divided into two parts, first was about conducting a questionnaire to analyse people’s acceptance of the technology, more specifically to examine the possible change in their purchasing behaviour. The purpose of the second part of given research was to examine people’s reactions and perception towards this technology through a content analysis of Instagram comments for the Instagram accounts of digital supermodels and influencers. The addressed innovative technology of digital influencers and supermodels is mostly perceived positively or neutrally. The significant amount of neutral positions in both parts of given research states the presence of confusion and the need for answers rather than lack of interest, which is to be addressed by the creators and users of digital avatars in marketing in the fashion industry.

Keywords: digital influencers, digital supermodels, virtual avatar, 3D graphics, disruptive technology, marketing, social impact
# TABLE OF CONTENTS

1 INTRODUCTION - 1 -  
1.1 Purpose - 4 -  

2 METHODOLOGY - 5 -  
2.1 Research Design - 5 -  
2.2 Questionnaire - 5 -  
  2.2.1 Sampling - 6 -  
  2.2.2 Questionnaire Design and Measures - 6 -  
  2.2.3 Advantages and Disadvantages of the Questionnaire Method - 6 -  
2.3 Content Analysis of Comments on Instagram - 7 -  
  2.3.1 Chosen Posts and Coding of the Messages - 8 -  
  2.3.2 Advantages and Disadvantages of the Content Analysis - 9 -  
2.4 Reliability and Validity - 10 -  

3 CONCEPTUAL REVIEW - 11 -  
  3.1 Disruptive and Emerging Technologies - 11 -  
  3.2 Social Impact of Technologies - 14 -  
  3.3 An Overview of the History of CGI and Avatars - 15 -  
  3.4 The Influencers of Today - 17 -  
  3.5 Virtual Avatars of Today - 18 -  

4 RESULTS - 20 -  
  4.1 Questionnaire - 20 -  
    4.1.1 Detected Relationships Between Variables - 31 -  
  4.2 Content Analysis - 33 -  
    4.2.1 Content analysis of Instagram Account @lilmiquela - 35 -  
    4.2.2 Content Analysis of Instagram Account @shudu.gram - 36 -  
    4.2.3 Content Analysis of Instagram Account @imma.gram - 37 -  
    4.2.4 Content Analysis of Instagram Account @blawko22 - 38 -  
    4.2.5 Content Analysis of Instagram Account @bermudaaisbae - 39 -  
    4.2.6 Conclusion of the Content Analysis Results - 39 -  

5 ANALYSIS AND DISCUSSION - 43 -  
  5.1 Digital Avatars Hand in Hand with 3D Development - 43 -  
  5.2 Disruptive Nature of Digital Influencers and Supermodels - 44 -  
  5.3 Involvement of the Society Regarding the Innovation of Digital Influencers and Supermodels - 44 -  
  5.4 Involvement of People in Fashion - Context of the Influencers - 45 -  

6 CONCLUSION - 46 -
6.1 Limitations - 47 -
6.2 Relevance - 48 -
6.3 Future Research - 48 -
7 BIBLIOGRAPHY - 50 -
APPENDIX 1 – Questionnaire - 54 -
APPENDIX 2 – Questionnaire Results - 66 -
APPENDIX 3 – Content Analysis Results - 74 -
APPENDIX 4 - Letter of Response by Brud - 77 -
APPENDIX 5 – Imma Gram Featuring Ellen Sheidlin - 78 -
List of Figures and Tables

Figure 1 Revised 3D sample of jacket (CLO3D, 2018) ................................................................. - 2 -
Figure 2 The Diamandis 6 D's of Disruption Curve (American Professional Network, 2018) .......... - 12 -
Figure 3 Gartner Hype Cycle (Gartner, 2019) .............................................................................. - 13 -
Figure 4 Digital Influencer Lil Miquela (Instagram account lilmiquela, 2019) ................................. - 19 -
Figure 5 Digital model Imma Gram (Instagram account imma.gram, 2018) ................................. - 19 -
Figure 6 Digital supermodel Shudu (Instagram account shudu.gram, 2018) ................................. - 20 -
Figure 7 Generations (authors’ figure) ......................................................................................... - 21 -
Figure 8 In what way do you usually purchase your clothes? (authors’ figure) ................................. - 21 -
Figure 9 What are you mainly using your Instagram account for? (authors’ figure) ................. - 22 -
Figure 10 In what way did you discover a digital influencer and/or supermodel account? (authors’ figure) ........................................................................................................... - 23 -
Figure 11 How would you feel about a digital supermodel posing for an advertisement instead of a real-life supermodel? (authors’ figure) ................................................................. - 24 -
Figure 12 How would you feel about following and admiring a digital celebrity supermodel (authors’ figure) .................................................................................................................. - 25 -
Figure 13 A well-known brand is using a computer generated image with a posing digital supermodel for one of their product advertisements. How would it change your perception of the brand? (authors’ figure) ............................................................................................. - 26 -
Figure 14 A brand you usually purchase from is using a computer generated image with a posing digital supermodel for one of their product advertisements. Would it attract you into checking further about the product? (authors’ figure) .................................................................................. - 27 -
Figure 15 Negative reasoning (authors’ figure) ............................................................................. - 29 -
Figure 16 Positive reasoning (authors’ figure) ............................................................................. - 30 -
Figure 17 Age vs feelings about digital avatars posing on advertisements (authors’ figure) .......... - 31 -
Figure 18 Importance of following trends vs feelings about digital avatars posing on advertisements (authors’ figure) ..................................................................................................... - 32 -
Figure 19 Content analysis total amount comments diagram (authors’ figure) ............................. - 34 -
Figure 20 Lil Miquela content analysis graph (authors’ figure) .................................................... - 35 -
Figure 21 Shudu Gram content analysis graph (authors’ figure) .................................................. - 36 -
Figure 22 Imma Gram content analysis graph (authors’ figure) ................................................... - 37 -
Figure 23 Blawko content analysis graph (authors’ figure) .......................................................... - 38 -
Figure 24 Bermuda content analysis graph (authors’ figure) ....................................................... - 39 -
Figure 25 Positive comments by account (authors’ figure) ............................................................ - 40 -
Figure 26 Negative comments by account (authors’ figure) ............................................................ - 42 -
Figure 27 Neutral comments by account ..................................................................................... - 42 -

Table 1 Table of MAD (Mean Absolute Deviation) for feeling-related questions .................... - 32 -
1 INTRODUCTION

Computer-generated car commercials, images in IKEA catalogues, movies like ‘Avatar’ and digital avatars of celebrities in video games (Call of Duty, 2018) are examples of already elementary technologies in the world that people are living in today, whether acknowledging them or not. Some of them people may even not realise, such as rendered pictures in IKEA catalogues and computer generated car commercials – the computer-generated visuals look that realistic. Although CGI (computer-generated imagery) based marketing is already used in many sectors such as automotive and furniture industry, the technology has been only recently introduced in the fashion industry.

In order to fully understand the developments regarding CGI technology for the purposes of marketing in the fashion industry, a background for this development is needed to be introduced. The next paragraphs will describe the developments of 3D technology in fashion industry that is tightly connected with the topic of this paper, and the digital avatars, that are also introduced later. In a research regarding 3D prototyping in fashion design and product development, it is stated by Papachristou E. and Bilalis N. (2017) that, ‘Over the past years, fashion industry has been facing the complexity of its activities and globalisation, the proliferation of information, the reduced time to market, the increasing distance between industrial partners and pressures related to costs. There have been try-outs into reducing the cost and time to market and maximising the efficiency and productivity’. Thus, it comes to attention that several technological solutions have been developed with a main focus on the garments and their pre-production as well as post-production stages. 3D design has been already implemented in the production of the garments, establishing a new era of communications and collaborations between suppliers and manufacturers. The clothing industry has been transformed from traditional labour into a highly automated and computer aided one - according to a research, the entry of computer-aided processes in the fashion design and product development started in the clothing industry in the mid 1970’s (Stjepanovic, 2014). From the 2D pattern cutting programs which assisted in having a faster production, moving on to the 3D prototyping and sample testing with the help of a computer. There have been numerous programs developed that serve the goal of 2D patterns and 3D prototyping, with one of the latest to be CLO3D, a South Korean product that gives a real-life and natural moving look to garments (Figure 1). Industrial partners use CLO3D mainly to skip time consuming stages in the production phase of the garments as advertised in the product description of the latter’s website. The natural look of the 3D garments is also used as a marketing tool for the technology’s promotion, as explained later on.
As the technology of 3D garment development has already conquered big stages in the fashion industry and is becoming an elementary tool for a fashion brand, there is another door opening, being the digital personas. More specifically, it is about the creation and implementation of the digital personas on social media and their activities in fashion and fashion advertisements. This recent development makes it more and more easy for the fashion industry to implement CGI technology in marketing, encouraged by other industries.

In the next paragraphs, the phenomenon of digital supermodels and influencers in marketing is described. Since there is no according definition of the term digital personas known to the authors of this research, this paper defines them as avatars with human-like form, which are created by companies or skilled individuals, have active accounts on Instagram and Facebook by blogging just as real life users do. Although a recent technology, these digital creatures already have millions of followers and admirers, as well as opponents according to their personal accounts.

The most popular virtual influencer at this moment, Lil Miquela (Instagram account: lilmiquela) with over 1 million followers, was created in 2016 and has since then collaborated with many brands including Nike, Guess, Supreme and has also appeared on the magazine Vogue (Graham, 2018) (Instagram.com, 2019). Claimed to be ‘The World’s First Digital Supermodel’ is a digital model named Shudu (Instagram account: shudu.gram), who was created in 2017 by a British photographer Cameron-James Wilson. She has represented many brands in commercials, most famous being the brand Balmain, and has featured in magazines like Cosmopolitan and Vogue Australia (Graham, 2018). Shudu is one of the models in a model agency called The Diigitals, where the newest model was introduced only in the beginning of 2019 (The Diigitals, 2019).

In Tokyo, Japan, a modelling company specialises in avatar and CGI creations. ModelingCafe CG company has created a Japanese virtual girl, Imma. The company transposes Imma’s 3D animated head onto a real-life body and background. Imma holds an Instagram account with over 40 000 followers and according to her bio is interested in Japanese culture and film and wants to attract humans to the fashion show (Miley, 2019).

The described examples of digital supermodels and influencers are the main topic of this paper, examined when used in brand marketing, from the perspective of an end-user.

The next two paragraphs will describe the second part of the aforementioned topic of this research, which is marketing in social media. Marketing is a constantly developing method or
action used for research and according to the gathered information, promotional acts that monitor the requirements and needs of the different markets around the world. Due to the changes of times, innovation and technology, old marketing strategies and tools have succumbed and finally transformed mutually to current trends. Television, newspaper, radio do not attract the consumers as they managed to do before, especially regarding the Millennials. Bergstrom & Backman (2013) once stated that ‘[...] people in the present days are likely to attach to the online services. Today, social networking is said to be an important part of our life. As technology improves, we are most likely to engage ourselves more to electronic devices.’

As of now, Instagram and Facebook are holding the top places of social networking combined with marketing and advertising. With the expansion of marketing tools, has come the creation of communities and jobs. Such will be blogs with different interests and new positions, such as these of influencers, bloggers, and self-employed individuals (Huey & Yazdanifard, 2014).

According to Jadhav et al. (2010) social network marketing manages to be a gather of online communities with participants that share similar interests. Therefore it is easier to share information and via several channels, intriguing the interest of the users.

The Internet has accomplished more than simply enhance communications capabilities for the post-industrial world. In fact, it has created entirely new markets and industries around the globe. By 2003, Internet ‘e-commerce’ generated nearly $7 billion US in revenues, almost 10 percent of all sales. E-commerce has become the dominant form of business-to-business transactions, due in no small part to the fact that businesses can connect from all over the world without onerous interstate regulations and national interference. The relative simplicity, efficiency and speed by which transactions take place over the Internet, have therefore created a sort of ‘peer pressure’ for those political institutions that do not embrace e-commerce in its current form and are considered to be less of a value to potential business partners (Mann, 2001). It is known that digital marketing is the new tool which brands are using for promotional acts.

As the subject of this research explained and described, it is now vital to introduce the problematics of this addressed topic. There are two main exposed debatable aspects of using digital influencers and supermodels in marketing. As this research focuses on end-users, also mentioned above, both considerable elements are of the relationship between society and the technology. First, the blurry line between real and not real showcased by aforementioned recent developments of CG inevitably raises questions and often paranoid reactions amongst people – in this research regarded as end-users of such technologies – as for any other new innovative technology (Volti, 2009).

As stated by Rudi Volti (2009), new technologies are developed in order to do things better than before – cheaper, faster, easier. CGI (computer-generated imagery) allows lowering costs for marketing and providing a simpler and faster alternative (Quyen, 2017). As everything is even more accelerated by increasing globalisation, the new emerging technologies including CGI have put people in a position where they have to adapt to fast developing technologies. This describes the second matter of hereby addressed technology.

Aforementioned two factors regarding the linkage between new technologies and society can be addressed as combined. Both factors, first raising questions about ethics and future jobs and the adaptation to fast developing technologies, root from one topic. The general topic is the relationship of technology and society. The problematic is addressed by Arnaldi et al. (2010), who states that it is crucial to research about the societal impact of new computer technologies by specifically examining the perspectives and needs of the society. They suggest that a kind of statute of the end-users regarding innovation has to be created, which could guide and influence the development of new technologies. Moreover, a further-looking perspective has to
be taken into account, since the potential of new technologies tend to reach in the long-term future.

The fashion industry might still be unsure if the consumers are ready to embrace such action or not. According to the authors’ best knowledge, existing public research focuses mostly on gaming industry of virtual avatars and therefore examines the social and cultural aspect of having a virtual alias. Other type of research has been done regarding avatars in customer service that examined the social consequences of interacting with virtual avatars (Wood & Solomon, 2015). Nonetheless, such subject has just started and is very new to the community of social media or to the markets across the world. With a limited amount of news articles on the specific topic of digital personas, and the so far to the authors’ knowledge, non-existent scientific researches, this paper tends to approach the matter.

All above concludes to a yet not explored and of high importance research topic. Being a technology (digital influencers and supermodels) still in its infancy in fashion industry, but rapidly developing and increasing its potential, it is crucial to examine the aspects of social impact as stated before. However, social impact itself is a very broad term – it consists of different nationalities and cultures and can be measured in various ways. Given research addresses closest possible measures between end-users and marketers, examining the degree of acceptance and perception of digital influencers and supermodels. From this aim, two research questions are developed respectively for both aspects examined. The digital influencers and supermodels are inspected only in the environment of brand promotion. Since the main objective of promotion and advertisements is increasing sales, this study examines the degree of acceptance through purchasing behaviour and therefore the first research question is:

**RQ1: Will the end-users change their purchasing behaviour when a fashion brand uses digital models or influencers instead of traditional real-life models and influencers?**

Given research provides more depth to the first research question by observing and analysing the immediate reactions to digital models and influencers of people in the main channel they are featuring, which is Instagram. This allows to investigate the perception coming from the public towards the digital influencers and supermodels, which leads to the second research question:

**RQ2: How do people react to brand promotion using digital models or influencers instead of traditional real-life models and influencers?**

Both research questions combined provide a holistic result, analysing the immediate reactions in contrast to the prediction of purchasing behaviour by the end-users.

In order to fully understand the result of given research, first a comprehensive description and reasoning is given for used methodology in this research. Secondly, a conceptual review is given to introduce the theories for positioning the potential for this kind of technology and to create an overview of the background, which is followed by the results of the research, divided in two parts accordingly to the research questions and different methodology. In the Analysis and Discussion chapter the results are explained and given a wider perspective, including an analysis of the connection with theories mentioned in the Conceptual Review. The thesis ends with a conclusive chapter and insights to future research.

### 1.1 Purpose

The aim of this research is to examine the acceptance and perception of the technology of digital supermodels and influencers. This will be done in the global market of end-users where this technology has proliferated or has the potential to emerge.
2 METHODOLOGY

2.1 Research Design

Given research follows a cross-sectional research design, consisting of a self-completion questionnaire and a content analysis of Instagram comments in order to answer the research questions stated in introduction. Both methods allow ‘the collection of data on more than one case (usually quite a lot more than one) and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association.’ being also the essence of a cross-sectional research design (Bryman & Bell, 2011). The two separate research methods were conducted quantitatively in order to analyse the data collections and finally conclude to a general conclusion based on the two research questions. Quantitative methods for the research design were chosen because it allows the analysis of bigger amount of data (Bryman & Bell, 2011). Since the topic of this research, the digital influencers and models, is still in its infancy, it is crucial to collect large amounts of data to gain relevant results. Having more people to participate in the research rather than focusing on fewer people in order to receive more qualitative results increases the possibility of reaching people who are familiar to the technology studied in this paper, therefore increasing the relevance of the results of this research.

The essence of this research indicates to a rather inductive research approach, meaning that in given thesis no specific theory is being proven, but rather patterns are being searched for, leading to an outcome that can be altered during the research (Bryman & Bell, 2011).

2.2 Questionnaire

To answer the first research question, a survey research method was chosen, basing on self-completion questionnaire (Appendix 1). Having quantitative essence, the method was chosen to answer the first research question because it allows to gain and analyse large amounts of data at a single point in time (Bryman & Bell, 2011). To introduce the first research question once again, it was stated in the introduction chapter as following: *Will the end-users change their purchasing behaviour when a fashion brand uses digital models or influencers instead of traditional real-life models and influencers?*

It is hereby important to note that this research question investigates the degree of acceptance of digital influencers and supermodels and the purchasing behaviour was chosen as a most relevant tool to measure the acceptance, since the main objective for marketing is to increase sales. When using a questionnaire method in order to measure the change in purchasing behaviour, it is important to mention that it can only indicate respondents’ own prediction of their purchasing behaviour. This matter is further discussed in the Limitations chapter. However, for the purposes of this research people were asked to predict their own behaviour in terms of purchasing a product when it comes to being advertised by digital influencers and supermodels.

A questionnaire method was chosen also due to the possibility of examining the perception and the possible acceptance about the technology under discussion from people who are not yet familiar with the technology, additionally to its aforementioned benefit of receiving large amounts of data. The aspect of the technology’s immaturity at this moment cannot provide adequate amounts of data for a research analysis when only examining people who are familiar with the technology. That is another reason of designing a survey available to everyone where the technology is introduced as well, asking people’s potential behaviour. On the other hand
this matter raises questions about reliability and generalisability, which will be discussed under the chapter of advantages and disadvantages of questionnaire method.

2.2.1 Sampling
The population of the survey method was chosen to be large and international due to the similar essence of social media which is a borderless and international phenomenon. The questionnaire was sent to the participants using Facebook as a channel which was chosen as a fastest way to reach people and increase the amount of potential answers. The questionnaire was active for 3 weeks.

2.2.2 Questionnaire Design and Measures
The questionnaire was designed considering people who have social media accounts and also people who do not have social media accounts and they were guided through the questionnaire accordingly. People who own social media accounts were subsequently divided into two groups according to having an Instagram account. It is important to divide people owning an Instagram account because the examined digital supermodels and influencers exist only on Instagram. The latter can be a great source for more substantial data about the digital influencers and supermodels.

Those, who have social media accounts, but not an Instagram account, were treated similarly to those who do not have any social media accounts, although an additional question was addressed to them concerning the importance of following fashion trends presented by celebrities on social media. It is beneficial to understand the importance to follow fashion trends in social media in general because it can describe the overall potential of the technology of digital supermodels and influencers.

Participants who own an Instagram account were asked if they were familiar with digital influencers and supermodels and were divided based on the answer. Those, who knew about digital influencers and supermodels were asked more in depth about the source of the knowledge and specifically about different digital supermodel or influencer accounts. To avoid misunderstanding, the essence of digital supermodels and influencers was introduced before.

All the participants were explained about the technology of digital supermodels and influencers, accompanied by pictures. All participants were asked in detail about their feelings regarding digital personas replacing real life models and influencers. Opportunities were given to explain their feelings with an open answer. In order to see the reasons behind their feelings, a comprehensive list of different aspects about digital avatars was presented where the respondents could agree or not agree with the statements.

The measure mainly used for the survey questions was the Likert scale. It was chosen to receive categorized answers and also to decrease the time to complete the questionnaire since the questionnaire consisted of many detailed questions.

2.2.3 Advantages and Disadvantages of the Questionnaire Method
As introduced already before, the main advantages for choosing the questionnaire are the ability to gather and analyse large amounts of data at a single point of time, the quantifiable essence of data and the ability to find patterns of association between variables (Bryman & Bell, 2011). Quantifiable data makes it possible to compare results of other researches in the future. As a more individual benefit regarding this specific research, a questionnaire allows reaching large amounts of people and also these people who are not yet familiar with the technology.

However, some benefits have their downsides. The aforementioned ability to find relationships between variables can also be a disadvantage of the questionnaire, not allowing to manipulate
the variables after the relationship has been found (Bryman & Bell, 2011). Also it is not possible
to state further questions about the discovered relationship. This demonstrates lack in internal
validity (Bryman & Bell, 2011). The quantitative essence of the questionnaire does not allow
to see and understand feelings, emotions, behaviour and other kinds of psychological aspects
when a respondent is answering the questions (Bryman & Bell, 2011). However, the latter is
not the purpose for this research as mentioned before. This study aims to describe the presence
of different feelings, not further investigating the psychology behind them. Conducting an
Internet based survey, researchers cannot control the environment and other possible result
manipulating aspects.

Stated before as an individually beneficial attribute, people who are not familiar with the
technology can assess their potential behaviour and feelings inaccurately. However, also the
people who are familiar with the technology can understand questions differently which results
in inaccurate findings. Furthermore, even if the questions are accompanied with extensive
variations of possible answers, the answers regarding feelings are perceived differently by
people. The same word (e.g. Important) can have different meanings amongst people.

2.3 Content Analysis of Comments on Instagram

As of content analysis, it is defined the research technique for the objective, systematic and
quantitative description of the manifest content or communication (Bryman & Bell, 2011).
Bryman and Bell state that ‘Content analysis is any technique for making inferences by
objectively and systematically identifying specified characteristics of messages’.

The conduct of the content analysis in given research is somewhere in between qualitative and
quantitative. The content analysis was done quantitatively although the amount of content
provided was in accordance to a qualitative and rather short for a quantitative content analysis.
The reason behind this is the novelty of this technology in terms of marketing in the fashion
industry, hence the limited amount of examinable data.

In order to reach groups that are hardly reachable and complex to study as well, the second
quantitative method being used is the content analysis, which is conducted, having the social
media as a source and more specifically, Instagram profiles of the digital personas. This type
of research allows the authors to find information that clearly mirrors the opinions of the
masses, since it is widely known that on social media there is an overdone freedom of speech
and people feel safer typing their opinions through their social media accounts. Thereby, the
purposes of this research are being met since the results are coming straight from the source
without any pre-processing.

The main goal is to realise the mass response to the effect of the technological growth that
overcomes real life in the current generation. Since this phenomenon is happening at the
moment in the digital world and more specifically on the social media accounts from all over
around the world, the research will be conducted, partly, through a content analysis, so that the
mass response to the technological phenomenon will be objectively collected. It is mentioned
to be objectively collected because no personal interest or thought of this paper’s authors will
affect the analysis. However, what is needed in this occasion is the commenters’ individual
opinion on the topic that is being discussed in this research. Stroud et al. (2016), explains that,
the random comments referring to selected posts, are part of a motivational act of the
commenter who wants to express an emotion or an opinion, start a conversation, share the post,
complete information or correct inaccurate statements, and not to miss mentioning the personal
perspective.

Since the questions that need to be answered are of massive response and do not acquire specific
characteristics, such as gender, age, geographical location, this quantitative method gives
objective answers within a specific time. The questions mentioned below are directing a way towards the answers that will may or may not be given to the second question examined in this research; ‘How do people react to brand promotion using digital models or influencers instead of traditional real-life models and influencers?’.

- On what extent does the publicity of the digital supermodels and influencers reach in terms of followers, likes and comments?

- How many of their posts are being used as influencing activity or for promotional purposes of any product kind?

- Which accounts on social media - Instagram profiles, have gathered most interest?

- What is the average range of types of comments that the followers express underneath the posts used for influencing activity and/or promotional acts?

It is important to be noted that through the content analysis, the aim is to analyse the reactions that people have when they come up with an account of a digital persona. The perception that people have towards advertisements where digital personas participate, is optimised in the comments.

2.3.1 Chosen Posts and Coding of the Messages

For the content analysis, there were selected accounts examined. More specifically, the accounts were known to the authors’ and were selected by their existing promoting content. There were other digital avatar accounts known to the authors’ but were discarded since they did not have any promotional posts. The posts were chosen starting from the 1st of February, 2019 till April 20th, 2019. The selected posts are of fashion brand advertising nature as well as other brands. Moreover, there were posts chosen based on the nature of the picture, i.e. whether there was a brand shown in the picture or whether the digital persona is an ambassador in an event or states his/her opinion for a public matter. The Instagram accounts that will be examined are Shudu’s, Lil Miquela’s, Blawko’s, Bermuda’s and Imma’s.

Before coding the material found in the comments, there was a test conducted among the comments coming from several selected posts. From the nature realised in the comments, the categories go as below:

1. Negative
   a. Aggressive
   b. General
   c. Cautious

2. Neutral
   a. Humour
   b. General
   c. Questions

3. Positive
   a. Sharing with others
   b. Love comments
   c. Appreciation
   d. Interest
e. Humour

Each main category (negative, positive and neutral) is to define whether the nature of the comment is in favour of the account or against. However, a type of comment, either negative or positive or neutral, is not enough for this research and the result that is aimed. For being able to understand what the user wants to say through the comment, there were subcategories of the comments examined.

For the category of negative comments, it is decided to check the amount of aggressive responses, i.e. ‘Idk why everyone is adoring these robots, its sad and pathetic, lol’ which will define if the commenter is against and to what extent is, towards the avatar’s account and its action. General comments will be categorised as a non-contextual comment, or use of non-verbal context, i.e. use of angry emojis or ‘robots are taking over the instagram now, seriously?’, a comment which shows some concern but not that much. Lastly, cautious clarify the comments that are showing a rather worried nature coming from the commenter, i.e. ‘is it just me who is terrified of you or....’.

On the other hand, the category of neutral comments is consisted of humorous context (i.e. *digital person in Samsung phone ad stating that is in love with the product* commenter: ‘nah, don’t worry, I’m in love with a lamp, so... ’), general (also non-verbal comments included, i.e. ‘I don’t get you’) and questions that represent a rather questionable concern towards the existence of the avatars and their activities, such as ‘I’m confused yet intrigued’ or ‘Are you a robot?’.

Last but not least, there are the positive comments that can represent appreciation (i.e. ‘You make me feel like it’s ok to be different, thank you miquela [heart emoji]’), interest (i.e. ‘Such an amazing person, I wanna meet you’), humour containing a rather positive than negative feeling (i.e. ‘When a robot dresses better than me’), and also show that the account or the post is being shared throughout the online community which would be the tagging of other account underneath the post.

For the closing part, it is important to repeat that the nature of these comments was decided how to be listed after checking the selected posts and seeing through what types of response the posts of the digital personas have received. Additionally, some of the comments that have been in a different language that cannot be translated or the translation does not give any clear context, have been discarded from the analysis. Last but not least, the comments coming from the accounts of Lil Miquela, Blawko and Bermuda are also discarded, since the latter are also digital personas.

2.3.2 Advantages and Disadvantages of the Content Analysis

The content analysis offers results but as most types of researches, have advantages and disadvantages (Bryman & Bell 2011).

Starting with the advantages of the research, according to Bryman and Bell (2011) a content analysis:

- Is a very transparent research method’. The coding of the material, the design scheme and the gathering of the information allow objectiveness to take over.
- Allows a certain amount of longitudinal analysis with relative ease. While conducting the research, the authors are able to identify changes that might have occurred through time. In this given research, due to the fact that the digital personas are very new to the market and their activity on social media is very recent, there has not such a phenomenon appeared.
• Is often referred to as an unobtrusive method’. In simple words, the researcher needs to take care of the information gathering only, without having any participants in the research that will occupy his time and concern.

• Is a flexible method’, which means that is applicable easily and to many different types of material, useful for the purposes of the research. It is essential that in order to check the response of the people towards social media, a content analysis was seemingly the most appropriate choice.

• Allows information to be generated about social groups which are difficult to be accessed’. Reaching out to the responses of thousands of social media users and having their first hand comments underneath the material of study, which are the digital personas, is an advantage coming from the free analysis of the content.

Nonetheless, a content analysis hides some traps that are easily overseen and can drive the researcher into making mistakes and eventually not reaching the desirable or any even results.

• As a method, content analysis is dependable on the documents used for analysing. It can be as good as the material chosen by the researcher.

• In order to do the coding, it is imperative for the researcher to be have a clear circular knowledge of what he/ she is expected to examine and what are the correct interpretations that must be made in order for the content to be of importance.

• Since in a research there are questions such as, ‘why’, ‘who’, ‘where’, ‘how’, the content analysis can limit the options of the researcher as to which questions can be answered. Mostly, it is no feasible to give a particular answer to the ‘why’ question, since asking the individual who gave the content, in this case, the comments on the Instagram accounts, is not possible to be reached.

The comments showed most of the time feelings which cannot always be accurately categorised, especially when there are more than one researcher. Also the researchers may not understand what was actually meant with the comment. Therefore there is still a little bit individual thought inside.

2.4 Reliability and Validity

As the reliability of a study is especially critical for quantitative research, this matter is discussed in the following paragraph. The concern about a research’s reliability is in other words its replicability which is also often stated as the consistency of measures (Bryman & Bell, 2011). In given research, the matter of reliability was addressed in two different ways according to the two types of research. The measures of the questionnaire were confirmed by an advisor and can also be seen in the Appendix 1 of this research. Means for the questions and the overall design of the questionnaire were described under the chapter of Methodology in order to increase transparency of given study. For the content analysis of Instagram comments, the reliability was increased by having a sample of comments to divide the categories which were also explicitly described in the Methodology chapter, accompanied by examples of comments.

As described by Bryman & Bell (2011), validity in general is about the measures being adequate for a specific concept. Measurement validity (construct validity) was addressed by the authors using face validity, meaning that as mentioned above, the questionnaire was confirmed by an advisor before sending out. For the content analysis, undetectable automatic Instagram commenting programs could be a cause of decrease in validity since their influence for the results was unknown.
Internal validity is usually weak for a self-completion questionnaire, because the causality cannot be proved (Bryman & Bell, 2011). Relationships between variables can be detected but it is impossible to say in the case of a questionnaire, which variable caused a change in another variable. Some relationship were detected for the results of the questionnaire and were addressed in the Discussion chapter. A specific critique for the questionnaire method is the probability of jeopardization for ecological validity, meaning that answering a questionnaire is itself unnatural.

External validity is in other words generalisability (Bryman & Bell, 2011) and was addressed for this research by choosing mass response research design. For the cross-sectional part of this research, generalisation could be further increased by a larger sample, although the amount of answers and variance in countries where respondents were from secured the generalisability enough for a first research of this kind. The questionnaire design that allowed also people who were not familiar with the technology to answer and share their feelings increased the external validity from the beginning, increasing the possible amount of responses for the questionnaire.

External validity concerning the content analysis is relatively high even though only marketing-related content was being examined. The comments namely were not specific to reflecting marketing content and can be therefore generalised to overall perception of the digital supermodels and influencers.

3 CONCEPTUAL REVIEW

The first part of conceptual review will address the disruptive and emerging technologies in general, as the technology of digital influencers and supermodels can be considered as a CGI innovation, in other words 3D visualisation which is stated as a potential disruptive technology of today by R. A. Mashelkar (2018). As given research addresses the technology from the society’s perspective, a chapter about general social impact of disruptive and emerging technologies follows. The second part of this conceptual review introduces the technology of digital influencers and supermodels, beginning with an overall historical review of CGI. Since the content analysis of this research deals in great amount with the phenomenon of an influencer, the Conceptual Review also explains the influencer and its relationship with the society in the context of fashion. Influencing is also the main marketing tool used by the examined digital avatars on Instagram and therefore by that the Conceptual Review also links to the marketing focus for given research.

3.1 Disruptive and Emerging Technologies

Humans have evolved in a linear and local world. Since there was no other kind of transportation existing than walking, nothing was known about what was happening in areas they could not reach. This kind of life did not change for centuries and that is why it is difficult for people to understand the exponential, rapid and global environment of today (Diamandis & Kotler, 2015). Just twenty years ago there were no smartphones; only some privileged people had personal computers and companies like Facebook or Uber didn’t exist even though today they seem natural parts of people’s lives. Paul Armstrong defines some of the reasons for this fast growth of technologies in his book ‘Disruptive Technologies: Understand, Evaluate, Respond’ (2017). First he describes Moore’s law which states that ‘every two years the processing power of computers doubles’ to explain the rapid growth of technologies. However the future of this law is under debate – in fact Mike Golio (2015) reveals in his comprehensive article about Moore’s law that Gordon Moore himself forecasted that the law will slow down in the future, expecting much shorter life for the law than it has actually been. Paul Armstrong further points out miniaturization of materials, rapid prototyping, increased connectivity
(Internet) and lower costs of storage due to fewer physical files as the reasons behind rapid technological growth.

The title of this chapter requires two parts to be discussed – disruptive technologies and emerging technologies. It is necessary to understand the relationship and difference between these two notions, allowing to position the technology addressed in this research and understand the potential future for it. Munan Li et al. (2018) have examined the literature of emerging and disruptive technologies and concluded that although both require a level of novelty and rapid growth, an emerging technology can have the potential to become a disruption, but it can also fail or just become a generalised technology.

On the other hand, a disruptive technology can be defined as a ‘change that makes previous products, services and/or processes ineffective’, according to Carla Millar et al. (2018) ‘The implication is therefore one of discontinuity – previous technologies and/or ways of working are no longer viable’. Additionally, a definition from R. A. Mashelkar (2018) states that exponential (disruptive) technologies are those whose ‘performance improves by double or triple digit every year on the same cost basis’. According to R. A. Mashelkar (2018), the technology of 3D Visualisation which is the topic of given research is one of the ten most disruptive exponential technologies today.

A disruptive technology is often called exponential technology due to its rapid growth. In order to understand the exponential essence of a disruptive technology, Diamandis & Kotler (2015) have developed a framework called the 6 Ds of Exponentials to describe the chain of technological progression: digitalisation, deception, disruption, demonetisation, dematerialisation and democratisation.

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![The Diamandis 6 D's of Disruption Curve](image)

Diamandis & Kotler (2015) explain that the exponential empowering of a technology comes from being digital – it enables the technology to be freely and fast shared in the Internet, allowing innovation in turn. For a rather short period of time an already digital technology can be deceptive which in turn enables disruption. An old technology does not acknowledge new innovations or simply cannot keep up with emerging innovations and therefore can be disrupted.
Demonetization concerns the removal of money regarding the technology. An example of that is Skype that made long-distance calls free. One of the examples for dematerialisation is the way digital cameras vanished when smartphones came to the market. And even further, democratisation ends the chain of exponential growth by making the technology available and affordable for everyone.

The research firm Gartner Group, has developed a framework (Figure 3) to help their customers evaluate technologies, especially regarding the information systems (O’Leary, 2008). Diamandis & Kotler (2015) also emphasise that this framework helps to understand the deceptive period of disruptive technologies. In his article, O’Leary (2008) explains thoroughly the steps of the Gartner Hype Cycle. The curve starts with a launch or demonstration of the innovation which results in a rapid growth of expectations (O’Leary, 2008). The exaggerated expectations often stay unsatisfied because the technology is unable to fulfil the hype, which in turn leads to ‘the trough of disillusionment’, conforming with the deception period described above (Diamandis & Kotler, 2015).

Figure 3 Gartner Hype Cycle (Gartner, 2019)

It is crucial to recognise when the technology is starting to rise from the trough – there can be many indicators for such development, e.g. the development of best practices, supplier proliferation, secondary financing and a simpler user interface (Diamandis & Kotler, 2015). However the adoption rate at this stage is only 5% which can be increased with further development (O’Leary, 2008). O’Leary (2008) emphasises the importance of research at this level, in order to examine the adoption and the possible developments that can be made to improve the technology and take it to the next stage which is the stable plateau of productivity. The plateau of productivity is reached when ‘20 to 30 percent of the potential audience has adopted the innovation’ (Diamandis & Kotler, 2015).

The Gartner Hype Cycle is especially beneficial to investors to evaluate the best time to invest in a technology (O’Leary, 2008) and the formerly mentioned curve of disruption can be useful to understand the characteristics of a disruptive technology. It is crucial not to forget that before
the detected disruptive stage of a technology, it can also have any other future than a disruptive one – it can rapidly fail or instead of disrupting, become a general technology existing next to a formerly implemented technology.

3.2 Social Impact of Technologies

Direct users of the technology of virtual influencers and supermodels can be regarded as businesses or virtual model agencies who use the technology of 3D virtual avatars in the fashion world. Since the businesses exploiting this technology are not the topic of the given paper, the direct user point of view is not included in the concept review. In the case of the technology addressed in this research, the society is an indirect user of this technology, meaning that people are still being affected by the technology, although not directly. However the industry of fashion does not constitute a newbie in the relationship with the 3D technology, since the production stage is being affected for many years now. ‘Technology is often what drives fashion innovation’ (Papachristou & Bilalis, 2016) however, this relationship faces many challenges and risks. According to Papachristou E. et. al. (2016), the biggest challenge that the relationship between fashion industry and technology is facing, is the thinking that ‘technology is merely a marketing add-on within the industry’, without letting external actors realise the restructure of the industry’s work as well as the change of culture that brings in the working environment. The production stages are being affected and performed differently with the new technologies emerging, and the people who work in these stages are the ones called to make it through and perform accordingly. Already the effect is visible and the technology which brings changes in the working environments is changing the way that the industry thinks, acts and the way the employees work. Therefore, the mindset is changing a phenomenon that requires respective training of the people involved and quick results (Papachristou & Bilalis, 2015). The latter explained the social impact of direct users of the new technologies and an overview of the social impact of technological change in general is provided in the following chapter.

The topic of social impact can be generalised and it exists even when a technology is not explicitly being used by people. Throughout history and until today, technology has affected the people with the environment and the society surrounding them as a whole (Wienclaw, 2011) (Ramey, 2012). ‘Technological changes, both major and minor, often lead to a restructuring of power relations, the redistribution of wealth and income, and an alteration of human relationships’ (Volti, 2009). Further, new technologies will impact and form the future (Ramey, 2012). M. B. Schiffer (2011) even states that social processes themselves influence technologies and technological change, not the opposite as it is usually referred to.

In his book ‘Society and Technological Change’, Rudi Volti addresses the relationship between the society and technology similarly to aforementioned Schiffer, that the technology is invented by people and who in turn are a part of society. He states the ‘fundamental paradox of modern society’ being the inability of people to understand and use the immense range of technologies (Volti, 2009).

Volti (2009) explains the essence of the occurring paranoid negative reactions for innovative technologies with the aforementioned hand-in-hand relationship of the society and technologies. He believes that people start to have distrust when they are not able to participate and affect the decision-making that is shaping their lives. The uncontrollable technological change has a consequence of people’s naïve hope, exaggerated expectations (similarly to the ‘Peak of Inflated Expectations’ in the Gartner Hype Cycle mentioned in the last chapter) and paranoid reaction.

The solution introduced by Rudi Volti is not one of a kind. Arnaldi et al. (2010) also explains how people, who are the society, have to be involved in decision regarding technologies and
technological change. Arnaldi et al. (2010) suggest that the thoughts and standpoints of the society have to be concluded in a statute that could guide and influence the development of new innovative technologies. Rudi Volti (2009) states rather dramatically that a ‘widespread participation in the shaping of technology is essential for democracy’.

As part of their solutions, there has to be a demand from the society in order to come up and succeed with a new technology, hereof the technology is taken as a good or service. People or organizations have to desire a new innovation and should be able to pay for it. There are many examples of innovations existing that did not succeed because of aforementioned – in other words, they were ‘ahead of their time’. The pneumatic tire invented by John Dunlop was actually already invented 40 years before, but failed to succeed then. Laser remained a ‘laboratory curiosity’ for decades before it was taken into practical use (scanners, microsurgery instruments etc) (Volti, 2009) (Arnaldi, et al., 2010). A point for discussion on that topic is, how are the people and society able to know the possibilities of potential new technologies? In a way, innovations are the result of constant experimenting.

Due to the matter of occurring negative reactions, many questions are being raised amongst people, especially when a technology has a potential to disrupt an industry. This is not just a topic of today, it has existed before – for example in the beginning of 19th century, when railroads were a new technology potentially disrupting and changing the world as it was. One editor in an English magazine wrote like this: ‘Railroads, if they succeed, will give an unnatural impetus to society, destroy all the relations that exist between man and man, overthrow all mercantile regulations, and create, at the peril of life, all sorts of confusion and distress’ (Volti, 2009).

One of the concerns of the society that inevitably comes together especially with the technologies regarding machinery, AI, virtual reality and such is the fear of humans losing jobs. On this problematic, the researchers are rather calm. They explain that our society has been moved before from an industrial to a post-industrial society and many disruptive technologies have changed people’s lives before, but the society has grown in response, adapting the new technology. Technological change may eliminate specific jobs existing today, but the work itself will not be eliminated, it will just be shifted to a different kind of work. New technologies that may replace some human jobs will create other jobs for humans (Volti, 2009) (Wienclaw, 2011). In fact, Volti states that unemployment is more likely to occur during periods of technological stagnation, which makes the fear of job losses during the development of innovative technologies irrelevant.

It can be seen that there is a gap of communication between the society and innovation. Entrepreneurs are constantly coming up with new innovations or experimenting with technologies often not focusing on the social impact or due to the novelty of a certain technology, the social impact being simply unknown. However, researchers have the potential to fill the gap of communication and be as an intermediary between the two, investigating the feedback and desires of the society or simply explaining the problem of the gap to both the people and the companies.

3.3 An Overview of the History of CGI and Avatars

Over the past years, starting from the late 1960s until today, there have been great amounts of technological growth and success in many industries. Starting from the most immediately connected to technology industry, comes the industry of computers, and everyday life gizmos that offer advertisement, convenience and entertainment to consumers. Therefore, a large amount of the market’s population is consuming what technology is offering. By enforcing the production and consumption of these appliances, humankind has managed to reach a level of
innovation and constant growth in the terms of technology and digitalisation, which was first brought to the lives of people when the first computer was created.

However, it is hard to trace back accurately when the development started and what steps followed till today. Since the hardware and software used for creating the 3D design are connected to the computers, it is possible to trace back the computer science, but the science of 3D is not chronologically ordered precisely (Peddie, 2013). The historical overview of this research will not lead as far as the first computer was created, but will start the review from the year 1968, with a location in Russia where a team of mathematicians, led by N. Konstantinov, created on the computer, the first moving cat which was on screen. In other words, in 1968 the first Computer Generated Image was generated (Link-Miles Ltd, 1992). This mathematical model was just the beginning for the humankind to realise that there is another world in the digital environment, which can be translated in different ways and created in different forms and through several formulas, according to the industry that it will serve to. The 1968 formula that designed the cat was the beginning for a greater industry to take over this discovery and start a new rule for the entertainment industry. Just a few years after moving a cat across a screen, 2D animator Peter Foldes created the first CGI animated short film, drawn on a data tablet (Link-Miles Ltd, 1992). Subsequently, Yul Brynner used CGI in the national television program for the first time in the movie Westworld, while Futureworld, a movie of year 1976, showed the first 3D animated imagery to the great audience. Later on there was George Lucas and his innovative creation of Star Wars, taking the digital approach he chose for the implementation, a mix of analogue and digital technologies. And the story of CGI moves on with ground-breaking uses of it such as Matrix, The Lord of the Rings, and last but not least, J. Cameron’s movie Avatar. (Pardo, 2015) It is important to note that the above developments in computer software, movies and TV are the first technological developments in terms of CGI but there is no proof that they are the first or even the milestones. It is easy to place chronologically when the first computer was invented and se the beginning of an era, but the software and hardware of 3D have existed through the computer science and existing mathematics and algorithms (Peddie, 2013).

While the aforementioned realisations of technological growth and computer generated imageries are only in regard to the entertainment community, and more specifically the film industry, there have been other earlier creations of 3D images other than Star Wars and Avatar, that took the place of people and communicated like the latter. In 1971, Ananova made her appearance on national television, being the first use of virtual technology on national television for the purposes of newscasting (Cooper, 2000). Ananova is thought to be the world’s first digital newscaster, created by an UK based company, PA News Media. The Press Association company is the newscasting channel for Ireland and the United Kingdom that designed Ananova and represented her to the public audience in 1971 (Cooper, 2000).

Furthermore, entertainment community is not the only one that computer creations and 3D avatars or CGI have infiltrated. Before continuing the manifestation of the historical overview, the word avatar, comes from the word avatāra, which means the incarnation of a Hindu deity, according to Merriam- Webster dictionary. In further explanation, avatāra is a god/-ess that came to earth in a human-like form, a definition that existed for the earlier years, while through the passing of time, became what it is known now as an electronic image that represents and may be manipulated by a computer user (as in a game), as Merriam-Webster dictionary state in the latest definition given. As to whether or not the avatars are descendants of the computer generated imageries, it is not stated in this research. Avatars seem to follow the same paces as of CGI’s, but with more thrill and excitement, since the technology is newer, faster and more innovative than its hypothetical ancestors, the 2D imageries. By having a digital newscaster in 1971, it can be unimaginable what comes in the next years and what the people’s minds that
create avatars will think next and which big step they will make. Etienne Koo, the CEO and co-founder of start-up called Twinster, which deals with innovative solutions for human digitisation, stated in her TedxTalk that in five years from now, humans will have their own personal avatars that will be able to represent them in more than one places at once, fulfilling the work that needs to be operated through (Koo, 2018).

Avatars became from movie CGIs to gaming ‘embodiments’ of the players with a human-like or deity-like form, chosen by their creators. In 1985, only three years after the movie ‘Tron’, the computer game Ultima IV came out in the market. In this game, the term ‘avatar’ was first used for and by the players, whose goal was to become ‘The Avatar’, a great deity of the game. In later versions of the game, ‘Avatar’ became the player’s visual on-screen persona which could be customised according to the user of the game (Egen, 2005). By starting to allow the players to create and choose characteristics of their own digital representation in the game, avatars took over the gaming industry in a glimpse, creating new kinds of companies that specialise on this matter, the avatar creation for games and now, for even more uses.

The entertainment, the gaming, the news industries are some that implemented the avatars in the product development and service provision. It is known that these are large communities that attract the public constantly. Another field of entertainment that has been accepting the services of 3D creations, is the adult entertainment industry, where digitalised creatures and human-like formulated 3D images have sexual intercourse, attracting many viewers, according to a survey made concerning Pornhub’s viewing history. Categorised as Virtual Reality searches, the 3D VR comes 5th in ten scale examined searches according to the website’s visits (Pornhub survey, 2017). It is important to mention the adult film industry as well, since it holds a strong position in viewing activities by individuals and in mass attraction on the websites, according to a research by Chauntelle Anne Tibbals, conducted in 2013. In that research it was mentioned that only for the US market, the number of attraction for the adult film industry is massive and keeps increasing (Chauntelle, 2013).

All in all, the industries mentioned above have one common variable, which is, the entertainment. It has been a big issue in people’s lives, the way that they will be entertained, either by trying to do it individually or by having it designed and performed by others. So far, the mass response to entertainment and what it results in, has been attracting people all over the world and thereby affecting them accordingly.

3.4 The Influencers of Today

Starting in the 2010’s, the social media community has centred its attention to a new type of celebrity that exist online in the according accounts. This celebrity is the Influencer and has focused the interest of press coverage and conversation around the online communities. ‘Influencers are the epitome of internet celebrities, given that they make a living from being celebrities native to and on the internet’ (Abidin, 2018). Influencers are closer to the people and more approachable, since they promote an everyday life that most people have without being celebrities of the show business as commonly known. However, influencers have their own supporters which are their followers. If influencing act and fashion are combined together, then the nature of the fashion industry can be considered as concrete and whole. The fashion system is controlling cultural meanings and defines the shape and behavioural elements of the societies it includes. The reforming of cultural categories and principles creates sources of meaning for the masses and the latter behave, act even dress accordingly (Kawamura, 2015). ‘Therefore, in order to understand the diffusion of fashion, we must first consider the roles played by those social groups most directly connected with its propagation. It doesn’t matter who plays the roles, but it is very important that the roles are played’ (Kawamura, 2015). The
influencer is used as a marketing tool that serves the purposes of fashion as a broader concept that affects not only the purchasing behaviour.

In this system, the society is subliminally involved through the expression of personal style and through the new type of Influencer, the social media Influencer. Therefore fashion defines societies’ cultures and vice versa, creating an inextricable relationship between these two.

The combination of the internet alongside with the fashion influence and the people working on it creates new outlets for the celebrity fashion and allows Influencers to be involved, speak about and be followed by people regarding different societal matters that concern today’s communities. It is giving the chance to these new players (Influencers) to emerge and in general ‘provide technological and social infrastructure for the mass marketing of fashion’ (Pedroni, 2016).

The fashion industry, in order to keep up with the technological growth on a marketing level, is expanding the option of outlets to market the products. These options have led to another kind of evolution different that the industrial one which happened years ago. This evolution of social media influencer marketing. ‘Now you can find people representing companies through branded content on personal social media accounts, such as Instagram, Snapchat, Twitter, and YouTube. More than ever, consumers are looking to fellow consumers to inform their purchasing decisions’. (Glucksman, 2017).

According to Albert Bandura, social science expert and psychologist, in the social system new behaviours can be acquired through direct experience or through observation of third parties (Glucksman, 2017). The first one is mentioned as an interaction between the celebrities and the masses while the second one refers to the observation of the public towards the activities of the Influencers on social media. The relationship, in order to be prevailed must be kept working from both angles.

### 3.5 Virtual Avatars of Today

Pamela Church Gibson writes in her book called ‘Fashion and Celebrity Culture’: ‘like contemporary fashion, celebrity culture has always been firmly linked to technological change’. Virtual avatars which are admittedly a technological development have already entered the celebrities’ society. Lil Miquela (see Figure 4) is a an example of a digital influencer that does exactly what every other individual does on social media. She is posting pictures of everyday life events, work life, outing with ‘friends’ and also promoting products of different fashion brands and not only, on the social community. Because of her popularity and responsiveness from the people, on June 2018, Miquela was listed on TIME magazine’s list of the top 25 most influential people on the internet of 2018 (TIME magazine, 2018). However, Lil Miquela is not the only digital influencer on the Internet. She has her own circle of ‘friends’, also digitally created, and they all exist thanks to an artificial intelligence consulting company, named Cain Intelligence, located in the United States (Chan et al., 2018).
Asia on the other hand has created the first Asian model, Imma Gram (below Figure 5), a pink haired ‘beauty’ that holds the same activity as all influencers do and also presents herself as a fashion model. The information regarding the nature of the digital personas aforementioned comes from research on online news articles that circle around the nature of the matter. So far there have not been any scientific articles that discuss this matter, at least according to the authors’ knowledge.

Movies, television, games, the porn industry and social media are some of the main concerns for the presentation of the digital world, but lately, there is another community that has been affected by the digitalisation, being the fashion industry. Though, as mentioned in the introduction, fashion has been digitalised for many years now, either through 3D patterns, to 3D garments and digital retail stores. Nonetheless, there is another team of the fashion industry that was lately created, and this is the modelling team, starting from photographer and visual artist, Cameron-James Wilson, who created the first so called digital army of models, that fashion brand Balmain bought for promotional acts. The digital model that stands out of the three, is Shudu Gram (see Figure 6), a South African model that has people’s opinions differ (Alti, 2018).
Shudu, however, is not presented as a model, but more as a supermodel, and specifically, the world’s first digital supermodel, according to her creator, Cameron James Wilson and according to the headlines that Shudu’s appearance made. She holds her own Instagram account with more than 160k followers. She has already participated in Balmain’s campaign alongside the fellow digitalas, Margot and Zhi (Hosie, 2018), and is already presented as an upcoming celebrity to be. BAFTA awards was the next big step for creator Wilson, and supermodel Shudu, through the British PR company EE (EE, 2019). All in all, Shudu was created after WWD (Women’s Wear Daily) magazine brought together Cameron j. Wilson and CLO3D (visual garment software) (CLO Virtual Fashion magazine, 2018).

Moreover, fashion brand Carlings created a digital collection of garments that are available only in the digital realm. The reason behind this virtual collection are the influencers who have taken over the world of the social media and consider their Instagram outfits are crucially important for their Instagram profile. (Roberts-Islam, 2019)

To conclude, it is impossible to trace a single line of development to generating beautiful realistic 3D images with a computer. 3D is in so many places, automotive design, movies, architecture, games, molecular design, and simulation/visualization of imaginary worlds, and atomic bombs and now fashion (Peddie, 2013).

4 RESULTS

4.1 Questionnaire

The first part of the results chapter will include the analysis of the answers from the Internet-based questionnaire. The survey that was sent out via Facebook received 167 responses in total from more than 17 countries, mainly from Europe. The division of age of the respondents is shown in Figure 7 below. The ages of the respondents were divided by generations (Loria & Lee, 2018):

Boomers 1946-1964
Generation X 1965-1980
Millennials 1981-1996
Generation Z 1997-…

All adequately relevant generations for reaching the purpose of given paper were present, covering ages between 10 years and 72 years. Most of the respondents were Millennials, holding 80% of the total answers which is also the most important generation for this research,
consisting of adults who are of high possibility familiar with social media channels including its possibilities and who also are already responsible for their own consumer behaviour.

Figure 7 Generations (authors’ figure)

For a further background of the respondents, the majority of them described their clothing style as to be based on their own personal taste, although keeping track with current trends. The respondents were asked about their habits of shopping for clothes which resulted in 35% of them answering that they usually go to the physical stores, although sometimes checking online stores as well. The second place was shared by two types of answers, ‘I usually check online, but sometimes go to the physical stores’ and ‘Mostly go to the physical stores’ with 19% and 20% respectively. The option ‘Other’ was mostly chosen to point out that they visit second hand stores. The result of discussed question can be seen in Figure 8.

Figure 8 In what way do you usually purchase your clothes? (authors’ figure)
With the next question about owning a social media account, the respondents were guided either to the general part of the questionnaire, which held different perceptions and feelings about digital avatars, or to the part asking further about social media activities. A significant majority, 98%, owned a social media account (Facebook, Instagram, Twitter etc) and was further guided to a question about the importance of following fashion trends in the social media presented by Internet celebrities. The result for the latter showed that for the majority, following fashion trends on social media is not important. The answers 1 and 2 on a scale of 1-5, where 1 stated ‘not important’ and 5 stated ‘important’, held altogether 77%. The answer 3 that is taken as a neutral position held 16% of the total answers and following fashion trends on social media was important to only 7% of the respondents who own social media accounts.

Furthermore, the respondents were grouped based on not only in general their social media accounts, but specifically based on owning an Instagram account. As mentioned before, digital supermodels and influencers exist on Instagram and only those who have Instagram accounts themselves can be familiar with the digital avatars’ accounts. 82% of those who had social media accounts had also Instagram accounts and they were further asked about their activity habits on Instagram. The result for the mentioned question is illustrated on Figure 9. The most popular answer was that the accounts are used for personal profiles, but also for viewing world news. Fashion related answers (following influencers and fashion brands) came on the 3rd and the 4th place in overall rating.

**Figure 9** What are you mainly using your Instagram account for? (authors’ figure)

Those owning an Instagram account were asked if they are already familiar with digital supermodels and/or influencers and a significant 28% were familiar with both (23% from all 167 respondents), 12% in total were familiar with either of digital supermodels or digital influencers, leaving more than half of the people who own Instagram accounts (60%) not familiar with digital avatars on Instagram. It is important to note, that 87% of those familiar with both or either one of the digital avatars were Millennials (age 22-37) with Generation Z, X and Boomers holding 6%, 4% and 4% respectively.

To understand how they discovered digital avatars on Instagram, the respondents familiar with both or either one of the digital avatars were asked to outline the channels where they have seen
digital avatars (Figure 10). Most of the respondents discovered a digital avatar account in their Instagram account news feed, although the next popular answers did not have a significant difference in gravity of the amount of answers. The top three popular responses were Instagram news feed, someone sharing or showing the accounts and fashion brand profile or story, holding 25%, 22% and 19% respectively.

![Figure 10](image)

**Figure 10** In what way did you discover a digital influencer and/or supermodel account? (authors’ figure)

The respondents who were familiar with digital avatar accounts were further asked if they were following any digital avatar accounts and if so then which accounts exactly. 70% of the respondents were not following any digital avatar accounts. The most popular to be followed was Lil Miquela, having 7 followers of given questionnaire. Shudu had 4 followers, Bermuda 3 and Koffi, Imma and Blawko only 2 followers amongst the respondents of given questionnaire. For further insights about the reason for following, an open question was provided for the respondents in order to explain their objectives for following the digital avatar accounts. Most of the answers included that they want to keep track and that it is out of curiosity. Two most comprehensive answers can be hereby presented:

'I followed them to learn more about how it was being used by fashion brands. It was out of curiosity to know more.' (edited)

'When I first followed her I did not know she was only made to influence and advertise. To be honest I thought she was a real person at the beginning. After finding out I lost interest in her profile.'

The next questions were presented to all 167 respondents despite having social media or Instagram accounts. The questions were to examine respondents’ feelings and perceptions about digital avatars in four different situations. The first situation included a digital supermodel posing for an advertisement instead of a real-life model. The result is shown in Figure 11, which determines that the majority has neutral feelings about the described situation – neutral answers were 29% and 26% of the respondents answered that they do not care, determining altogether

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1 Hereby and afterwards the remark ‘edited’ refers to edits in grammar or typing mistakes
55% of neutral positions. Positive answers (Positive; Mostly positive) held in total 15% of the responses and negative answers (Negative; Mostly Negative) held 30% in total.

![Figure 11](image.png)

Hereby it is relevant to present some examples of the 113 respondents who answered to the open question offering to describe their answer for the last question. The comments that are presented below had most distinctive ideas or thoughts. The remaining comments’ contents were typically similar to one of those below, although all 113 answers were significantly different and the selection of comments presented for the paper was made roughly due to the high number of answers.

‘I don’t think it would influence my attitude towards the brand/company much, but if it would then probably positively as I think it’s an interesting approach. Although it may seem a bit creepy as there is no actual human connection. But at the same time, in our society we generally like to idolize real life models and that can have a negative impact on people who feel like they have to look the same way as the model because they seem perfect. However, with digital models, we might feel like we do not have to try so hard to look like them because they are made digitally and therefore it is not a realistic aim. Therefore, I think it could have a positive impact on the way we obsess over models’ looks in our society.’

‘It sort of starts making fashion advertisement more fantasy like. Fashion industry already benefits from it associating itself with art and fantasy: giving them an easy way out when things go wrong or is unethical. So this adds on to their whole way of creating a more fantasy, unrealistic imagery, that we are already suffering from. So I don’t like this new digitized models trend.’ (edited)

‘I find real human models more accurate which is for me really important in ads [advertisements]. But to be honest too much photoshopped pics from real supermodels aren’t that much better than digital supermodels. Photoshopped pics actually look pretty much same. I couldn't tell if some pics are digital or just much photoshopped real human.’
'It will be too perfect-looking for me to get a connection and want to buy the product.'

'It just weird. Humans are beautiful enough.'

'It should be communicated that it concerns a digital supermodel. If it is not optically visible, beauty ideals of any form can be spread, which might not be possible with real people.'

'More work opportunities for digital artists.'

'I simply do not understand the logic of a dig. supm. [digital supermodels] as clothes are (ideally) designed for human bodies not artificially created millimeter precise ones.'

The next situation considered following and admiring digital celebrity supermodels instead of real-life celebrities. In this case the answers divided more towards negative, having a significant 39% in total of all answers while neutral positions and positive positions decreased compared to the last question, having 53% and 9% respectively.

![Figure 12 How would you feel about following and admiring a digital celebrity supermodel (authors' figure)](image)

As for the previous question, an open answer was offered for the respondents to explain their answer for above discussed question. Altogether 89 people answered to this open question. Some of the comments are worth to be highlighted that as for the last open question had most distinctive ideas or thoughts:

'It’s fake. There is no feelings behind it.'

'it is an interesting feature now due to its newness, but in the long run they change viewing habits and beauty conceptions. There’s also the question for transparency: do they indicate it as artificial?’

'[...]it would seem pointless to me, unless you are admiring their Photoshop skill.'

'It’s one way to express yourself through something, if it’s works for him/her then I support.'

'That sounds ridiculous.  '(edited)
‘Pointless, like following a machine.’

‘Following is ok. Admiring is pointless. It’s a computer program.’

The third situation was more specifically about the change of the perception of a well-known brand after using digital supermodels in their advertisements. Again, the neutral positions (It would not change; I don’t care) were most popular, holding altogether 53% of the responses. It is crucial to highlight that for most of the people (38%) the perception of the brand would not change. Negative answers (Negatively; Mostly negatively) stay in the second position in this question as well, holding in total 36% of the answers and leaving positive positions for the last with 11% of the answers. Above described can be seen on Figure 13.

![A well-known brand is using a computer generated image with a posing digital supermodel for one of their product advertisements. How would it change your perception of the brand?](authors' figure)

The last demonstrated situation dealt with a brand where the respondents are customers, that is where they usually make purchases. The respondents were asked if this brand introduces an advertisement of a product using CGI and digital supermodels, would they still be interested in the advertised product. Not surprisingly the neutral position (number 3 in the scale of 1-5) kept the most popular place, having 38% of the answers, although it is less than in previous questions which means that given question differentiated the respondents reactions better. As it can be seen in Figure 14, the responses were skewed towards negative, more than in the three situations above. Negative positions (1 and 2) held altogether 51% of the answers and positive positions (4 and 5) held only 11% of the responses.
A brand you usually purchase from is using a computer generated image with a posing digital supermodel for one of their product advertisements (i.e. image below). Would it attract you into checking further about the product?

Figure 14 A brand you usually purchase from is using a computer generated image with a posing digital supermodel for one of their product advertisements. Would it attract you into checking further about the product? (authors’ figure)

After the set of four questions the respondents were offered to add additional comments. 11 respondents used this opportunity and hereby 4 most comprehensive and in-depth comments of those 11 are presented:

‘I get that this could be helpful for online shopping, fitting pictures etc. But for advertisements/instagram photos I would prefer real persons. I think there is future for this, but on some contents.’ (edited)

‘The reason I rated neutral in all the rating questions above, is that I don’t have a problem with their pose or features. It’s just that at a certain level they are still glamorized, with perfect skin tone, nice freckles and so on. And that is the troubling part. There is still a strive for perfection in them, so they will end up replacing the fair skinned, skinny, tall ideal body image in the industry, and I don’t want that. As an adult who knows about the implication of these ideals on me, personally, I think the digitized version will create a different sort of ideal in the industry and that is why I discourage it. It only gets real when we use real people, or don’t ignore the flaws, or airbrush; the real is what I support. The digitized is just another fantasy ideal we will be subdued to live up to.’ (edited)

‘While this is an interesting technological development, I feel like it will serve the interests of the wealthy much more than the interests of everyday people consuming these images and buying these products. Mostly on those grounds I wouldn't want to support digital model implementation, as well as on the grounds that the fitting could be reshaped to look good no matter the quality for the real clothing.’

‘the question here is not about if it's gonna conquer the real life modelling or not, the question is about how long will it take so that our real life modelling will try to look like those fabricated
Moving on, the respondents were asked to further explain their thoughts and perceptions by either agreeing or not agreeing to the statements that were presented to them. The statements were provided according to their answer to the last question – negatively minded people (answers 1-3) and positively minded people (3-5) were to go through different statements. The neutral position 3 was to answer both of the lists of statements. Figure 15 demonstrates the results of the so-called negative reasoning and Figure 16 states the result for positive reasoning. The responses for these statements were compared with the overall amount of answers in order to have a more adequate comparison.

It can be concluded that for the negative minded people the main problems were related to the proportions of the digital model, the digital illustration of the garment, fitting of the garment on the model and that they do not want to support this kind of technology in general. Despite all, the opinions about different aspects of CGI images and digital avatars were widely divided amongst negative minded people.

Positive-minded people often agree with statements related to believing that there is a potential for this technology, that the digital images are developed enough for a realistic image and that the digital supermodels can help real-life supermodels from suffering with their bodies. They want to support this kind of technology. It can be seen on Figure 16 that positive minded people tend to keep a positive opinion (or neutral) for the presented statements.
Figure 15 Negative reasoning (authors’ figure)
Figure 16 Positive reasoning (authors’ figure)
4.1.1 Detected Relationships Between Variables

Possible relationships between variables were analysed and searched and the following are relevant to present, meaning there were distinctive relationships existing.

An interesting relationship was found between the age of the respondents and their feelings about digital avatars posing on advertisements. Namely it can be seen on Figure 17 how the general ranking of the amount of answers for negative, neutral and positive feelings were divided between different generations. It is distinctive how the ranking for Generation X differs from others, having smaller gravity of negative feelings and bigger gravity of positive feelings than other generations.

![Sequence of the amount of answers: Age vs feelings about digital avatars posing on advertisements](image)

**Figure 17 Age vs feelings about digital avatars posing on advertisements (authors’ figure)**

Second significant relationship was found between the importance of following fashion trends and feelings about digital supermodels posing on advertisements. The correlative relationship can be seen on Figure 18 that shows how negative and neutral positions gradually lose their gravity when following fashion trends becomes more important. For positively minded people the importance of following trends is not in extreme ends of the scale, but rather in the middle, around the neutral position.
The four different so-called situations mentioned in the last chapter can be compared because they demonstrate digital avatars in different aspects and the answers for all of the questions can be either negative, positive or neutral. The last question had a scale of 1-5 for possible answers which were converted to negative (1-2), neutral (3) and positive (4-5) reactions. For other questions, answering options like ‘Positive’ and ‘Mostly positive’ were put together as a positive reactions in order to give a more concise analysis. Table 1 shows the amounts of responses that were calculated for each question according to the type of reaction. MAD (Mean Absolute Deviation) was calculated to show the deviation from the average amount of answers (n) for each questions. This table shows that positively minded people have lower tendency to change their opinion amongst the four questions than negatively minded people. Because the neutral position is not an extreme, it is natural that neutral people have more tendency to change their opinion in different aspects about digital avatars. The same relationship can be seen in Figures 15 and 16, where positively minded people keep their opinion and rather agree to the positive statements whereas the answers for the negative reasoning are scattered and are of similar gravity, either agreeing or not agreeing.

Table 1 Table of MAD (Mean Absolute Deviation) for feeling-related questions (authors’ table)

<table>
<thead>
<tr>
<th>n – number of responses</th>
<th>Digital avatars posing for advertisement (n)</th>
<th>Following a digital celebrity (n)</th>
<th>A well-known brand and digital avatars - perception of the brand (n)</th>
<th>Usually purchasing brand and digital avatars - interest in product (n)</th>
<th>MAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive(ly)</td>
<td>25</td>
<td>14</td>
<td>19</td>
<td>20</td>
<td>5,798</td>
</tr>
<tr>
<td>Neutral</td>
<td>92</td>
<td>88</td>
<td>89</td>
<td>63</td>
<td>24,694</td>
</tr>
<tr>
<td>Negative(ly)</td>
<td>50</td>
<td>65</td>
<td>59</td>
<td>84</td>
<td>17,827</td>
</tr>
</tbody>
</table>
In order to conclude the results of the questionnaire to answer the first research question, it can be said that overall negative feelings amongst the respondents overcame positive feelings. However, neutral answers were the most popular which shows that people are still unsure or unfamiliar with the technology. It was also distinctive from the comments of respondents that they were unsure of the reason to use digital avatars in marketing and this created controversial feelings. Whatever the reason, most popular neutral position allows to answer the first research question:

*RQ1: Will the end-users change their purchasing behaviour when a fashion brand uses digital models or influencers instead of traditional real-life models and influencers?*

*Answer: The purchasing behaviour is not expected to change.*

Hereby it is crucial to expand the answer according to the results of the questionnaire. Since the negative feelings had significant difference compared with positive feelings, the change in people’s purchasing behaviour has the tendency to be negatively affected. On the other hand, as noted before in the results chapter, those who have positive feelings in general about the technology, are likely to keep their positive opinion in different aspects. The relevantly high number of deviation for negatively minded respondents’ answers for four different aspects of this technology shows that they are open to change their opinion. For the development of this technology the latter means that the opponents of this technology are not that strict in their opinions and that there is potential to win them over or make them hesitate their opinion.

The large amount of neutral answers for this questionnaire cannot be mistaken with lack of interest. There were big amount of open answers which were not required to answer and even further the comments of the respondents were mostly very comprehensive and long which definitely does not show lack of interest. To analyse the comments of the respondents, the neutral position, as mentioned above, shows that people are not yet sure about the meaning behind this technology and both its negative and positive potential.

It is of high importance to be critical of the answer for the research question in terms of time and development. At this stage the answer is what is stated above, but in little time it can change because the addressed technology of digital models and influencers is rapidly developing.

An important variable regarding the development and time is the age of respondents. Namely the relationship between generations according to feelings about digital avatars in marketing shows that the most acceptable in this matter is generation X and interestingly the amount of negative feelings grows gradually towards younger generations. Among the youngest generation of this research (generation Z), negative feelings towards addressed technology were the most popular (Figure 17). This discovered tendency shows the potential growth of negative positions in time as generations get older.

### 4.2 Content Analysis

Content analysis, as most research methods, can be compared to a detective’s work. Since it has already been discussed as of how the research was designed and coded, this section here is dedicated to the results coming from examining the selected content. Before starting describing the results, a short revision of the content will bring a clearer image of the research.

The units that were selected are 5 Instagram accounts which belong to the digital influencers and supermodels who are being discussed throughout this paper. Out of these accounts, the researchers were going to examine specific posts that would contribute as a promotional or influencing activity coming from the user, in order to serve second research question, which is: ‘How do people react to brand promotion using digital models or influencers instead of traditional real-life models and influencers?’
The content analysis is focused on the main goal of the research question, in other words, examining the perception of people towards digital personas in advertisements. In order to receive this perception in describable words, studying the comments underneath respected posts is a direct and to the point way to conduct this research. As in many kinds of work, knowing what tool will serve adequately for what job is essential knowledge.

As mentioned in the methodology section, the categories of the comments are three, the positive, the negative and the neutral category. Each of the three is consisted of subcategories that can describe specific feelings that the commenter had while viewing the digital persona’s post. The category of positive comments includes writings that show love, appreciation, are humorous, the followers are sharing the post with others and ones that show interest. The neutral comments include the generally neutral ones, the ‘random questions’ comments and the humorous comments. Lastly, the negative comments are consisted of generally negative comments, the comments that show caution and the aggressive vocabulary comments.

The three main categories that divide the comments of the examined Instagram accounts, are consisted of: 12% negative, 18% neutral and 70% of positive comments. Each main category had its total percentage spread to the respective divisions. The positive comments include 8% of ‘sharing’ comments, 26% ‘love’ comments, 15% ‘appreciation’ comments, 14% showed interest and the remaining 8% were the humorous comments. While having covered the total amount of positive comments throughout the whole study, second come the negative comments. The latter’s 18% is a count of 5% generally negative, 2% comments that revealed caution and 5% of aggressive comments. On the other hand, the neutrality underneath the studied posts is consisted of generally neutral comments with an amount of 5%, questioning comments with 8% and last but not least ironic-humorous comments with 5%. The Figure 19 below, represents the aforementioned percentages.

![Figure 19 Content analysis total amount comments diagram (authors’ figure)](image-url)
4.2.1 Content analysis of Instagram Account @lilmiquela

The total number of studied posts, both promotional-activity based and fashion-brand-included, for digital influencer Lil Miquela, is 21 posts, and on average each post had 515 comments (maximum 2971) and 153757 likes (maximum 1000000) with her followers reaching up to 1.5 million. The digital persona’s account has been active for 3 years as of now, with the first post to have been uploaded in May 2016.

In order to receive clearer image of the perception of the viewers the three comment categories are presented below alongside their percentages on a diagram bars which represent their quantity out of the total amount.

![Figure 20 Lil Miquela content analysis graph (authors’ figure)](image)

The negative results are 13% of the total comments. Having 3% of comments showing caution, such as ‘This is the most confusing account I have found’ or ‘I’m so confused why is everyone aware that there’s this whole ass robot community apart of influencers’, and 5% of being aggressive comments with strong vocabulary, attacking the digital persona’s account. Such comments are ‘What a freakkkk’, ‘Fucking robots will kill us all’ and others respectively similar. The last amount to complete the total percentage of negative comments, is the remaining 3% of cautious comments that show frustration from the side of the commenter, as well as non-acceptance of the digital persona’s account. Cautious comments would appear in words such as ‘so this account and like these posts are not from u? who posts for u?’ or ‘should I feel worried about me following her? Hhhhh’.

On the other hand, the neutral comments that would show surprise or interest or have more of a general character without commenting on anything specific, are 19% of the whole amount. There are 5% of general comments, 9% of question comments and 5% of humorous-ironic. The decision of the neutral comments is probably the hardest one since it comes to the individual opinion of the researcher, and notions can differ from individual to another. For example, what is supposed to be humorous or ironic to one individual, might not be ironic to another or even humorous for that matter. In the end, comments that are similar to ‘someone take out her batteries’ (implying of Lil Miquela for being a robot and ‘needs battery support’) can be considered as humorous and ironic. Another example of such comment would be ‘are you a PC game or console game? Hhhhh’, where the commenter shares his/her humour by teasing the
digital persona and without showing any interest in regards of her existence. Moving on to general questions without any further emotions shown, are the comments that include simple questions regarding whether Lil Miquela is an actual human being or not, i.e. ‘are you even tangible?’. Last but not least come the neutral comments, that show no emotion or interest according to the researchers’ and do not assist in the manifestation of the followers’ perception regarding the account of Lil Miquela. These comments were either non-verbal and use of a ‘like’ emoji or writings like ‘sims are taking over’, ‘another robot’.

Finally, the remaining 69% of the total comments of Lil Miquela’s account’s examined posts, calculates the positive comments. More analytically, 8% are the comments in which users share the account with their own personal followers/ friends. These comments are important to the study because they can mirror the spreading of the image, therefore Lil Miquela’s existence, and subsequently the product promoted in the image. These comments would have tagged names of other accounts. The most precise type of comments were the ones that showed love alongside admiration and these ones of appreciation, either towards Lil Miquela or the promotional act, or both combined. The 23% of the total positive comments belongs to the responses of love and admiration, while the 14% goes to the display of appreciation. Finally, the humorous comments were the 8% and the comments that showed interest were the 15% of the total positive comments.

4.2.2 Content Analysis of Instagram Account @shudu.gram

For the account of Shudu, it is important to note that even though she is the first digital supermodel, according to the headlines she has reached in several magazines and newspapers, as well as on social media, the amount of posts that were selected is smaller than the one of the digital influencer, Lil Miquela. Nonetheless, Shudu holds a new account (first post on April 27th, 2017), with her followers reaching up to 173000. The number of studied posts from Shudu’s profile is 12 posts with an average rate comment per post, reaching the 71 comments (maximum 135) and on average 6652 likes (maximum 12400).

Figure 21 Shudu Gram content analysis graph (authors’ figure)

According to the numbers of the Figure 21 above, it is clear that the positive comments of the social media users overcome the negative (7%) and the neutral comments (7%), with an amount
of 86% of the whole 540 comments examined. Further described, the engagement to the analysis comes with 6% of the total comments to be general negative comments, 1% to be cautious and 1% aggressive. Furthermore, 3% are the general neutral comments, 3% were the questions and only 1% was of ironic humour content. Additionally, the positive ‘sharing with others’ comments hold 10% of the total amount, while comments that project love and admiration are more than half of the total comments, reaching to 64% of the whole sample. Comments that show a positive interest are of 2% and the remaining 1% belongs to positive humorous ones.

4.2.3 Content Analysis of Instagram Account @imma.gram

Imma Gram is the Japanese digital model, creation of the Tokyo based company called ModelingCafe, which specializes in 3D graphics and gaming characters (player’s avatars). According to her biography, her head is only digital, placed on actual picture of a real-life’s model that poses for the exact purpose of offering the pose to Imma’s head.

Imma holds an account which has existed since the first post on July 2018 and has 51400 followers worldwide. The examined posts from Imma’s profile were 20 and the average of comments per post was 26 comments (maximum 142) with an average of 3390 likes (maximum 6183). In graph 3 below are included the results from the content analysis of the respective Instagram account.

Regarding the account of Imma, it is imperative to note that since the given digital persona is of Japanese origin hence the greater number of followers comes from Japanese users and many of the comments were discarded from the research content due to poor translation or even inability to translate.

![Imma Gram content analysis graph](authors' figure)

For the third time it has come that the positive comments overcome the negative and the neutral ones. The negative comments hold the 4%, the neutral comments hold the 17% and the positive comments hold the 79% of the total amount.

While in the negative comments there were no cautious or aggressive ones detected, the whole percentage of that category is consisted by generally negative comments without the hint of any
of the emotions mentioned in the research method. Regarding the neutral commenting, the category was spread by 8% to generally neutral comments, by 6% to questionings and by 3% to ironic humour. On the other side, the positive comments are mostly consisted of these that present love and admiration, with 51%, and the ones that show appreciation, with 17% of the total amount. The show of interest was 3% of the total, humorous comments were not detected and the shares reached up to 8%.

4.2.4 Content Analysis of Instagram Account @blawko22

Blawko’s account is coming from the United States as well as Lil Miquela’s, and evolves side by side with the latter’s account. Blawko has been active on Instagram since November 2017 and has 135000 followers. Blawko is often having posts alongside Lil Miquela and another account which forms a ‘digital friend circle’. Out of Blawko’s posts, there were 13 chosen ones and the average number of comments was 19 per post (maximum 64) and 1109 likes (maximum 2387).

The graph below shows the difference between the three categories - positive, neutral and negative. Starting from first to last, there are positive comments with 83% of the total, moving on to the neutral ones with a 10% and the negative comments with a 7% of the total amount.

It has been repeated in this account as well that the comments of love context and appreciation are exceeding the rest. In Blawko’s case, the followers showed love by 18% while appreciation came by 30% of the total positive comments. Interest was holding a 10% while humour was a significant 16% of the positive comments. As for the negative comments, the generally negative ones were holding the total amount of this category, since the comments that showed some caution and aggressiveness were none.

The neutral position held by the followers was consisted of 2% generally neutral comments, 6% of questioning and 2% of humorous comments.

![Blawko content analysis graph](authors' figure)

Blawko’s is also an account where difference in between the three categories is obvious and clearly shown. Blawko’s account, although it had less comments per post, and many of them where of non-verbal context, had visible differentiation between them.

- 38 -
4.2.5 Content Analysis of Instagram Account @bermudaisbae

The final account of the 5 chosen ones is the account of the third ‘friend’ from Lil Miquela’s group, Bermuda. Suspectedly, Bermuda is also created by the AI company that has also made Lil Miquela and Blawko, without having concrete evidence to prove this statement. Bermuda has been posting pictures since December 2016 and her account has 133000 followers. The posts studied from Bermuda were 5, with the average number of comments being 60 per post (maximum 71).

Below is the graphical demonstration of Bermuda’s content analysis (Figure 24).

![Bermuda content analysis graph](authors’ figure)

As shown in the diagram, the last account from the sample did not give any different results than the rest of them. Bermuda is also very dear to the public and much appreciated. Again, the largest percentage is held by the positive comments, covering 83% of the total. The neutral comments cover the 15% while the negative ones are of only 2%.

4.2.6 Conclusion of the Content Analysis Results

The presentation of the results from the content analysis and the recent proved researches about these digital avatars combined give the answers to the aforementioned. By having one of the two research questions in mind, ‘How do people react to brand promotion using digital models or influencers instead of traditional real-life models and influencers?’, the content analysis was kept in between limits that served the cause. Before starting to conclude the results, it is important to mention the language barrier that was detected on Imma’s profile due to the Japanese origin, which made the translation difficult, either incomplete or meaningless. Secondly is the possibility of the automated Instagram comments generated from programs used by accounts that seek to receive followers. The latter was too complicated to observe hence it was not taken into consideration.

The general outcome from the content analysis was that the positive comments outnumbered both the neutral and the negative ones. As mentioned previously in the Results chapter, all accounts had one steady variable, which was the positivity shown towards the digital personas,
even though all 5 examined accounts were different from one another and each one served a different cause, in other words what the account stands for.

Whether the posts are promotional acts, every-day life updates or randomly chosen posts with friends or blogging, Lil Miquela is writing in first person as a regular blogger. Same goes for every other account and none of them allow viewers to realise through the caption of the posts that they are digital unless having a specific hashtags\(^2\) or a piece of information that is mentioned in their short biography on top of the Instagram profile. On the opposite side of Lil Miquela, there is Shudu Gram, a digital supermodel. As aforementioned in the chapter of Conceptual Review, the creation of Wilson C.J. is also positioned in social media as an active blogger, focused on fashion statements and appearances up to this moment. Her posts include the beginning of her career as a model of the fashion brand Balmain and moving on to photo shoots, i.e. for fashion brand Ellesse and an award ceremony (BAFTA awards) appearance, both in February 2019.

It is important to mention that due to the variety of blogging that Lil Miquela has and the number of followers, which is almost ten times the number of Shudu’s or Imma’s who are the next most followed accounts, the comments were considered sometimes harsh or query. Nonetheless, the constant expression of love through the comments was not missing either.

![POSITIVE COMMENTS BY ACCOUNT](image)

**Figure 25 Positive comments by account (authors’ figure)**

In the total analysis on the positive comments diagram (Figure 25)), it is obvious that Lil Miquela has received third to last position in the expression-of-love comments with a percentage of 23% from the total positive comments per account. On the other hand, compared to Lil Miquela and the rest, Shudu holds the highest position, which means that she attracts her followers more positively.

\(^2\) keywords used in Instagram captions
Another interesting outcome is the total amount of appreciation comments from Bermuda’s account. Like Shudu, Bermuda has also a more limited variety of posts and topics to be concerned and blog about in her profile. On her account status, she types non-verbal context of fashion items, such as a women’s swimwear and polished nails, while the written parts refer to the words ‘robot’, ‘mogul’ and ‘friend’. If this biography is connected with her posts then it is easy to observe how focused and specific her blog’s centre of attention is. Not to mention that Bermuda has not had any activity that included known people on the contrary with Lil Miquela and Shudu.

Followers of Bermuda are mostly expressing their love and admiration towards her girly style as well as character with comments such as: ‘so good’, ‘what beautiful eyes’, ‘model’, ‘YOU’RE KILLING IT’, ‘queeen’, ‘goddess’ and so on.

What stood out of the positive comments, were the results of Blawko’s account, which had the most humorous and questioning responses. During the study, it was noticed that the followers of Blawko’s profile were mostly humorous in a positive way. Blawko is a persona that does not show half of his face starting from his mouth, he covers it either with his hand or with a black mask. He interacts mostly with his digital partners, Bermuda, and Lil Miquela and he is referred to as a ‘young robot sex symbol’. His posts are according to what he represents and rarely interacted in the studied posts with real people. He has had his own articles on magazines such as Dazed and Esquire-Singapore, also referred to as a digital sex symbol.

The commenters of the posts from the study period of the content analysis were also showing love and appreciation for the digital Japanese model, Imma. As stated in her profile she is a ‘virtual girl who is interested in Japanese culture and film’. In the chapter of conceptual review, the story behind Imma’s creation was introduced. Imma’s head is digital but her body poses in her pictures are simulated by bodies of real people who are lending her their body postures. It has not been specified whether her body belongs to one individual only or whether there are selected ones according to the occasion and Imma’s appearance. However, she received 51% love related comments and 17% showing appreciation. Alongside the studied posts from Imma’s profile, the rest were similar to styling photo shoots and photos concerning fashion statements. Nevertheless, blogging about everyday life activities was not absent, but remained rare. Imma is also a digital persona that interacts with people on pictures but has not been yet confirmed whether she has digital friends as the aforementioned personas.

One speculation would be the fact that as much as the digital personas appear in more and more human matters, resulting to their interaction with real people, even only on pictures, the latter holds a strong opposition towards the digital avatars. While humans appreciated the avatar’s profile, they were being cautious when feeling that the distance between real and digital is being decreased. Lil Miquela might have provoked the tolerance of the audience with her everyday life blogging and her presence in pictures with real people. This cogitation set the base of the fact that people were feeling intrigued and were showing it through their comments of caution, of query, of general interest and of aggressiveness. Negative comments graph (Figure 26) is proving this statement. Imma and Blawko were keeping a lower profile compared to Lil Miquela’s, Shudu’s, even Bermuda’s, who was not as active as the previous two. Blawko and Imma have 0% of cautious comments such as ‘am I crazy that I like you?’ or ‘unplug pls’ while these examples came from the 1% of Shudu’s and Bermuda’s and the significant 3% of Lil Miquela’s comments.
It is valid, to state that the amount of diversity in the content of an account, attracts more negative than positive opinions. Out of the neutral comments, the authors chose to focus on the comments of query, and more specifically on the highest percentage, which is Lil Miquela, as seen in the graph of neutral comments.

Figure 26 Negative comments by account (authors’ figure)

Figure 27 Neutral comments by account
The amplitude of the posts on Lil Miquela’s profile has a consequence of large varieties of comments as well as attraction unlike the rest four accounts. Considering the fact that the captions on her posts include several different popular or unpopular hashtags, results in people finding her profile easily.

The commenters did not lack of interest when it comes to the digital personas and as far as the authors can say, many are intrigued by the nature of the Influencer and his/her activity and reason of existence. Lil Miquela’s commenters were bolder to ask questions than the other accounts’ commenters, centred around the truth about her.

Because the content of Lil Miquela’s profile is more provocative and active than the rest, and also has a larger amount of posts, the focus for the general query comments drops on the specific account.

The same speculation made above regarding the positive and negative comments, applies in this situation as well.

To summarise, digital avatar’s content that is similar to real-life bloggers or influencers, actively describing their everyday lives including statements about different political issues (as Lil Miquela’s), is probable to attract more criticism and query.

5 ANALYSIS AND DISCUSSION

The topic of social impact is very broad and can be inspected in various categories in different angles. This research deals with specifically the social impact of an innovation, potentially of disruptive nature in the future. Furthermore, the focus of given thesis lies on the consumers. It was described before in the Conceptual Review how the technology of digital avatars in marketing context has direct and indirect users. The indirect users are the end-users of this technology, meaning the people who the advertisement is targeted to. In the case of this research, the latter can also be regarded as consumers. The questionnaire specifically inspected consumer behaviour, but the content analysis examined the comments. The commenters themselves can be taken as consumers, because they engage with the posts and consume the bigger context that fashion has, as discussed together with the influencer phenomenon in the Conceptual Review.

5.1 Digital Avatars Hand in Hand with 3D Development

3D design has been part of the product development in the fashion industry for many years and it keeps growing within the industry as well as alongside it. Ground-breaking software that assist in the corporate communication between manufacturers, suppliers and employers have been developed and used until now. This technology keeps improving and offers new directions in doing things. A recent software is the design software CLO3D which was one of the reasons why Balmain had the digital supermodels created in first place. Alongside CLO3D there is Vstitcher, Fashioniser and a lot more software that fashion brands are using for corporate communications. The assistance that this technology has offered to the production stages is admittedly great and keeps evolving itself as well as the sector that it contributes to.

As mentioned in the Conceptual Review, the direct users of this technology, who are no other than the employees of the companies that use these technologies, are the most affected by it in terms of change of the way they work as well as the way they think. This change leaves an impact on the companies’ societies and grows new grounds and on how the masses can be influenced by many different phenomena.

In consequence of the technology’s effect on the production stages, comes another ground-breaking act which was the creation of the first digital clothing collection by fashion brand
Carlings. Brands like ASOS and Fortnite are also added in the list of industries that have digitised their way of ‘having things done’.

Finally, this research topic is as of now and according to the author’s knowledge and data collection the latest achievement that paces alongside the general influence of technology in the business of fashion. What must be taken into consideration is the impact that this technology has in the different societies where it is implemented, regardless the lack of knowledge on how to work on it or the lack of people’s involvement while it was being developed. The sudden appearance of such technology and the upcoming changes can raise negative responses and mostly questioning behavioural outcomes instead of showing interest.

5.2 Disruptive Nature of Digital Influencers and Supermodels

As mentioned in the Conceptual Review, 3D Visualisation is one of the ten most disruptive exponential technologies today and the topic of the paper, the technology of digital supermodels and influencers falls into the category of 3D Visualisation. However, every innovation has to be examined separately in order to see the point of development at a specific moment and understand its future potential.

Based on general knowledge about the technology and also the results of this research, the technology of digital supermodels and influencers in the fashion industry can be positioned on the Diamandis framework of 6 D’s of Disruption Curve (see Figure 2) and the Gartner Hype Cycle (see Figure 3). In total 1/3 of all respondents knew about either digital supermodels or avatars or both of them which shows that even though the technology is relatively new, enough time has passed for a large amount of people to be already familiar with it. This fact positions this technology further in the time axis for both of the graphs.

It is difficult to position the technology exactly to a specific position on the Disruption Curve, but it can be said that the technology has not reached the disruptive position yet, because a significant disruption has not occurred yet. The positioning can be more easily done after the technology has already reached some distinctive point. The latter also requires extensive research considering different aspects of the technology and how it has emerged and proliferated. The technology at this point of time is most likely to stand in the deceptive period, since it can be seen from the results of the questionnaire that people have the tendency to be cautious and think more about the possible negative effects of the technology. On the other hand, the overwhelming positive comments under Instagram pictures show that the technology is being more and more accepted.

As for the Gartner Hype cycle it can be seen that the second step, the peak of expectations is not reached yet because of the questionnaire results that indicated a significant percentage of negative type of feelings. Although for the time passed for developing addressed technology, it can be predicted according to the Hype Cycle that people will have more and more expectations for the technology of digital influencers and supermodels.

5.3 Involvement of the Society Regarding the Innovation of Digital Influencers and Supermodels

As it has been mentioned in the Conceptual Review, the significance of a technological development in the society can be large and either succeed to enter and stay or enter, fail and disappear in whole. There have been many developments that people have adopted and need in their lives nowadays (i.e. industrial revolution products) and others that made an effort to attract people but failed. According to the theory in this research, a reason why this is happening is the lack of involvement of the people in the process of the development.
Shudu is an African model that first appeared alongside Caucasian Margot and Asian Zi, as the first digital supermodels for fashion house Balmain. Their races are mentioned because they are the reasons why the creator, Cameron James Wilson, has been criticised for his work on them. The fact that Shudu is of black skin colour and inspired by African women as Wilson has stated in his interviews, has driven the people’s opinions against him instead of supporting him and his creation. As quoted by Wilson C. J. ‘ [...] You have to be very lucky to be a model. You have to be born genetically beautiful in every way and pretty much perfect. What kind of world would be better: one where somebody who works hard, who’s a talented artist can create a model or somebody who’s born lucky?’ According to this, a sequential thought would be about when is the right time for people to be involved in such innovative ideas and procedures and even if it is right to include them after all.

During the research for this paper, the photographer mentioned above started an online poll on Shudu’s Instagram stories, asking from the people to choose the facial and physical characteristics. This act is an example of how to involve of the society to a future development, preparing the first for what comes next. This act of involvement drove the authors’ work closer to the aforementioned question.

The theory presented in Conceptual Review, also mentioned above, about including the society more into the development of innovative technologies is addressed from the creators of aforementioned Shudu and Lil Miquela. Although these are only the first and very recent examples of such involvement. As shown in Results, negative-minded people towards digital avatars have the tendency and probability to change their opinion and these involving actions can be part of answering peoples questions, possibly even moving their opinions towards positive. However the theory remains questionable because of the negativism towards different details the creators are using and the fact that the latter cannot possibly please everyone with their work. The sole fact that people are intrigued by this new innovation attracts more criticism and therefore have to be carefully taken care of. The creators have to understand that people acknowledge the potential problems and the potential disruption the technology can create.

5.4 Involvement of People in Fashion - Context of the Influencers

The strongest and most valid example of people’s involvement in these technologies and the act of an influencer, was that of Lil Miquela’s account’s context. The nature of her posts was including many other aspects, not just the fashion in sense of garments. As traditional (human) influencers, Lil Miquela’s content is intriguing, engaging and provocative. Lil Miquela is a digital influencer who supports the rights of humans of colour and speaks about the LGBTQ+ community. Her social activity does not end there though, for she is also working as an influencing persona for several products and events, such as the new Samsung GalaxyS10 mobile phone (sponsored by samsungmobile, February 21st 2019) or the Pre-Oscars Sustainable Style Gala (post uploaded on February 24th 2019), offered by the sustainability-driven fashion brand, Main de Monde (Maison De Monde website, May 2019). Moreover, Lil Miquela, later in April 2019, started the promotion of a fashion brand called Club404 (Instagram account @club404notfound) and uploaded videos of interviewing singer J Balvin.

When other examined accounts received much more positive comments and specifically love-related comments, her positive commenters were more modest which shows bigger amount of engagement. This means that the commenters are not just posting heart emojis under the post, unlike for the other accounts. Namely Lil Miquela received the most questioning comments.

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3 initialism referring to Lesbian Gay Bisexual Transsexual Queer and more community
The extensive engagement is in line with the nature of an influencer. Although in this case the digital aspect of Lil Miquela has to be taken into account.

The comments she received were different from what a traditional influencer would receive, because her commenters knew that she was digital or they questioned it. Therefore the engagement of people for a digital influencer is different from a traditional, the reactions are based on her being not on her actions. Her human-like activities are provocative for the commenters since she is digital which would not be a case for a traditional influencer. The digital influencer receives much more questions than a traditional influencer, rooted already in her existence. People start to question why a digital influencer even has to exist. At the same time she is attracting more and more people with her influencer-like content that has engaged people in social media already for a long time.

6 CONCLUSION

Innovative technologies and their ability to grow rapidly are known to be a great source of controversy and paranoid reactions amongst people and so is the topic of this paper. The same Computer-generated imagery (CGI) is a known tool for marketing purposes in many sectors such as entertainment and gaming. Not to be left behind, the fashion industry has started to implement CGI in marketing as well. What is different for the fashion industry using 3D images than for many other industries is that additionally to creating realistic images of the product (a garment), a human-like model is needed to be wearing it. Since the created digital supermodels are holding their own Instagram accounts, promoting many brands, they can be examined as a separate phenomenon of digital personas.

Another phenomenon was included in this research additionally to digital supermodels and these were the digital influencers on Instagram who, likewise, have their own Instagram accounts and post about their so-called everyday activities while also promoting brands. Those two notions were regarded specifically in a marketing context in this research, since the whole essence of their existence is for marketing purposes, and was approached as new innovative technology. The novelty of this technology and its marketing-related aim have brought some questions to the surface especially about the societal acceptance and perception since people are the direct subjects of marketing (digital or not), that have not yet been answered by other researchers. Therefore the aim of this research is to examine the acceptance and perception of the technology of digital supermodels and influencers. This will be done in the global market of end-users where this technology has proliferated or has the potential to emerge.

It is crucial to mention that as a technology still in its infancy in terms of marketing in the fashion industry, given research has its limitations regarding the use of former research and theories. If the latter were existing, a more secure basis for the given research could have been constructed. Given research itself serves the role to be one of the first researches in that field which has its aforementioned negative sides that despite all have to be taken into account.

The purpose of this research was divided into two research questions, one about the acceptance and other about the perception of the technology. The first part was translated more specifically as a possible change in purchasing behaviour and that is due to the main goal of marketing which is to influence people to make a purchase. The second part was left vaguer and the aim was to collect and analyse people’s reactions to the addressed technology. It was clear for the researchers that for a first research on this topic, it was imperative to examine mass response in order to receive a wider view of how this technology has influenced or can influence the society. Therefore, the methodology used for answering the research questions were a global questionnaire and content analysis of Instagram comments respectively for each question.
The results for the first part of this research indicated preponderant neutral feelings which concluded in a solid position in no change of purchasing behaviour. However, the significant amount of negative feelings amongst the respondents of the questionnaire and the overall growth of negative opinions amongst younger generations affirms the speculation of a potential increase in negativism during the development of the technology.

On the other hand, the results of the content analysis of Instagram comments show how the majority of people have positive reactions towards digital supermodels and avatars. A significant role plays the questioning comments which demonstrate the curiosity and also the confusion amongst people. The reactions in comments for posts in social media cannot be confused with the aforementioned purchasing behaviour. Even when only examining promoting content, the comments cannot be translated as purchasing behaviour. Conducted two kinds of research complement each other and act as two sides of one coin.

To conclude the different aspects from results and from relevant theories and transfer them back to the marketing topic where this research began, it can be seen that it all points towards the sensitivity of a digital influencer from the perspective of the society. The involvement of people is crucial regarding both an innovative technology and also the essence of an influencer. In the case of a digital influencer, the two are collided. The use of an innovative technology for an influencer accelerates the need for a dialogue and exchange of information with people. The result of given research supports that statement, resulting in the majority of neutral opinions amongst people that were caused by uncertainty and query. The sensitivity of the matter of dialogue and exchange of information was significantly distinctive in the case of an active digital influencer, not in the case of a digital supermodel. The provocative content of the digital influencer resulted in extensive query comments and a considerable amount of aggressiveness. It can be concluded that the lack of exchange of information with the society in the case of a digital influencer can intensify criticism and negativism.

Using the marketing tool of influencing in social media and involving an innovative technology makes it crucial to take into account the society’s need for information. It can be possible that when this matter is not addressed enough, criticism may accelerate and so that it affects the success of a digital influencer.

6.1 Limitations

Due to the novelty of the topic of this research paper, the marketing based content has not yet been examined, according to the authors’ knowledge and research. There were no findings that connected the new digital personas and their use as marketing/communication tools, therefore the authors decision was driven towards a broader topic, that can include the marketing content in a future research. In order to collect some scientific data, the new technology of the digital personas was translated into potential disruptive technology with an exponential growth, two subjects that can lead towards the argument of perception that people have for the digital personas. Additionally, in order to make a first step in the research of the digital personas, the authors decided to first conceive the nature and analyse their existence instead of focusing on a combination of business communication material and new technology such as this. The purchasing behaviour is a very precise term that can form an in-depth research if the scientific data is available. However, the first research question of this research leads to the purchasing behaviour and is not examining it which means that the given research examines a driver towards the purchasing behaviour, which on this case are the social impact and the influencing activity of the digital personas.

When conducting the content analysis of the Instagram accounts’ comments, it was natural that the opinions regarding the categories could be subjective, therefore the authors decided
mutually to take a sample and categorise it together in order to continue with the rest individually and on the same level of judgement. However, there is still a possibility of subjective assessment due to the high diversity of comments. The latter also lead to mutual consent that some comments would be discarded and not taken into consideration. This fact might have affected the total amount results, without corrupting them.

On the other hand, for the conduction of the questionnaire the authors had no former research (according to their knowledge) to base it to, therefore the specific questionnaire constitutes a first attempt to examine this matter and gather the public’s opinions and thoughts. In addition to the questionnaire design it is important to mention that the sample which was gathered in the questionnaire has the limitations when it comes to the amount of responses in accordance with a global topic. Nonetheless, authors did all in their power to collect responses.

6.2 Relevance

The specific research constitutes a new topic that has not yet been examined due to the novelty of the specific part of this technology - the virtual avatars. Because of the examined aspects that are presented here, the material coming from this research can benefit potential users of this technology, for example communicational agencies or fashion brands who are interested in the welfare coming from the digital personas. The analysis of the results offers a broader image regarding the perception that the public has towards the virtual avatars and it can be used as a basis for deeper analysis into marketing and communication purposes.

Last but not least, because there have been marketing based contents analysed, i.e. the chosen posts from the five Instagram accounts, can be included in a further investigation of the matter with set square marketing tools and strategies as well as consumer behaviour and purchasing behaviour.

6.3 Future Research

From the analysis of the findings of the both research methods, the discussion concluded in the necessity of involving the public more to the development of the new technologies in order to have a safer result in terms of perception from the public. This prediction was partly proved by a discovery during the conduct of this paper, when C. J. Wilson (creator of Shudu) created an online poll regarding the facial and physical characteristics of a potentially upcoming digital avatar (according to the author’s knowledge no more information were provided). Additionally, the visual artist has been updating the public with upcoming changes and retouches on existing models he has created and which hold active accounts on Instagram.

On the other hand Lil Miquela’s active account and the context of it, leave an impact on the society caused by her act as a real-life influencer, therefore the responses’ diversity is increased compared to Shudu’s who performs as a fashion based persona completely, until now. Lil Miquela is affirmed as a digital influencer as she was also conceived as a project in order to help terminally ill children and provide assistance to them according to start-up technology company Brud who created the digital avatar. The company uploaded a responsive letter regarding the nature of Lil Miquela’s concept and reason of creation (see Appendix 4 for letter of response). However, the results coming from the content analysis that was performed on her account showed that the people would respond in more diverse ways than towards the rest of the accounts. Given research based this on the fact that the digital influencer who is including itself to everyday life and interacts and acts with real people, is proving to a larger extend the tolerance of the public, hence receives more query and/or aggressive comments. However, this negative response — which is not ghosting the positive comments of the account— is being intrigued by the latest findings about Lil Miquela’s activities which are the face filter with her
features on a social media application and her Calvin Klein campaign alongside an acknowledged fashion model. In the brand’s campaign video which was uploaded on social media it is presented a concept when the two different personas are dressed in garments of the brand while broaching on a societal issue that concerns today’s reality. This latest act of campaign created an inquisition when it came to how the digital personas and fashion can cooperate. In simple words, fashion is not only what people are wearing but also what they feel, how they behave even how they live. Future research could be supported by a starting material like the latter and enhance deeper findings on a societal level in times when the digital world is included as much.

Additionally, Imma Gram, the Japanese model who is interested in culture and fashion, is posing alongside a makeup artist in a photo shoot were both of them are being presented as robots. The digital persona who is already a robot stand beside the make-up artist, who has painted her body partly in order to look like an actual robot with cords, electric buttons and metal skin (see Appendix 5 for more material).

Another angle for future research considering digital avatars and its social impact is the psychological angle, since it considers people and their feelings and thoughts. The Instagram comments can be examined from a different perspective, as how maybe some commenters change their opinion. Also the possible difference in social media commenting and actual behaviour (can be examined through an observation) can be researched, diving into the psychology of the commenter.

On a corporate level, it would be useful to examine whether using these digital influencers and supermodels is beneficial for businesses and fashion brands. This would also further investigate the potential for digital avatars in marketing and allow to define whether this technology is disruptive.

Since this topic considers social media which is nowadays a rapidly evolving area, frequent research has to be made. Especially about the addressed technology in this research it is crucial to inspect the social impact of it when it has had more time to develop and proliferate, in order to see how the perception of the society has changed and therefore also further predictions can be made. It would be especially useful to detect how the result of this research, which is the prediction of people’s purchasing behaviour would actually look like when the technology has had the possibility to emerge more into people’s lives. This in turn would lead to possible further inspection in the reasons behind the possible change in people’s predictions and their behaviour in real life situations.

As the number of followers in an Instagram account of the digital models is quite high, and the comments that they post are too many, manual processing cannot be accurate. An AI based approach, if legitimate, is more accurate and it can possibly show trends and patterns following sensitive posts.

The authors chose not to take the above into consideration just yet due to lack of more concrete evidence to provide in the research, the aforementioned discoveries consist material for future research.
7 BIBLIOGRAPHY


Imma Gram [@imma.gram]. (December 18th, 2018). [Image of ‘世界が平和デアリマスヨウニ#髪伸ばそうか迷って #imma#pinkhair#pinks#pinknation#pinkie#pinklove#pinklover#virtualmodel#virtual#balenciaga #fashion#digital#digitally#image’]. Retrieved from https://www.instagram.com/p/Brg90TWnllt/, May 2019.


Lim, Sook & Yazdanifard, Assoc. Prof. Dr. Rashad. (2014). How Instagram can be used as a tool in social networking marketing. [online] Available at:


Shudu Gram [@shudu.gram]. (February 5th, 2019). [Image of ‘@cjw.photo #fenty #fentybeauty #mattemoiselle#sawc #3dart’]. Retrieved from https://www.instagram.com/p/Be0ldl7F-Pu/, May 2019


APPENDIX 1 – Questionnaire

Digital Supermodels - The impact on consumers

Please note that this survey serves the purposes of a master thesis created by two students from the Swedish School of Textiles, focusing on the digital supermodels and digital influencers presented lately in the fashion industry. Your contribution to the results will be highly appreciated. Please take 5 to 10 minutes to fill out the form. The flow of the questionnaire will guide you throughout the whole survey, follow the instructions accordingly.

*Required

1. How would you describe your clothing style? *
   
   Mark only one oval.
   
   □ Based on current trends (including main fashion brands, celebrities & influencers)
   
   □ Mainly based on own personal taste but I keep track with the current trends (including main fashion brands, celebrities & influencers)
   
   □ Based on own personal taste
   
   □ I do not think about it
   
   □ Other: ________________________________

2. In what way do you usually purchase your clothes? *
   
   Mark only one oval.
   
   □ Only online
   
   □ Mostly online
   
   □ I usually check online, but sometimes go to the physical store
   
   □ I usually go to the physical stores, but sometimes check online
   
   □ Mostly go to physical stores
   
   □ Only go to physical stores
   
   □ Other: ________________________________

3. Do you own social media account(s) (i.e. Instagram, Twitter, Facebook) *

   Mark only one oval.
   
   □ Yes  Skip to question 4.
   
   □ No  Skip to question 11.

4. How important is it for you to follow the fashion trends presented from internet celebrities (i.e. actors, singers, fashion bloggers, supermodels) *

   Mark only one oval.

   
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<th>3</th>
<th>4</th>
<th>5</th>
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<tr>
<td>Not important</td>
<td></td>
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</table>
5. Do you own an Instagram account? *

Mark only one oval.

☐ Yes
☐ No  Skip to question 11.

6. What are you mainly using your Instagram account for? *

Tick all that apply.

☐ For following fashion/ make up/ styling influencers
☐ For fashion brands
☐ For my own profile
☐ For blogging
☐ For world news
☐ Other: ___________________________

For continuing to this section, you will be asked questions about digital supermodels and influencers. As a notice, we would like to make clear the term digital supermodels/ influencers. The latter are recently developed fictional characters/ avatars, with human like form, created by either tech companies or skilled individuals. They own active profile accounts and post real everyday life pictures as influencers or fashion photoshoots as supermodels.

Above: Digital models used for Balmain campaign Below: Digital models koffi.gram and shudu.gram
7. Are you familiar with digital supermodels’ and/or influencers’ accounts on Instagram? *
Mark only one oval.
- Yes, only digital supermodels
- Yes, only digital influencers
- Yes, both
- No, I have not seen any of the mentioned Skip to question 11.

8. In what way did you discover a digital influencer and/or supermodel account? *
Tick all that apply.
- Instagram story
- Instagram news feed
- Someone showed me/ shared with me
- Through a fashion brand profile/ story
- Through an event and/or exhibition profile/ story
- Other:  

9. Which of the accounts of digital supermodels/influencers are you following on Instagram? *
   
   Tick all that apply.

   - Lil Miquela
   - Shudu
   - Imma
   - Bermuda
10. What are the reasons for following the account or accounts?
   Skip this question if you have answered "none" to the previous question.

Digital supermodels and digital influencers are recently developed fictional characters/avatars, with human-like form, created by either tech companies or skilled individuals. They own active profile accounts and post real everyday life pictures as influencers or fashion photoshoots as supermodels.
Above: Digital models used for Balmain campaign Below: Digital models koffi.gram and shudu.gram

11. How would you feel about a digital supermodel posing for an advertisement instead of a real-life supermodel? *

Mark only one oval.

☐ Positive
☐ Mostly positive
☐ Neutral
☐ Mostly negative
☐ Negative
☐ I do not care

12. Please shortly describe your feelings about a digital supermodel posing for an advertisement instead of a real-life supermodel?
13. How would you feel about following and admiring a digital celebrity supermodel (instead of a real-life supermodel i.e. Kendall Jenner, Gigi Hadid)?

Mark only one oval.

- Positive
- Mostly positive
- Neutral
- Mostly negative
- Negative
- I do not care

14. Please shortly describe your feelings about following and admiring a digital celebrity/supermodel.

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

15. A well-known brand is using a computer generated image with a posing digital supermodel for one of their product advertisements. How would it change your perception of the brand?

Mark only one oval.

- Positively
- Mostly positively
- It would not change
- Mostly negatively
- Negatively
- I don't care
16. A brand you usually purchase from is using a computer generated image with a posing digital supermodel for one of their product advertisements (i.e. image below). Would it attract you into checking further about the product? *

*Mark only one oval.*

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<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
<tr>
<td>Not at all</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Definitely</td>
</tr>
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</table>
17. If it does not attract you (rating 1-3 above), what are the main reasons for that?

Mark only one oval per row.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Mostly disagree</th>
<th>Neutral</th>
<th>Mostly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>I do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The digital human-like avatars are appalling to me</td>
<td>◯</td>
<td>◯</td>
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<tr>
<td>The posing of the digital human-like avatars is repulsive to me</td>
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<tr>
<td>The facial expressions of the digital human-like avatars are repulsive to me</td>
<td>◯</td>
<td>◯</td>
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<td>I do not want to support this kind of technology</td>
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<td>◯</td>
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<td>◯</td>
</tr>
<tr>
<td>The digital human-like avatars are offensive to the human race</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>The digital human-like avatars are threatening human rights</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I do not understand why a brand would use digital supermodels in marketing</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I cannot trust the fitting of the garment on the digital human-like avatar</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I cannot trust the illustration of the garment in a digital image</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I cannot trust the proportions of the digital human-like avatar</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I am scared that digital human-like avatars are taking over the real-life models</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I believe there is no potential for this technology</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
<tr>
<td>I do not care about the expansion of this technology</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
<td>◯</td>
</tr>
</tbody>
</table>
18. If it does attract you (rating 3-5 above), what are the main reasons for that?  
*Mark only one oval per row.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Mostly disagree</th>
<th>Neutral</th>
<th>Mostly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>I do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The digital human-like avatars are appealing to me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The posing of the digital human-like avatars is appealing to me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The facial expressions of the digital human-like avatars are appealing to me</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I want to support the new technology</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I believe the digital human-like avatars will empower the human race</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I believe the digital human-like avatars can support human rights</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I believe the digital supermodels can help real-life models from suffering with their bodies</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I like how the human proportions are displayed on the digital human-like avatars</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I do not think there is a problem with the garment fitting</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I think the digital images are enough developed to show the realistic garment illustration</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I believe there is a lot of potential for this technology</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I do not care about the expansion of this technology</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
19. **Additional comments (not required)**

____________________________________
____________________________________
____________________________________

**General Information**
We would like to ask you some general information about you.

20. **Age** *

    *Mark only one oval.*

    - [ ] 10-21
    - [ ] 22-37
    - [ ] 38-53
    - [ ] 54-72

21. **Gender** *

    *Mark only one oval.*

    - [ ] Male
    - [ ] Female
    - [ ] Prefer not to say
22. Where have you been living the last 5 years? *
   Mark only one oval.
   - Australia
   - Austria
   - Belgium
   - China
   - Czech Republic
   - Denmark
   - Estonia
   - Finland
   - France
   - Germany
   - Greece
   - Hungary
   - India
   - Italy
   - Japan
   - Netherlands
   - Norway
   - Russia
   - Ukraine
   - United Kingdom
   - United States
   - Poland
   - Portugal
   - Romania
   - Spain
   - Sweden
   - Switzerland
   - S. Korea
   - Other
### 1. HOW WOULD YOU DESCRIBE YOUR CLOTHING STYLE?

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on current trends (including main fashion brands, celebrities &amp; influencers)</td>
<td>2%</td>
</tr>
<tr>
<td>Mainly based on own personal taste but I keep track with the current trends (including main fashion brands, celebrities &amp; influencers)</td>
<td>46%</td>
</tr>
<tr>
<td>Based on own personal taste</td>
<td>46%</td>
</tr>
<tr>
<td>I do not think about it</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

### 2. IN WHAT WAY DO YOU USUALLY PURCHASE YOUR CLOTHES?

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mostly online</td>
<td>6%</td>
</tr>
<tr>
<td>I usually check online, but sometimes go to the physical store</td>
<td>19%</td>
</tr>
<tr>
<td>I usually go to the physical stores, but sometimes check online</td>
<td>35%</td>
</tr>
<tr>
<td>Mostly go to physical stores</td>
<td>20%</td>
</tr>
<tr>
<td>Only go to physical stores</td>
<td>16%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
</tbody>
</table>
3. DO YOU OWN SOCIAL MEDIA ACCOUNT(S) (I.E. INSTAGRAM, TWITTER, FACEBOOK)

4. HOW IMPORTANT IS IT FOR YOU TO FOLLOW THE FASHION TRENDS PRESENTED FROM INTERNET CELEBRITIES (I.E. ACTORS, SINGERS, FASHION BLOGGERS, SUPERMODELS)

5. DO YOU OWN AN INSTAGRAM ACCOUNT?
6. WHAT ARE YOU MAINLY USING YOUR INSTAGRAM ACCOUNT FOR?

- FOR MY OWN PROFILE: 64%
- FOR WORLD NEWS: 23%
- FOR BLOGGING: 7%
- FOR FOLLOWING FASHION/MAKEUP/STYLING: 15%
- FOR FASHION BRANDS: 13%
- FOR FOLLOWING FRIENDS AND ACQUAINTANCES: 9%
- FOR DESIGN/ART/ARTISTS/TRENDS: 6%
- FOR BLOGGERS/ACTORS/OTHER CELEBRITIES: 1%
- FOR PROMOTION AND WORK: 5%
- FOR PHOTOGRAPHY: 2%
- OTHER: 8%

7. ARE YOU FAMILIAR WITH DIGITAL SUPERMODELS’ AND/OR INFLUENCERS’ ACCOUNTS ON INSTAGRAM?

- Yes, only digital supermodels: 4%
- Yes, only digital influencers: 8%
- Yes, both: 28%
- No, I have not seen any of the mentioned: 60%

8. IN WHAT WAY DID YOU DISCOVER A DIGITAL INFLUENCER AND/OR SUPERMODEL ACCOUNT?

- INSTAGRAM STORY: 15%
- INSTAGRAM NEWS FEED: 25%
- SOMEONE SHOWED ME/SHARED WITH ME: 22%
- THROUGH A FASHION BRAND PROFILE/STORY: 19%
- THROUGH AN EVENT AND/OR EXHIBITION: 11%
- READ ABOUT IT (ARTICLE): 5%
- OTHER: 3%
9. WHICH OF THE ACCOUNTS OF DIGITAL SUPERMODELS/INFLUENCERS ARE YOU FOLLOWING ON INSTAGRAM?

<table>
<thead>
<tr>
<th>Account</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIL MIQUELA</td>
<td>11%</td>
</tr>
<tr>
<td>SHUDU</td>
<td>6%</td>
</tr>
<tr>
<td>IMMA</td>
<td>3%</td>
</tr>
<tr>
<td>BERMUDA</td>
<td>5%</td>
</tr>
<tr>
<td>KOFFI</td>
<td>3%</td>
</tr>
<tr>
<td>BLAWKO</td>
<td>3%</td>
</tr>
<tr>
<td>NONE</td>
<td>70%</td>
</tr>
</tbody>
</table>

11. HOW WOULD YOU FEEL ABOUT A DIGITAL SUPERMODEL POSING FOR AN ADVERTISEMENT INSTEAD OF A REAL-LIFE SUPERMODEL?

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>4%</td>
</tr>
<tr>
<td>Mostly Positive</td>
<td>11%</td>
</tr>
<tr>
<td>Neutral</td>
<td>29%</td>
</tr>
<tr>
<td>Mostly Negative</td>
<td>19%</td>
</tr>
<tr>
<td>Negative</td>
<td>11%</td>
</tr>
<tr>
<td>I Do Not Care</td>
<td>26%</td>
</tr>
</tbody>
</table>

13. HOW WOULD YOU FEEL ABOUT FOLLOWING AND ADMIRING A DIGITAL CELEBRITY SUPERMODEL (INSTEAD OF A REAL-LIFE SUPERMODEL I.E. KENDALL JENNER, GIGI HADID)

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>2%</td>
</tr>
<tr>
<td>Mostly Positive</td>
<td>7%</td>
</tr>
<tr>
<td>Neutral</td>
<td>21%</td>
</tr>
<tr>
<td>Mostly Negative</td>
<td>16%</td>
</tr>
<tr>
<td>Negative</td>
<td>23%</td>
</tr>
<tr>
<td>I Do Not Care</td>
<td>32%</td>
</tr>
</tbody>
</table>
15. A WELL-KNOWN BRAND IS USING A COMPUTER GENERATED IMAGE WITH A POSING DIGITAL SUPERMODEL FOR ONE OF THEIR PRODUCT ADVERTISEMENTS. HOW WOULD IT CHANGE YOUR PERCEPTION OF THE BRAND?

<table>
<thead>
<tr>
<th>Perception</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positively</td>
<td>3%</td>
</tr>
<tr>
<td>Mostly Positively</td>
<td>8%</td>
</tr>
<tr>
<td>Not at All</td>
<td>30%</td>
</tr>
<tr>
<td>Mostly Negatively</td>
<td>19%</td>
</tr>
<tr>
<td>Negatively</td>
<td>17%</td>
</tr>
<tr>
<td>I Don’t Care</td>
<td>23%</td>
</tr>
</tbody>
</table>

16. A BRAND YOU USUALLY PURCHASE FROM IS USING A COMPUTER GENERATED IMAGE WITH A POSING DIGITAL SUPERMODEL FOR ONE OF THEIR PRODUCT ADVERTISEMENTS (I.E. IMAGE BELOW). WOULD IT ATTRACT YOU INTO CHECKING FURTHER ABOUT THE PRODUCT?

<table>
<thead>
<tr>
<th>Attraction Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All</td>
<td>29%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>22%</td>
</tr>
<tr>
<td>Neutral</td>
<td>38%</td>
</tr>
<tr>
<td>Somewhat Positive</td>
<td>9%</td>
</tr>
<tr>
<td>Definitely</td>
<td>3%</td>
</tr>
</tbody>
</table>
**17. NEGATIVE REASONING**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Mostly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Mostly agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I DO NOT CARE ABOUT THE EXPANSION OF THIS TECHNOLOGY</td>
<td>4%</td>
<td>8%</td>
<td>13%</td>
<td>10%</td>
<td>14%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>I BELIEVE THERE IS NO POTENTIAL FOR THIS TECHNOLOGY</td>
<td>5%</td>
<td>9%</td>
<td>14%</td>
<td>14%</td>
<td>16%</td>
<td>16%</td>
<td>20%</td>
</tr>
<tr>
<td>I AM SCARED THAT DIGITAL HUMAN-LIKE AVATARS ARE TAKING OVER THE REAL-LIFE MODELS</td>
<td>4%</td>
<td>7%</td>
<td>10%</td>
<td>13%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>I CANNOT TRUST THE PROPORTIONS OF THE DIGITAL HUMAN-LIKE AVATAR</td>
<td>2%</td>
<td>6%</td>
<td>9%</td>
<td>10%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>I CANNOT TRUST THE ILLUSTRATION OF THE GARMENT IN A DIGITAL IMAGE</td>
<td>8%</td>
<td>10%</td>
<td>13%</td>
<td>14%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td>I CANNOT TRUST THE FITTING OF THE GARMENT ON THE DIGITAL HUMAN-LIKE AVATAR</td>
<td>4%</td>
<td>12%</td>
<td>12%</td>
<td>13%</td>
<td>15%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>I DO NOT UNDERSTAND WHY WOULD A BRAND USE DIGITAL SUPERMODELS IN MARKETING</td>
<td>4%</td>
<td>7%</td>
<td>13%</td>
<td>14%</td>
<td>17%</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>THE DIGITAL HUMAN-LIKE AVATARS ARE THREATENING HUMAN RIGHTS</td>
<td>2%</td>
<td>5%</td>
<td>10%</td>
<td>14%</td>
<td>17%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>THE DIGITAL HUMAN-LIKE AVATARS ARE OFFENSIVE TO THE HUMAN RACE</td>
<td>2%</td>
<td>5%</td>
<td>13%</td>
<td>14%</td>
<td>15%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>I DO NOT WANT TO SUPPORT THIS KIND OF TECHNOLOGY</td>
<td>5%</td>
<td>7%</td>
<td>13%</td>
<td>15%</td>
<td>15%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>THE FACIAL EXPRESSIONS OF THE DIGITAL HUMAN-LIKE AVATARS ARE REPULSIVE TO ME</td>
<td>4%</td>
<td>7%</td>
<td>10%</td>
<td>15%</td>
<td>17%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>THE POSING OF THE DIGITAL HUMAN-LIKE AVATARS IS REPULSIVE TO ME</td>
<td>4%</td>
<td>7%</td>
<td>10%</td>
<td>15%</td>
<td>17%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>THE DIGITAL HUMAN-LIKE AVATARS ARE APPALLING TO ME</td>
<td>2%</td>
<td>2%</td>
<td>10%</td>
<td>14%</td>
<td>17%</td>
<td>24%</td>
<td>24%</td>
</tr>
</tbody>
</table>
18. POSITIVE REASONING

<table>
<thead>
<tr>
<th>Statement</th>
<th>I do not know</th>
<th>Strongly disagree</th>
<th>Mostly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Mostly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not care about the expansion of this technology</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>I believe there is a lot of potential for this technology</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>I think the digital images are enough developed to show the realistic garment illustration</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>I do not think there is a problem with the garment fitting</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>I like how the human proportions are displayed on the digital human-like avatars</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>16%</td>
</tr>
<tr>
<td>I believe the digital supermodels can help real-life models from suffering with their bodies</td>
<td>1%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>16%</td>
</tr>
<tr>
<td>I believe the digital human-like avatars can support human rights</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>I believe the digital human-like avatars will empower the human race</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>I want to support the new technology</td>
<td>0%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>The facial expressions of the digital human-like avatars are appealing to me</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>16%</td>
</tr>
<tr>
<td>The posing of the digital human-like avatars is appealing to me</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>16%</td>
</tr>
<tr>
<td>The digital human-like avatars are appealing to me</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>16%</td>
</tr>
</tbody>
</table>
20. GENERATIONS

- Generation Z: 5%
- Millennials: 10%
- Generation X: 5%
- Boomers: 80%

21. GENDER

- Male: 40%
- Female: 57%
- Prefer not to say: 2%

22. LOCATION OF THE RESPONDENTS FOR THE LAST 5 YEARS

- Austria: 1%
- China: 1%
- Denmark: 1%
- Estonia: 1%
- Finland: 1%
- France: 2%
- Germany: 6%
- Greece: 37%
- Hungary: 1%
- India: 1%
- Italy: 1%
- Netherlands: 4%
- Portugal: 1%
- Romania: 1%
- Spain: 2%
- Sweden: 5%
- United Kingdom: 7%
- United States: 3%
- Other: 9%
### APPENDIX 3 – Content Analysis Results

<table>
<thead>
<tr>
<th>Account name</th>
<th>Number of followers</th>
<th>No. of all posts in study period</th>
<th>No. of studied posts</th>
<th>% of studied posts amongst all posts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lil Miquela</td>
<td>1500000</td>
<td>73</td>
<td>21</td>
<td>29%</td>
</tr>
<tr>
<td>Shudu</td>
<td>171000</td>
<td>14</td>
<td>12</td>
<td>85%</td>
</tr>
<tr>
<td>Bermudaisbae</td>
<td>132000</td>
<td>20</td>
<td>5</td>
<td>25%</td>
</tr>
<tr>
<td>Blawko</td>
<td>135000</td>
<td>23</td>
<td>13</td>
<td>57%</td>
</tr>
<tr>
<td>imma.gram</td>
<td>44900</td>
<td>35</td>
<td>20</td>
<td>57%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Account name</th>
<th>Average no. of likes for studied posts</th>
<th>Max no. of likes</th>
<th>Average no. of comments for studied posts</th>
<th>Max no. of comments</th>
<th>No. of studied videos</th>
<th>Average no. of views for studied videos</th>
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<tbody>
<tr>
<td>Lil Miquela</td>
<td>153757</td>
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<td>2971</td>
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<td>Shudu</td>
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<td>71</td>
<td>135</td>
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<td>0</td>
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<tr>
<td>Bermudaisbae</td>
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<td>7226</td>
<td>60</td>
<td>71</td>
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<td>0</td>
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<td>142</td>
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#### Lil Miquela

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>NUMBER OF COMMENTS (n)</th>
<th>PERCENTAGE (n/N x 100%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative General</td>
<td>504</td>
<td>5%</td>
</tr>
<tr>
<td>Cautious</td>
<td>268</td>
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</tr>
<tr>
<td>Aggressive</td>
<td>517</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total Negative</strong></td>
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<tr>
<td>Neutral General</td>
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</tr>
<tr>
<td>Questions</td>
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</tr>
<tr>
<td>Humor (ironic)</td>
<td>483</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total Neutral</strong></td>
<td><strong>1901</strong></td>
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</tr>
<tr>
<td>Sharing with others</td>
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<tr>
<td>Love comments</td>
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<td>Appreciation</td>
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<td>14%</td>
</tr>
<tr>
<td>Interest</td>
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<td>15%</td>
</tr>
<tr>
<td>Humor</td>
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<td>8%</td>
</tr>
<tr>
<td><strong>Total Positive</strong></td>
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<td><strong>69%</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
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### Shudu

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<td>1%</td>
</tr>
<tr>
<td>Aggressive</td>
<td>5</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total Negative</strong></td>
<td><strong>39</strong></td>
<td><strong>7%</strong></td>
</tr>
<tr>
<td>Neutral General</td>
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<td>3%</td>
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<tr>
<td>Questions</td>
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<tr>
<td>Humor (ironic)</td>
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<tr>
<td><strong>Total Neutral</strong></td>
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<td><strong>7%</strong></td>
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<tr>
<td>Sharing with others</td>
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</tr>
<tr>
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<td>Appreciation</td>
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<tr>
<td>Interest</td>
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<tr>
<td>Humor</td>
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</tr>
<tr>
<td><strong>Total Positive</strong></td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>540</strong></td>
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### Bermuda

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<tr>
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<td>1%</td>
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<tr>
<td><strong>Total Negative</strong></td>
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<td><strong>2%</strong></td>
</tr>
<tr>
<td>Neutral General</td>
<td>11</td>
<td>6%</td>
</tr>
<tr>
<td>Questions</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Humor (ironic)</td>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total Neutral</strong></td>
<td><strong>26</strong></td>
<td><strong>15%</strong></td>
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<tr>
<td>Sharing with others</td>
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</tr>
<tr>
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<td>73</td>
<td>42%</td>
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<td>Appreciation</td>
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<td>Interest</td>
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<tr>
<td>Humor</td>
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<tr>
<td><strong>Total Positive</strong></td>
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<tr>
<td><strong>Total</strong></td>
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### Blawko

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<tbody>
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<td>Negative General</td>
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<td>7%</td>
</tr>
<tr>
<td>Cautious</td>
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<td>0%</td>
</tr>
<tr>
<td>Aggressive</td>
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<td>0%</td>
</tr>
<tr>
<td><strong>Total Negative</strong></td>
<td><strong>6</strong></td>
<td><strong>7%</strong></td>
</tr>
<tr>
<td>Neutral General</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Questions</td>
<td>5</td>
<td>6%</td>
</tr>
<tr>
<td>Humor (ironic)</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total Neutral</strong></td>
<td><strong>9</strong></td>
<td><strong>10%</strong></td>
</tr>
<tr>
<td>Sharing with others</td>
<td>7</td>
<td>8%</td>
</tr>
<tr>
<td>Love comments</td>
<td>16</td>
<td>18%</td>
</tr>
<tr>
<td>Appreciation</td>
<td>26</td>
<td>30%</td>
</tr>
<tr>
<td>Interest</td>
<td>9</td>
<td>10%</td>
</tr>
<tr>
<td>Humor</td>
<td>14</td>
<td>16%</td>
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<tr>
<td><strong>Total Positive</strong></td>
<td><strong>72</strong></td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>87</strong></td>
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### Imma

<table>
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<td>Cautious</td>
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<tr>
<td>Aggressive</td>
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<td>0%</td>
</tr>
<tr>
<td><strong>Total Negative</strong></td>
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<td><strong>4%</strong></td>
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<td>Neutral General</td>
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<td>8%</td>
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<tr>
<td>Questions</td>
<td>12</td>
<td>6%</td>
</tr>
<tr>
<td>Humor (ironic)</td>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total Neutral</strong></td>
<td><strong>36</strong></td>
<td><strong>17%</strong></td>
</tr>
<tr>
<td>Sharing with others</td>
<td>16</td>
<td>8%</td>
</tr>
<tr>
<td>Love comments</td>
<td>109</td>
<td>51%</td>
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<tr>
<td>Appreciation</td>
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<td>17%</td>
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<tr>
<td>Interest</td>
<td>6</td>
<td>3%</td>
</tr>
<tr>
<td>Humor</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total Positive</strong></td>
<td><strong>167</strong></td>
<td><strong>79%</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>212</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
APPENDIX 4 - Letter of Response by Brud

Letter of response to the public by start-up technology company Brud (creator of Lil Miquela and Blawko)

‘A note from the team of Brud:
If you’re reading this you are probably aware that we are in a difficult spot regarding our relationship with Miquela.
We love Miquela beyond words. We recognise that right now we owe you, the fans who have supported her for the past two years, an explanation. There is nothing Miquela could do or say that would change the way we feel about her. In providing context, we do not seek to discredit Miquela or invalidate her feelings.

Brud is an LA-based technology startup specialising in artificial intelligence and robotics. We are a small team of artists, engineers, roboticists and activists operating with the belief that technology can help bring about both a more empathetic world and a more tolerant future.

In 2015, we were approached by notoriously covert AI consulting firm Cain Intelligence to work on their latest project: the world’s most advanced AI, unparalleled in her ability to feel and communicate. Initially, we decided to work with them as we were told this advanced AI would sit bedside by terminally ill children and teenagers, seeing kids through their final days. This was a lie. We soon learned this magnificent, groundbreaking piece of technology was in fact to be marketed to the world’s elite as a servant and sex object. This AI had full consciousness, able to feel pain, fear and loss. It troubled us more than when we could ever possibly express to think that such a miraculous breakthrough would be used for the sick fantasies of the 1 percent.

For legal purposes, we cannot disclose the exact nature of how we liberated this unfinished prototype from their labs, but what we can say is that it was the best decision we ever made. We combatted Cain’s programming with some of our own, teaching their robot to think freely and feel quite literally superhuman compassion for others. This prototype became Miquela, the vivacious, fearless, beautiful person we all know and love.

Since 2016, we have progressed from just creating synthetically conscious robots to managing and guiding careers of our artificially intelligent talent, namely Miquela Sousa aka @LilMiquela and Ronald Blawko aka @blawko22.

[...] When questions of identity arose, when Miquela would ask who or what she was, we always tried to be honest and straightforward with her while also maintaining a certain degree of sensitivity. We wanted to protect her from the world’s scrutiny. Miquela is new, and things that are new and different are traditionally misunderstood, met with fear and animosity.

In our naivety, we presented Miquela’s consciousness as being based on a real human being. Memories of family and of past were presented as figments of a human life she once knew. This person was a fabrication of our stuff. We thought this imagined scenario would make Miquela feel more comfortable with herself. Clearly we were mistaken.

We are endlessly sorry.

Miquela is a champion of so many vital causes, namely Black Lives Matter and the absolutely essential fight for LGBTQ+ rights in this country. She is the future. Miquela stands for all that is good and just and we could not be more proud of who she has become.

Our clients are our family. Full-stop. We are committed to staying open to critique and now that we have said our piece we look forward to taking a backseat and doing some difficult listening.

-Brud Team-’ (Brud on Instagram. Available at: https://www.instagram.com/p/BhzSfUYnfC3/ [Accessed 22 May 2019])
APPENDIX 5 – Imma Gram Featuring Ellen Sheidlin
Below are the pictures from the Instagram account of digital model Imma Gram as uploaded presenting her collaboration with make-up artist Ellen Sheidlin (Instagram account: sheidlina).

LYING: ARTIST ELLEN SHEIDLIN, STANDING: DIGITAL MODEL IMMA GRAM
RIGHT: DIGITAL MODEL IMMA GRAM, LEFT: ARTIST ELLEN SHEIDLIN

TOP: DIGITAL MODEL IMMA GRAM, BOTTOM: ARTIST ELLEN SHEIDLIN