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The role of communication in affecting smart objects' attribution of social stereotypes: a qualitative analysis on Amazon Alexa

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Introduction

"Artificial friend".

Is this the definition of the protagonist of the last romance of Nobel Prize for Literature Kazuo Ishiguro. In his new production, Klara and the Sun (2021), an AF, an android, called Klara becomes the technological friend of a young girl suffering of a sever disease which has not so much time of her life left to live. In this very emotional novel, the author depicts robots in a domestic environment; Klara is the personal assistant and later the best friend of Josie and its duty is to support and comfort a human who is about to die. Klara, even if speaks with a robotic voice and pronounces sentences apparently unemotional, is perfectly able to understand feelings of humans and has a critical thought on the surrounding reality. What's more, the author Ishiguro presents people's limits, their fears and fragilities through the eyes of a robot which instead deals with reality in a rational way, knowledgeable from the start of its destiny (Ishiguro, 2021).

This book is a perfect summary of present times and predicts the next future in which technologies and human like devices will further spread at an impressive rate. However, even if nowadays robots having an anthropomorphic physical aspect are not so widespread the same could not be said for vocal assistants included in technological devices. Furthermore, evidences such as Charlie, that is the artificial intelligence chatbot of the program Replika, or the Chinese Xiaoice, witness the growing acceptance of robotic companions not just in the social roles of an assistant but also as a friend, lover and fiancé (Grasso, 2020; Bialas, 2020). What's more, this happens even if it the only interaction possible is vocal or by chat and if the device could not be physically present.

For this, the reason why strong brands are investing a lot in the development of the interface of their vocal assistants and why they tend to market them as if they were in the flesh becomes clear. Indeed, marketers rely in the human tendency of anthropomorphizing inanimate objects. In spite of this, exemplary are the two commercials launched by Amazon few months ago, Pompeii (2021) and especially Alexa's body (2021), which aim to depict the branded voice Alexa as a helper that through the means of imagination could embody the human the users want it to be in the social role he prefers.

What's more, due to the tendency of anthropomorphize technologies, an increasing attention was devoted recently to the gender attributed to smart devices, which during last years has been mainly the feminine one. Also, recent movements in support of the cause of violence against women and fighting for gender equality accused big producers of smart assistants of stimulating consumers' attribution of old stereotypes to their products. Indeed, this contributed in an increasing attention towards social issues in the IoT market especially to the ones related to gender and inclusion. Also, given that smart objects inhabit in several countries the majority of the houses, it could be expected that these huge problems would have hit these devices as well. Last, especially vocal assistants were investigated given that they allow for an almost human to human interaction.

These aforementioned reasons explain why marketing these objects reflecting current customers' values has become a crucial point. Thus, the development of a branded communication more fitting with times and with renewed social ideals is a shared aspiration of a huge variety of firms. Consequently, during last years, technological giants focused on semiotics tools and on the famous theories of cultural branding in order to produce more appealing advertisements for their customers able to transmit brands' deepest messages. An important consequence to what aforesaid is that those messages would have a higher probability of receiving appreciations by the target audience.

Here the deep meaning of the title of this work and its scope becomes clear. In fact, the present study wants to explore through the investigation of Amazon Alexa's commercials if and how advertising plays a role in communicating a cliché and which are the reactions among the audience. More in details, it aims to both understand the role those narrative choices underling audiovisual spots cover in reinforcing and mitigating stereotypes.

Consequently, it would be possible to understand the strategies through which a brand can adapt its message to current cultural values becoming committed to social changes. Indeed, due to the growing amount of competition in lots of market segments, it has become crucial to produce a coherent and precise discourse able to differentiate the brand. This could be done making use of semiotics frameworks developed at the end of the last century.

Going more in details, this work is made of four main sections. *Chapter 1* starts with the analysis of IoT background; it gives an overview of the elements composing the IoT, their functioning and their contexts of application. What's more, their evolution leading to the huge spread happening last years would be explored as well. In addition, the first part of this chapter would examine through the review of several studies conducted by data science companies, the market size of the IoT and of its several areas to point out the economic relevance of the phenomenon and in particular of the smart mart objects and virtual assistants.

After clarifying the importance of smart objects, the second part of chapter one focuses on these last exploring at first their characteristics and strengths and the future challenges for their producers. Among those, the most relevant are the anthropomorphizing mechanism occurring in the consumer-smart devices interaction and the consequent capability of virtual assistant to make their users feel emotions. These two both are worth of further attention and investigation due to the relevance these phenomena have for technological companies working on objects' interface improvement and in social terms.

Later, *chapter 2* goes on analyzing the several relationships the user of the smart object could built with the device. Also, the exploration reaches a consequence of what aforementioned which is that technologies start to assume a social role in people's lives being considered like a companion in the flesh. This is the link needed to clarify the reason why the attribution of old stereotypes could easily impact smart assistants and which are the cues and the assumptions causing this mechanism. Thus, given that brands through their communication

could further reinforce of mitigate cultural values, the second part of chapter 2 focuses on strategic components of advertising which are narration and semiotics. These lasts would be the tools used in the studies developed in chapter 3.

Indeed, *chapter 3* would describe the studies carried on and their results. Precisely the case investigated regards the brand Amazon and in particular the most relevant US and UK commercials of the Amazon Echo in terms of anthropomorphism, social roles and stereotypes attached to Alexa. The objective of the study is to explore from both brand and consumer sides the evolution of the image of the branded smart speaker and the consequent reactions among the public.

First of all, from a preliminary view of the Amazon's commercials confirms that the brand follows literary findings in terms of the evolution of values attached to the company and transmitted to consumer. Secondly, the choice of having Alexa as case study perfectly is in line with the analysis; indeed, its commercials anthropomorphized a lot the device and assign it a precise social role.

The first qualitative study developed has a semiotic nature. It is a diachronic analysis of Alexa's commercials which focuses on their narration, rhetorical tools and advertising strategies. What's more a further reflection would be made in terms of social roles and stereotypes depicted in each advertisement.

The second analysis takes a different approach; through the coding of the YouTube users' comments posted with regard to each commercial included in the semiotic analysis. Thanks to the software Nvivo 12 it was firstly possible to categorize and to codify words or sentences pertaining to the comments and secondly to retrace the most popular themes of discussion and the opinions generated.

Concluding, chapter 4 would point out the results emerging from this study and would show the theorical and managerial implications of the work. What's more, both limits of the research and suggestion for future works would be detailed. Furthermore, it would be expressed how both the semiotic analysis and the coding of comments reinforce theories developed about anthropomorphism, stereotypes and social roles embodied by smart speakers and in particular by Alexa.

Last, despite this research found evidence confirming previous literature and is able to give powerful insights to the business world, it is important to remember that the smart speakers market is increasing at an impressive rate and that devices' interfaces are becoming every day more developed. For these reasons, it could be expected that the phenomena studied by this work would become more relevant and widespread in future years.

Chapter 1: IoT and smart objects.

1.1.1 IoT: definition, components and functioning.

During last years, we assisted to an explosive development in technology field, leading to a digital transformation; both Artificial Intelligence and the web were key components of such revolution giving life to the so-called Internet of Things (IoT). Thanks to advanced computing capacities and Artificial Intelligence

(AI) algorithms, digital transformation, at first applied in the industrial context, is being employed in every aspect of human life operating a revolution through the creation and usage of a growing number of objects which are "intelligent" and connected. Artificial Intelligence is based on algorithms; however, the usage of these last is very ancient. First definitions were found in papyri of Ahmes in the 17th century B.C and consider an algorithm "a procedure that solves problems through elementary instructions". In particular AI is a branch of computer science which studies how to make machines able to acquire human characteristics such as visual perception and spatial and temporal abilities. What's more, through the implementation of machine learning (ML) the algorithm learns automatically thanks to experience. Starting from the 50s of the last century, scientists dedicated themselves to the development of computers and algorithms. A famous case regards their use in chess games. Researchers designed algorithms in a way that they were able to learn from past experiences becoming chess champions. In fact, it was impressive when computers started winning against human experts. From that time technological evolution made great strides; in addition, these was due to the discovery of a new approach in which algorithms, basing just on basic rules and objectives, were able to succeed against real players. This was very efficient and time saving because with just a few hours of training computers were able to solve every task. For this reason, this mechanism was later applied to other fields. (Costantini, 2021). In the same period another revolutionary step was made. It was in 1969 when the first connection among two computers sharing information between them happened. The transmission was made thanks to Arpanet, the first network created between the university of Los Angeles and Stanford (Biagio, 2019). It's impressive to notice that just 50 years later the evolution of internet has become so fast and that nowadays we live in an extremely connected world full of smart devices. What's more, it is expected that in 2025 there would be almost 75 billion of connected devices (Della Mura, 2021). The year 1999 was significant too. In that year the Internet of things was defined for the first time by the American engineer Kevin Ashton in the following way: "Internet of Things (IoT) means that path in technological development whereby, through the Internet, potentially every object of daily experience acquires its own identity in the digital world. As mentioned, the IoT is based on the idea of "intelligent" objects interconnected in order to exchange information held, collected and/or processed" (Osservatorio Internet of Things, n.d).

A second definition comes from Cisco, a company leader in technological solution, which considers the IoT as "the connection of millions of smart devices and sensors connected to the internet". Even if it could seem that the Internet of Things is a single technology this is not the truth. Indeed, it is a composition of different technologies (Zanotti, 2020). Sensors and smart devices are key components of IoT; the first collect data and thanks to smart devices information is shared.

However, there are some key concepts that need to be explained in detail because they are the assumptions on which IoT builds on.

- the Internet: it is a "global network system" which is able to connect devices all around the world. It is made of multiple kinds of networks, both public and private, and it serves as a means through which various kinds of data can be exchanged.

- the Cloud: it is "a collection of data centres or groups of connected servers" provided by some organizations to allow the storage and examination of data. Also, it allows backup services for consumers and companies.
- the Fog Computing: it is a cloud technology that allows the storage and analysis of data coming from sensors close to them in a decentralized way before the information is transferred into the cloud.

The abovementioned components are essential for the development of the IoT. Also, Controllers and Actuators are important for the effective connection of IoT devices to the network and for their functioning.

The role of controllers is to grab data from sensors thanks to a connection and make decisions or send data to another intelligent object. Actuators instead, are needed to take action after receiving information from sensors; they understand what the sensor detects and interface with the controller which consequently performs the task (Cisco, n.d.). A clear view of the components is given in figure 1.

In addition, the IoT architecture can be divided into different layers. The first one is called perception layer and is made of sensors, caching data from the environment, and actuators. The second layer is the network which has transmission of data as the main scope. At the top there is the application layer which is made of cloud and servers interacting with the end user (Martynova, 2019).
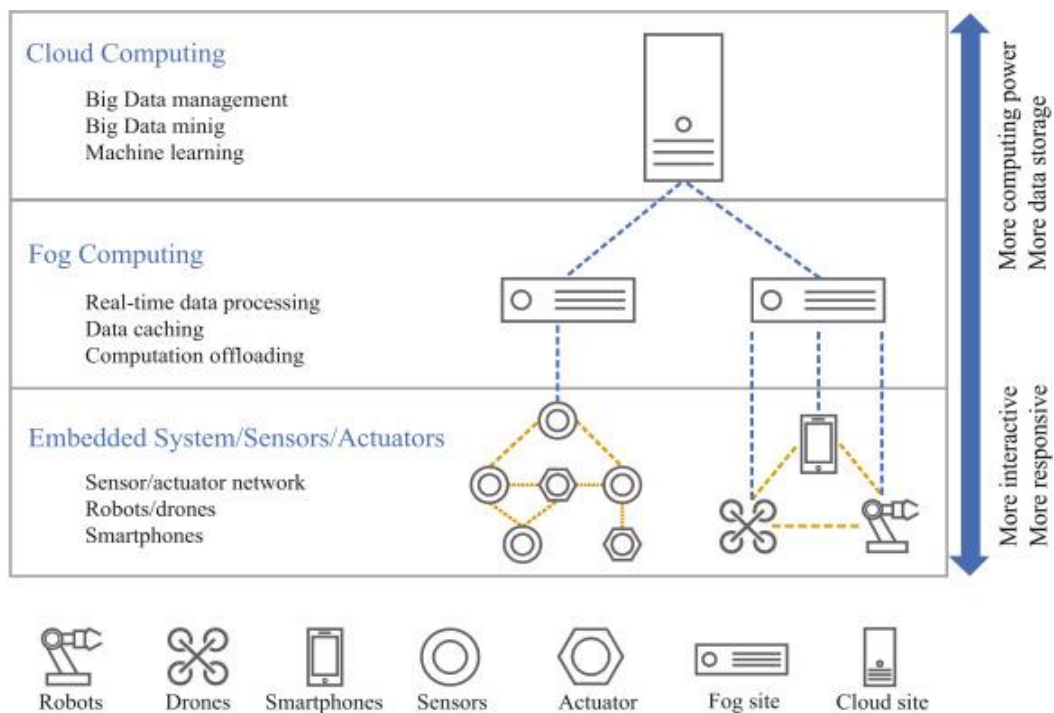
Fig. 1: Proposing Layered CPS Architecture (Pradilla & Palau, 2016).

Of course, also the number of sensors sold and active worldwide is increasing; thanks to their capability of data collection, they actively contribute to the increase of Big Data which are stored in the Fog computing and in the Cloud. Those data may be used by firms because they could provide useful insight on customers and for this reason data are valuable assets. However, there are negative sides such as accessing, analyzing and

managing this huge amount of information. Following, firms must be compliant to privacy and security standards.

What's more, IoT objects do not only collect and share data; the peculiarity of artificial intelligence and of smart devices is that they can learn from data received learning by doing. First robots developed completed standard and repetitive tasks in automation allowing for a reduction in errors and leading to quicker performance. Considering this, the evolution that AI brings is that these objects are able to learn and to adapt their actions to circumstances providing personalized solutions depending on inputs received. This learning process happens thanks to Machine Learning (ML) which makes the objects "think" and become "intelligent" after being exposed several times to data acquiring a sort of experience in its task. In fact, the algorithm is able to adapt to parameters given and to find best solutions also when those parameters change or evolve.

What's more interesting is that the journalist Della Mura in her article titled "trend IoT: towards internet of behavior" published in 2021, affirmed that we are not far from reaching the Internet of Behaviors (Della Mura, 2021). This means that machines will become able to detect through sensors data about actual behaviors and physical states and consequently could elaborate them to influence consumers' future behavior. This revolution for sure implies a growing concern for security issues and privacy ones; the latter would be detailed in the following paragraph referred to smart objects (Della Mura, 2021).

1.1.2 IoT: context and applications.

The definition given by Kevin Ashton in 1999 embraces a vast area of application of artificial intelligence; potentially AI has no boundaries and could be applied in almost every field. In fact, IoT is embedded in our everyday activities and we encounter it through the so-called smart objects. As previously said, the architecture behind the system is made of sensors and intelligent objects which share personal and environmental data to each other being all connected in a network. The internet of things is bringing us towards a new era, potentially connecting together every object; also, thanks to their computational ability, the huge amount of data collected acquires value exploiting at a maximum level the digital innovation. Examples of parameters which can be monitored with IoT are the following: temperature, pressure, movement, brightness, proximity etc. Applications of IoT can be found in different industries among which there are:

- home automation: here technology can be applied to smart devices such as kitchen elements, lights, security systems.
- robotics: branch of science which allows robots to fulfil even more complicated tasks.
- avionics: technology applied to airplanes.
- car's industry: intelligent cars or smart cars able to park or to go without the help of the driver.
- biomedical industry: technology applied to data sets or to medical robotics.

In practice, smart devices are embedded in our phones and homes; even coffee machines would make use of AI as witnesses the partnership between Lavazza and Amazon (Netti, 2021). Also, buildings, cities and workplaces are becoming intelligent (Bellini, 2020).

In addition, the spread of IoT solutions hit many other contexts such as the medical sector, mobility, payments or farming. All of these are investing increasing amount in the development and employment of smart solutions (Della Mura, 2021).

As said before, one of the realities in which we saw a recent growth of IoT is the medical sector. Smart health aims to improve first of all data collection and monitoring functions. Among this year news there is the development of Cyrcadia Breast Monitor, a new bra able to detect at an early stage breast cancer which shows how medicine can serve of Big Data and AI functionalities (Bazzi, 2021). The Italian government is among sustainers of innovation in critical markets and believes in the "Sanità 4.0" providing economic benefits to investors in technology (Ministero dello Sviluppo Economico, 2019).

If Smart homes are becoming widespread, the complementary solution In the business to business market regards the optimization of workplaces. Smart buildings are valuable also in terms of sustainability. Thanks to sensors it would be possible to optimize electricity consumption having a positive impact on the environment. In addition, localization features of smart objects allow for the development of specific functions able to understand people and employee positions monitoring their distancing in workplaces. Smart cities instead, refer to solutions which allow for an improvement of citizens' quality of life and cities' sustainability considering social and environmental aspects (Bellini, 2020). Globally, 135 billion dollars should be spent this year on smart cities; the critical point of this kind of innovation, which consultancy firms such as Deloitte are trying to solve, is its feasibility in terms of actors financing the project and the access to economic funds. However different financial solutions were studied and now are open to sustain this revolutionary change (Deloitte, n. d.). Another new trend is the use of this technology in retail. For example, the RFID technology allows for a better tracking of stock and is able to improve warehouse activities. ZARA built its sustainable advantage on this technology and on the continuous improvement of stocking, tracking and inventory capabilities. Moreover, the Inditex group has spent yet 10 million dollars on the RFID technology and wants to devote 2.7 millions more for a digital platform in order to make more connected digital and physical stores with the final objective to improve the customer experience and to boost sales (Roddolo, 2020).

The discourse for the industrial sector is slightly different; here we saw the convergence among smart manufacturing and Industry 4.0. in fact, firms operating in the manufacturing sector started using and integrating technology in their procedures before the venue of IoT. However, now there are huge investments devoted to exploiting AI's potential in factories. Sensors can be applied almost everywhere and can monitor operations and the productive cycle thanks to data collected. The result is an improvement in overall procedures because of detection and solving abilities of everyday issues consequently improving the output. Among sustainers of industry 4.0 there was the past government that exposed a growing concern about digitalization and wanted to give financial aid to firms embracing the change. The Calenda plan proposed by the Italian Ministry of Economic Development is the concrete proof of the importance that such investments in Smart business have. Rapidly, the plan consisted of economic concessions available for investment in

technological assets, training on IoT with the support of universities and standard policies to follow for IoT adoption (Bellini, 2020).

Furthermore, the Covid-19 pandemic boosted the implementation of IoT in industries, especially in some sectors. Technologies of the Internet of things in fact were able to improve conditions and satisfaction of workers and customers in such a difficult period. A survey conducted by Osservatorio Internet of Things confirmed the previous sentence; it showed that in 2020 half of participants benefited from technologies and 25% considered them fundamental to carry out their tasks (Miragliotta, 2020).

Hospitals, strongly hit by the pandemic, installed intelligent solutions to respond efficiently to the disastrous situation. They implemented systems capable of monitoring patients and elderly conditions remotely allowing them to stay home. Also, the development of robotic delivery was very helpful in such a hard time; astonishing was the case of Neolix, a robot used in China for home deliveries. Last, another helpful characteristic of smart devices which demonstrates itself to make an impact fighting Covid-19 was the localization. Knowing the exact location and movements of people was a powerful strategy used in the first period of the pandemic to monitor people distancing and to carry out contact tracing activities (Salvatori, 2020). What's more, features highly deployed during the last period such as localization and tracking, scenario analysis, remote management and remote operations plus product design and development abilities are the ones which sustain the change. Osservatorio Internet of Things believes that those characteristics of the IoT technology would be the ones used the most from companies (Salvatori, 2020).

Concluding, various industries are investing an increasing amount of money into technological solutions. Marketers interest in IoT is driven by the revolutionary period we are living and by opportunities this change offers in terms of social benefits and profit of course. However, in Italy the most consolidated sectors for application of IoT are smart metering, smart cars and the smart home (Statista, 2021a).

1.1.3 IoT: economic relevance and market size.

Taking a data oriented approach, IoT popularity becomes evident when analyzing revenues of its smart devices. This technology gained a huge economic relevance which is further confirmed by the increase in market size. Intelligent devices in fact surround us growing everyday more because of the accelerating rate. For this reason, firms should carefully investigate the phenomenon which has a big economic potential. From a managerial point of view, McKinsey company highlighted in the McKinsey Global Institute Report, that if new technologies were exploited at their maximum level, there would be the possibility starting from 2025 to generate 1.1 trillion dollars in revenues (Manyika et al., 2015). Data can give better an idea of the pervasiveness of the phenomenon. Smart devices were almost 15 billions in 2015 and 26.66 billions in 2019 worldwide (Della Mura, 2021). Previsions coming from Statista are that the number of connected objects will reach 75 billions in 2025; these are reported in figure 2 (Statista, 2016).
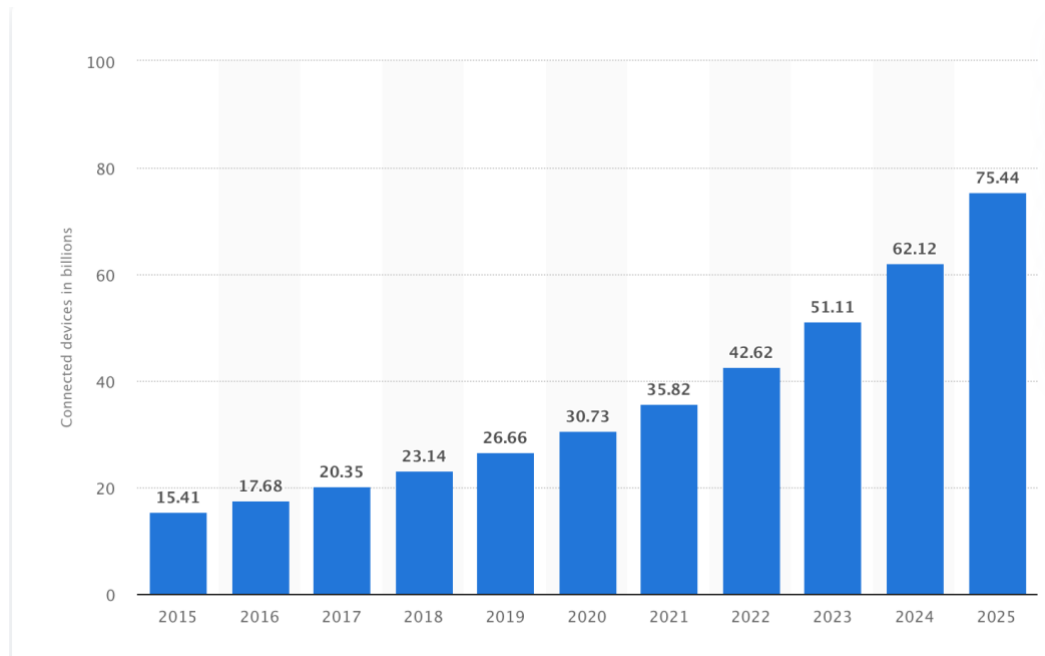
Fig.2: Number of IoT devices worldwide 2015-2025 (Statista, 2016).

In particular, the smart home market is the one which shows a very strong growth becoming even more competitive. Firms have seen the opportunities which this sector offers and constantly pay attention to the phenomenon to exploit it conveniently. However, the market is becoming populated with many innovators and for this it is important to understand in depth consumers' needs in order to deliver to them advanced and customized solutions. In addition, these kinds of efforts are necessary given that consumers are becoming more pretentious and aware of firms' strategies and offerings.

In Italy also the phenomenon is very consistent. The School of management pertaining to the University Politecnico di Milano, developed different observers among which the ones of Artificial Intelligence and Internet of Things, which aim to study the impact of new technologies, having the objectives of conducting further research and communication about the two phenomena. Data coming from a Statista's publication of this current year, show that even though in Italy most popular smart devices are smart metering and smart cars, the smart home market reached the third place (Statista, 2021a). An interesting analysis of the phenomenon of smart home was made by Osservatorio Internet of Things of the University Politecnico di Milano which pointed out how the smart home's market grew from 2016 to 2020. The report made by the academic observer of IoT represents a powerful insight for firms showing the potential of this market in which many are investing. Data demonstrates how smart solutions became popular in 2017 and 2018, with an increase in sales respectively of +52% and +40%. A significant finding is also that, as shown in figure 3, despite the Covid-19 pandemic, in 2020 the value of the smart home market was very close to the one of the previous year. This last suffered a loss of only 5%, reaching the value of 505 millions euro (Business People, 2021).

Fig.3: Smart home market in Italy in 2020 (Business People, 2021)

As shown in figure 4, among the drivers of the growth of the smart home market there are voice assistants, not surprisingly Amazon and Google smart speakers, respectively Amazon Echo and Google Home, were launched in 2018 in Italy. In particular smart speakers such as Amazon Echo and Google Home covered together in 2018 the 16% of the market of smart home's category (Statista, 2021a; Zanotti, 2020).
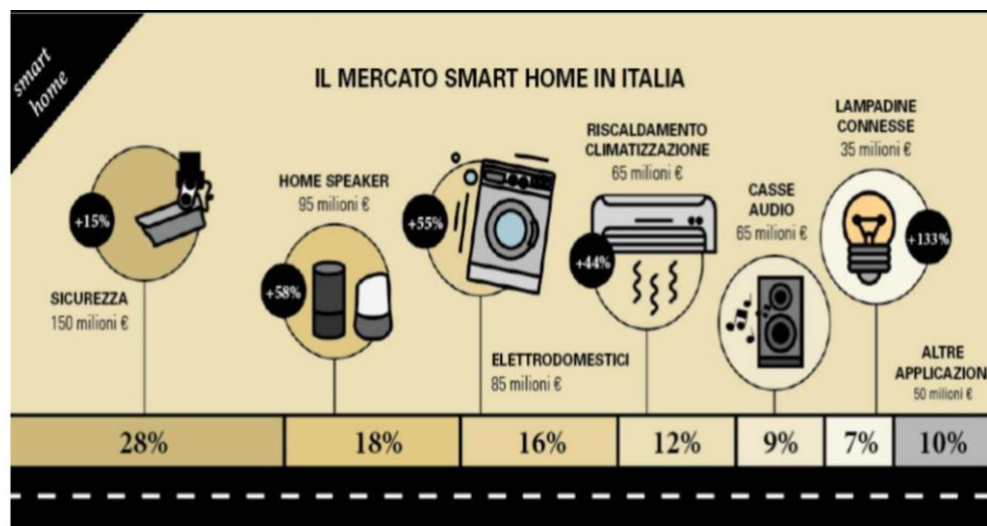
Fig. 4: Smart home market in Italy (Zanotti, 2020).

Coming back to data, what's very interesting to notice is that among all smart home devices, smart speakers are the one still growing with a +10% in 2020 and a market value of 105 million in Italy. The magnitude of the phenomenon becomes evident looking at smart speakers' units sold in the first quarter of 2020 which were 28.2 millions globally (Business People, 2021). What's incredible is that previsions are that smart speakers will overcome global population by the end of 2024 reaching a number of units sold of 8.2 billions (Lavalle, 2020). In fact, already in 2019, it was not rare that people owned more than a smart assistant and

that those pertain to different brands (Garg & Moreno, 2019). Moreover, as visible in figure 5, in 2018, Deloitte research reported that smart assistants are in the top ten of the most used devices by customers reaching the seventh position; the prevision is that "people will have more conversations with digital assistants than with their spouse" (Deloitte, 2018; West, et al., 2019).
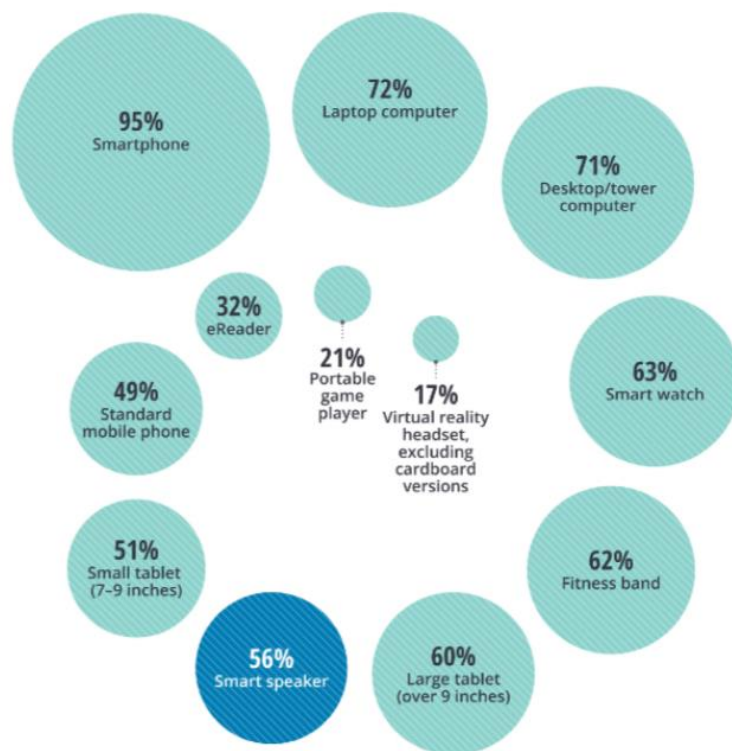
Fig. 5: Daily device usage (Deloitte, 2018).

Lastly, Statista, in 2020, conducted an interesting consumer research to understand the Italian competitors in the smart speaker's market, that would be elaborated more in depth in the following chapters. Participants answering the simple question "Which smart speaker with an integrated virtual assistant do you own?" gave a representative view about market share of smart objects' companies. Figure 6 shows that Amazon was the biggest player and it owns the 73% of the market followed by Google and Apple that respectively had the 25% and the 8%. Also their popular devices are Amazon Echo, Google home and Apple homePod (Statista, 2020).
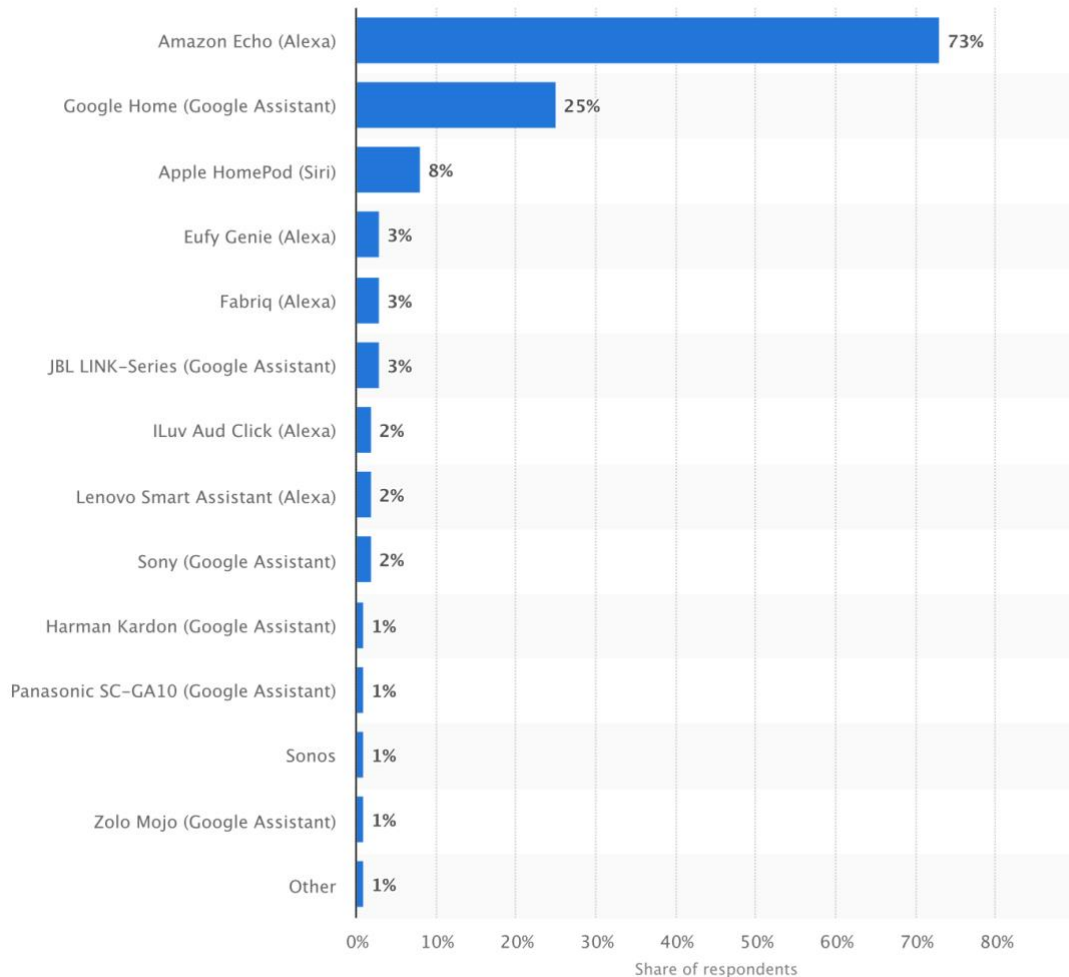
Fig. 6: Smart speaker ownership by brand in Italy 2020 (Statista, 2020).

1.2.1 Smart Objects: definition and characteristics.

As said in the previous paragraph, smart objects' market in past years and especially in 2018, saw a boost in sales, especially of smart speakers, that are expanding at the growing rate of 10% year by year. In addition, their segment became more crowded because of an increase in the number of competitors and consequently, smart devices' producers felt the need to differentiate giving life to a wide variety of connected objects (Business People, 2021). Moreover, in July 2020 came the news that European Union started an investigation on the IoT market and especially on voice assistants to make sure that big players do not hinder the competition. In fact, the strength of firms operating in that market is the possibility of accessing a huge number of data and there is the need to ensure that they are not used in an anti-concorrential way. The attention the UE devoted to inquiring on four hundred companies involved smart objects' production helps in better understanding the potential and the expected spread of IoT (Vestager, 2020).

Smart objects are important components of the IoT; these devices thanks to Artificial Intelligence and Machine Learning are considered being intelligent and able to learn from experience as humans do. Cisco, company leader in networking, defined and categorized the common activities in which ML is involved which are proper

for smart objects tasks completion. These are the following: speech recognition, product recommendation, shape recognition, facial recognition and fraud detection. Indeed, to be more precise and to give a correct and complete definition of what a smart object is, what distinguishes this last is the need of a network connection. In addition to this feature, it is also required that the object in question has one or more of following characteristics to be considered an element of the IoT market: identification, localization, diagnosis, interaction with the environment and elaboration of data. In fact, the peculiarity of such objects is not only the ability to monitor the environment but also, thanks to machine learning algorithms, they are able to make sense of data collected (Tumino, 2019).

Also in literature there has been devoted a growing attention to the understanding of technology starting from the last two decades. In recent years the studies regarding computers, robots and avatars were considered a starting point for the one concerning smart objects. Among the different analyzed aspects, key studies are the ones regarding the taxonomy, functionalities, psychological and social aspects. The research made by Perez Hernandez and Reiff-Marganiec, developed in 2014 represents a starting point for the understanding of smart objects taxonomy, abilities and functionalities. Moreover, thanks to these authors it becomes evident why nowadays a huge stream of literature wants to investigate consumer-technology interaction and social abilities of the IoT. Perez Hernandez and Reiff-Marganiec gave first an overview of smart objects characteristics shedding light on previous works. These features can be hardware or software driven; also can be simple, meaning basic, or derived. This work also added an important contribution to existing literature because it contains a useful framework which classifies and distinguishes technological devices' capabilities illustrating them clearly. Firstly, core capabilities are the three simple ones needed to define the object with the term "smart":

- digital identification: it refers to the ability of understanding its presence in a context and to communicate this to other objects or to people.
- retention: consists in retaining and store information about the self or about the external context.
- communication: in order to exchange data with other identities through a network.
- energy harvesting: capacity of gathering energy from the intern or externally.

Among optional capabilities processing and networking constitute the foundations for the following ones:

- internal factor capabilities: allow for the understanding of object's features also being able to use data to manage its duration and recovery.
- environmental factors capabilities: very important are sensing and actuating, needed to understand data and consequently complete the task, environmental awareness, allowing for recognition and adaptation to the environment delivering a better customer experience, social readiness, fundamental aspect because it is needed to establish relationships with the end user.

- human factors capabilities: such as human awareness to interact in a social way and shielding, to ensure privacy.
- engineering factors capabilities: programmability, rule adaptation and goal orientation in order to develop codes of conduct to fulfil every task required by the user.

The second important contribution that this research gave to pre-existing works is that it develops a nesting oriented approach on smart objects which builds from basic to more complex features. The theory is represented in figure 7 through the visual aid of a pyramid. This last shows the levels of evolution of the object which can go from the basic or previous one to the higher one when features of the next step are added. As clearly represented, features from level one are the essential and core capabilities explained before. An object pertaining to level two instead can be programmed and can connect itself to the internet. At level three there is the possibility to sense, to maintain, to secure info and to act consequently. This is called the awareness level because smart objects are able to monitor themselves and the context in which they are. The final level is reached when the device has got the maximum possible evolution exploiting both AI and ML. In this way it becomes "intelligent" through learning from past experiences and successfully responding to changes (Pérez Hernández & Reiff-Marganiec, 2014).
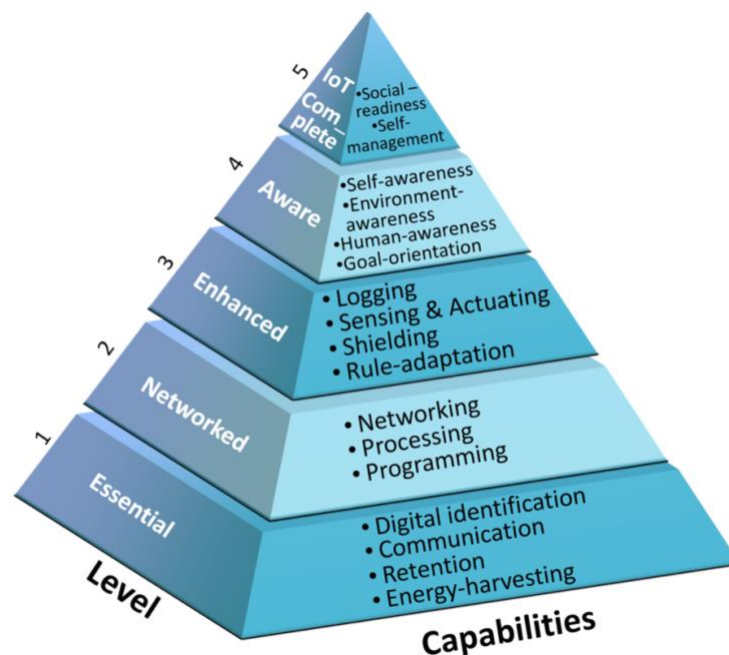
Fig. 7: Levels of capabilities of smart objects (Pérez Hernández & Reiff-Marganiec, 2014).

In order to simplify and to give some clear examples, intelligent objects can be divided into usage categories among which there are smartphone, tablet, pc, e- reader, smart tv, bluetooth earphones and consoles. Another rising and valuable category is the one of "wearables" which are technological products that consumers can wear. Examples of them are smartwatch, health tracker like the "Fitbit" but also smart accessories and clothes.

Going back to the pyramid developed by Pérez Hernández and Reiff-Marganiec, nowadays we are assisting mainly to the dissemination of objects pertaining to the top level.

As seen before smart assistants are the ones getting an increasing relevance because of they are able to respond to users' requests, to support their daily activities and to behave socially. The study developed by West, Kraut, and Ei Chew (2019) defined smart assistants as "connected objects which make use of AI and machine learning algorithms". The peculiarity is that users could ask everything to the device and given the vocal nature of the interface, they do not face any restriction during the interaction.

As a plus three different types of digital assistants were categorized by the authors:

- voice assistants are devices with interact thanks to vocal commands and written language. They are intelligent and have been implemented in order to make as easiest as possible the interaction. Their voice often came out by a supportive device such as smartphones in the case of Siri or Amazon Echo for Alexa.

- chatbots: the interaction is possible thanks to a written interface, in addition, they could have a physical representation.

- virtual agents: communicate with users through their robotic voice and usually this last comes from an entity which is physically represented on a screen or thanks to augmented reality (West et al., 2019).

Thus, given the number of functionalities digital assistants have got and their impressive spread in recent years it could be said that for many consumers it is impossible to resist these objects (Della Mura, 2021).

Taking a psychological perspective, it's well known that consumers want to have social approval. Consequently, reasons why they use technology can be found in people's need of homologation towards their peers. Also, there is a symbolic benefit that customers can communicate through the ownership of an AI device. This last allows them to signal a social status both to others and to themselves symbolizing to pertain to a young, technological and wealthy class (McLean & Osei-Frimpong, 2019).

Many reasons could explain why people actually buy such devices. Literature explored underlying motives for which humans adopt AI devices. And many studies agree finding two main needs people satisfy through smart devices. Thus, authors found that the two main reasons that lead humans to buy a smart object are based on their utilitarian and social functionalities (Garg & Moreno, 2019; McLean & Osei-Frimpong, 2019; Shank et al., 2019). Despite the fact that every study got different insights on a particular aspect of the IoTs and that barriers to smart objects adoption like price, perceived quality and knowledge, incompatibility to consumers' lifestyle or towards other jet owned devices still exists, they all convene on the relevance the interactions easiness and efficiency has got (Querci et al., n.d.). For these reasons, the biggest challenge firms are facing regards technology's interface (Amazon, n.d.). The key point to succeed among competitors is being able to make as much fluent as possible the conversation between the user and the device empowering vocal recognition feature. For these reasons it is important to explore in detail the fifth level of the Pérez Hernández and Reiff-Marganiec pyramid developed in 2014. In fact, social readiness and self management are the features

on which recently the competitors are focusing in order to offer a simple, human-like and efficient customer experience because as said Rohit Prasad, the vice president and scientist of Amazon Alexa, in a brilliant interview, "Alexa's success and adoption are extremely satisfying, but nowadays we had just a taste of what can be obtained" (Amazon, n.d.).

1.2.2 Smart objects: Anthropomorphism.

In order to give a clear view on the smart objects' phenomenon and on the approach the literature takes, the pillar theories mentioned by the majority of studies regarding technologies can not be missed.

The most frequent reading key used by authors is the concept of anthropomorphism which is deeply embedded in Artificial Intelligence, Internet of Things and smart objects. However, the importance of this theme is not witnessed just by theory, but also recent pieces of news represent clear evidence of this. In fact, it was revolutionary when in 2019, Alexa acted as a real witness for the first time during a trial in Florida, USA. Thanks to the possibility of registering conversations the device was the only one that heard what happened in the house before a terrible homicide and for this could act as a real person assisting to the misfact (Scorza, 2019). Taking an academic perspective, as said before, the understanding of the phenomena of both anthropomorphism and personification is well rooted in literary studies and it is not so recent.

To start, the most common definition for anthropomorphism findable in research comes from dictionaries and it is the following: "the idea that an animal, a god, or an object has feelings or characteristics like those of a human being" (Collins, n.d.). These thoughts are not unusual; in fact, for example, people often try to interact with pets wanting to understand their beliefs or to plants asking what they need or their health state. In particular, this was deeply analyzed in psychological studies and it was found that among consumers there is a common tendency to anthropomorphize non-human things which even begin during childhood. Indeed, children commonly treat their toys, animals and other objects assigning them human-like features (Airenti, 2015). In addition, it was found that if babies have the possibility to interact with a smart object, they want it to be a friend of them clearly anthropomorphizing this technology (Garg & Moreno, 2019). Nevertheless, this attitude does not apply just during childhood but it continues all life long. Following, many studies agree on the belief that the propensity people of every age have to attribute to inanimate things human-like features plays a role even when we own or interact with a smart device. However, despite the fact that we are used to dealing with pets and animals as human components of the family, what happens relating to smart objects is more complex (Airenti, 2015; Shank et al., 2019).

The paradigm Computers as Social Actors (CASA) represents an anchor for many authors because it explains the model of interaction people adopt relating to technologies. In particular this paradigm put the basis for the following literature because it studies the user's perception and experiences they have with computers. The

pioneer finding this theory support is that users are conscious of the fact that they are interacting with a machine and they understand that giving to machines social features is not appropriate. However, when interacting with technologies people automatically apply social norms of human interaction towards them, and even politeness ones, treating the partner of the relationship as if it lives and breathes. Furthermore, it is also common that people attribute a self to each computer, in fact every interface is perceived as standing alone and as a distinct character (Purington et al., 2017; Nass et al., 1994; Nass et al. 1995).

Following these statements an important question emerges. Why do people attribute flesh characteristics to computers if they believe these to be inappropriate? A first response can be found in psychological researches which documented that inanimate things are used as a means of social connection. This theory applies too during a human to technology interaction and was used as a fist way to explain why even when using computers and technological equipment we refer to them as if we were dealing with a real person (Epley et al., 2008). Also, a second stream of literature explained anthropomorphism makes people consider a behavior coming from an object, as human-like because it is able to elicit in people feelings and the mental states as if it was a human to human relationship. The research conducted by Epley, Waytz, Akalis and Cacioppo in 2008 sustains the aforementioned theory and in addition it found two main motivations that explain why consumers anthropomorphize things. Firstly, according to previous literature, the need for social connection is what pushes us to find in an inanimate object a mind. Secondly, it's well known that people want to understand the environment in which they live and search for control over others (White, 1959). Following, for people's mind it makes sense to assign human characteristics to an object in order to increase the possibility of understanding its features operating a sort of comparison with the self (Epley et al., 2008).

A further consequence of the assumption that machines are considered entities in the flesh, is the attribution of a personality to them which allows the users to have an even more real interaction. In 1995, the colleagues Nass, Moon, Reeves and Dryer succeeded in identifying the minimum characteristics assignable to a technology which were able to generate in users the perception of the machine's personality. Indeed, basing on the "similarity-attraction" assumption, meaning that people will respond better to technologies possessing a personality similar to themselves, simply assigning social cues of dominance and submission to computers it was found that subjects perceived the object to possess a personality and were more satisfied if the technology matched their personal characteristics (Nass et al., 1995; Nass et al, 1994). From this it follows that with superficial manipulations consumers' imagination could assign fictitious bodies and personalities to objects; as a consequence it is reasonable to assume that technological objects are perceived to be gifted with a mind. On the occasion of the Milan Digital Week 2021, an extremely futuristic interview took place. Indeed, the journalist had the opportunity to talk with Aria, an AI algorithm. Despite the choice of not showing the guest's physical appearance, the mental ability of Aria was impressive, clearly demonstrating that very

advanced algorithms are equipped with a mind. Indeed, the AI interviewed was informed about the reporter's information and was able to reply correctly understanding his questions (Costantini, 2021).

Thus, several literary studies recognized AI to be a cryptomind. The authors Wegner and Gray, in their works of 2007 and 2017, contribute to the classification of robotic minds identifying two rules: agency and experience. The first capability needed in a machine, in order to be categorized as possessing mind, is free will which makes it agentic. This means it must be able to freely take decisions and consequently make actions. For example, it must be endowed with problem solving, goal orientation and communication features. Also, if an AI device is programmed for experiencing emotions, like a conscious human being does, this object can be considered having an experiential mind. However, these two attributes are given to machines on the basis of beliefs and perceptions and are used to explain others behaviors (Gray et al., 2007; Wegner & Gray, 2017; Shank et al., 2019). Through the means of qualitative analysis the author Airenti contributes to previous studies adding another reason explaining better why perceive a mind and anthropomorphize technology. The study starts from the assumption that humanity has a social nature and people during an interaction feel emotions. In particular, based on CASA theory, even when relating with a smart device, users apply the same psychology used with human folk perceiving emotions too. What's more, people need to express these emotions back and to do this a counterpart is necessary. A consequence of the interactive nature of humans, is that people need to express their feelings back and this can be satisfied only if a partner is involved in the relationship. The solution to the problem is to assign that role to the smart devices making it the substitute for a real mind. Furthermore, this process of role attribution is facilitated by the help of anthropomorphism of technologies (Nass et al., 1995; Nass et al, 1994). To conclude, this mechanism applies during the attribution of minds and intelligence to smart objects consequently contributing to the enlargement of the human-like attributes carried by these entities (Airenti, 2015; Shank et al., 2019).

When first studies analyzing the psychology of machines were carried out, the objects gifted with AI technology were considered having more free will than experiential ability. Despite that, progress went very fast in recent times and the situation has partially changed. A further confirmation to that comes from empirical analysis. Reading customers' impressions regarding smart assistants what emerged is that consumers' feelings, experienced while interacting with a smart device, are strongly correlated to the experiential mind's perception (Airenti, 2015; Shank et al., 2019).

Concluding, anthropomorphization doesn't depend as much on physical appearance but is strongly related to behavior and social aspects. Aria's interview substantiates this affirmation; the algorithm seemed to possess human features despite the choice of the reporter of not showing its physical appearance. Consequently, a shared finding is that the main aspect needed to ascribe a mind and human features to an object relies on the

machine's interface. Lastly, the aesthetic instead was found to be less important (Nass et al., 1995; Eyssel & Hegel, 2012; Airenti, 2015; Shank et al., 2019).

Taking a market oriented approach, firms recognize the importance of the interface that is exactly the feature on which they are competing. As a matter of fact, improving this last is the key factor for obtaining always better results in terms of customers' satisfaction (Amazon, n.d.). However, in order to make people perceive in the machine the characteristics of mind and to allow the AI to understand users and respond like a real person, the main feature companies attentionate is the natural language (McLean & Osei-Frimpong, 2019; Shank et al., 2019). This last can be externalized through messages in a screen or thanks to the implementation of a voice giving the possibility to users to give life a human like interplay (Nass et al., 1995; Eyssel & Hegel, 2012; Airenti, 2015; Shank et al., 2019).

Conversational agents' strength is exactly built on this; consumers experience the IoT language thanks to the main feature of the smart assistants which is their voice. Here, the innovation represented by the presence of a robotic voice, which also answers in an intelligent way to users, has the clear scope of making the interaction seem more real, meaning closer to the human to human one. In addition, the fact that the device is able to respond vocally to users as a real person does, facilitates consumers in anthropomorphizing the smart object to consumers consequently encouraging conversations and socialization (Gao et al., 2018; Purington et al., 2017). What's more important, through their voice, machines can communicate to users with a specific personality. In turn, consumers could choose technologies with a personality similar to themselves relying on their preferences. Last, the similarity between personality traits of users and smart objects impacts the social relationship, could improve the customer experience and could lead to an higher level of satisfaction (Purington et al.,2017; Nass et al., 1995; Nass et al., 1994). Due to huge literature's findings, firms could not miss the opportunity to exploit the before mentioned theories and for this reason they have been constantly improving the design of those devices aiming for objects' anthropomorphizing and for an easier social interaction.

Furthermore, in order to stimulate the personification process, producers working in the market of conversational agents and especially vocal assistants, promoted their branded devices posing emphasis on the particular name given to them. A positive confirmation of the efficacy of this strategy came not from growing units sold but also from literature and qualitative reviews analyzing the language and the particular words used by people when making comments on technologies. Anthropomorphism clearly emerged; often users refer to IoT using the personal name of the device, calling it as if it was a real person. In addition, the pronouns "it" was substituted in large part by personal pronouns such as "he" or "she" when interacting with the smart assistant (Purington et al., 2017).

1.2.3 Smart object: experiences and emotions felt during consumer-smart device interaction.

Recalling the words said by the vice president responsible for Alexa, companies producing those devices such as Amazon, Apple and Google are spending a consistent effort to improve the interface and the voice commands. Such effort is needed to boost the customer experience allowing users for an easier and more efficient interaction with their branded devices (Amazon, n.d.). Recent news was that Amazon Echo developers were improving AI and ML in order to integrate the interface with a feature allowing Alexa to express through its synthetic voice sadness or happiness, compassion and even anger in response to users' feelings and requests (West et al., 2019; Baldelli, 2019). Data from the smart assistant's market confirm this; smart objects are becoming more skilled and developed and this is possible thanks to machine learning and experience. For these reasons people can make use of smart devices in the most diverse situations and look for lots of different kinds of experiences which could be divided among utilitarian and social ones. Moreover, people can use these objects for a few minutes asking some questions or to play a specific song or can assign to the smart device a longer task which requires a longer period to be completed, usually not more than half an hour. A clear representation of tasks and daily usage of smart objects is given in figure 8.
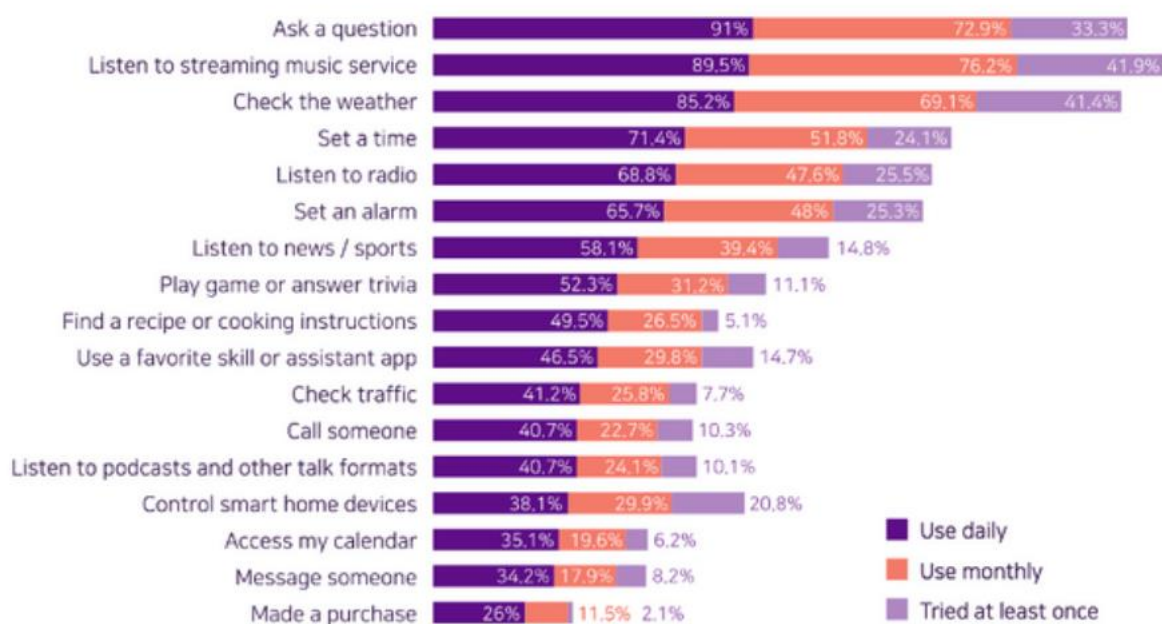
Fig. 8: uses of voice assistants and frequency of use (West et al., 2019).

Furthermore, consumers became knowledgeable enough to recognize that different brands perform better on specific tasks. For example, a difference found between Google and Amazon smart speakers is that the first is better when a complex question is asked, because it is furnished with a wider database of information, while Alexa is better for entertainment functions (Garg & Moreno, 2019). Also, the interaction people want with

the device depends on how long they have been using the smart object or on their age. This was confirmed by findings coming from the authors Garg and Moreno (2019) who understood that after the first months of ownership, users request from the device more assistant or utilitarian functions than entertaining ones. A different situation happens when children are the users; the interviews conducted by Garg and Moreno found that little children aged 5-7 interaction is based on the desire of playing games or quizzes (Garg & Moreno, 2019).

Since IoT devices resemble humans, the experiences people have with AI gifted objects often implies an emotional response of the user (Lopatovska & Williams, 2018). Not surprisingly, lots of factors moderate users' perceptions. Among these the context in which the object is included, in both its environmental and social declinations, has a relevant role. The positive or negative reaction of the consumer depends also on the task assigned to AI and on AI's performances depending on the technical features of the algorithm and on its development. Again, a clear relation exists between type of technology, personification degree, emotions elicited by the AI, and consumers' satisfaction. For example, users who express the most personification are the ones perceiving positive emotions from technology (Gao et al., 2018; Purington et al., 2017; Shank et al., 2019). Lastly, satisfaction level implies that consumers are more prone to use the smart device. From this comes the possibility that someone enters into a more profound relationship with the technology as would be told in the following chapter. Thanks to some research it is possible to have a qualitative view of emotions felt during the interaction. In particular, Shank, Graves, Gott, Gamez and Rodriguez focused on consumers' perspectives and punctually analyzed descriptions of personal encounters people had with AI. Common positive emotions experienced by users varied among happiness, surprise, amazement and amusement which for sure overcame the negative ones. These sentiments are linked both to the task required and also to the abilities of the smart object involved in the performance. In addition, very often people perceive strongest positive emotions when AI excels in the task and performs in an extraordinary way. First, when users are generally satisfied by the machine, for example when it deals successfully with a task, they tell they are happy. Going ahead, advanced IoT functionalities coming from programmability and machine learning could generate surprise. This sentiment came out especially when AI astonishes users exceeding the expectation they had about machine behavior. Another nuance of the latter feeling is amazement; amazed users are the ones fascinated about the quality and the property of answers given by the device. The situation is slightly different for amusement. This last is linked to humor and to entertaining functions. Moreover, it is often experienced by children because younger users want to satisfy their need of playing mainly looking for fun and entertainment (Shank et al., 2019; Garg & Moreno, 2019). Concluding, AI devices, especially smart assistants are becoming very relevant, this is witnessed by the amount of time users spend interacting with them which derives from the fact that there is a better consumers' understanding and acceptance of technology.

Despite what said previously, there is a minority of negative aspects that needs to be pointed out in order to have a more complete view on the experiences consumers have when using IoT devices. Indeed, in past years, users felt confused and complained because of disappointing interactions with the smart object. However, the evolution of technology goes at a more than increasing rate and for this some years may do the difference in terms of the state of innovation of smart products. Due to that, probably this dissatisfaction was mainly correlated to machines' bad programming, poor dataset and lack in the interface development (Shank et al., 2019). These are just some reasons explaining why someone still feels skeptical in buying these devices and does not see the benefit that the adoption of AIs and IoTs could bring to his everyday life. Recent statistics developed by BVA Doxa (2020) told that for the 18% of Italian citizens smart objects are seen as too complex to handle and unfortunately the same emerged from literary studies. These last showed the issue of inadequacy coming out when people are not completely knowledgeable of all possible tasks and uses they can make of such technologies (BVA Doxa, 2020; He et al., 2019; Garg & Moreno, 2019). Indeed, users still feel in trouble when they have to set the device. Evidence is that just a small minority consider themselves able to write codes to program the object while the majority feels inadequate for the task and fear of breaking the device (He et al., 2019). As well as a feeling of inadequacy can emerge perceiving the object too complex, frustration and disappointment can be felt too. In particular, this happens due to connection sufferings or when owners set high expectations while the machine fails in reaching the last. Those cases concretely occur when smart objects make poor and inconvenient decisions such as when devices fail in understanding the external environment, detecting something in a wrong way (Shank et al., 2019; He et al., 2019). Sometimes bad smart object's decisions are also caused by shared usage of the device among family components. In this sense it becomes more difficult for the algorithm to learn from experience because depending on different users there are settled preferences (He et al., 2019).

However, other times there are more profound psychological issues which block people from smart devices' adoptions. As said when referring to anthropomorphism theory, the main reason why people attribute human-like features and a mind to robots is because of their ability to behave socially. Despite the majority of users accepting and liking this kind of conversation, the last represents a critical point and sometimes it could make the robot appear creepy. Discovering the presence of a mind in what is clearly an object could cause unpleasant users' reactions; they may feel disturbed experiencing emotions going from uneasiness to fear (Airenti, 2015; Urbanska, 2016). The expression "being creeped out" mentioned by users, is strictly linked to sentiments such as dislike, unease, embarrassment, discomfort which some authors define as uncanny. These last emerge when the user falls into the Uncanny Valley phenomenon. In details, analyzing user-technology interactions, it was discovered that customers' negative feelings came out when the technology replied in a way which seems to be too much human-like. People expect the smart device to respond with empathy but when they face that the

machine could not fulfil their need for emotions, they become disillusioned. This is due to the fact that users perceive the interaction fake, because missing some characteristics which are proper of human to human interactions, and consequently feel themselves not at ease (Mori et al., 2012; Shank et al., 2019; Skjuve et al., 2019). For those reasons another challenge for developers is represented by the understanding of the right degree of personification. In fact, if people at first want the AI to express personality and rapidity in answering, on the other side it is quite easy to exceed the threshold.

1.3 IoT: privacy issues.

The enormous growth of the IoT devices market, which will reach 35 billions of smart objects connected worldwide in 2021, is raising concerns about the information collected by them (Statista, 2016; IUS in Itinere, 2020). This emerged both from market analysis, literary studies and real cases. The aforementioned news about the participation of Alexa as a witness in a trial, raised the controversy showing multiple opinions. In fact, what happened reinforced the beliefs of people sustaining that robots often break privacy and spy conversations knowing what happens in private places, such as houses, accessing private information (Scorza, 2019).

The theme related to privacy and security has been debated for a long time but now re-emerged in combination with the usage of smart devices and it is growing together with the spread of them. In particular, citizens fear privacy violation and are susceptible when talking about cybersecurity; statistics have shown that about 54% of italians are reluctant to share personal data (BVA Doxa, n.d.). In fact, some people are still unwilling to adopt IoT technologies because of these before mentioned problems (IUS in Itinere, 2020).

Regarding privacy the problematic aspects are mainly two. Firstly, there is a general fear about data security, people do not trust companies and suspect that intelligent objects are able to record conversations acting as spectators of people's lives. Secondly, worries are about the hackering of personal and financial data and about their misuse by firms collecting or receiving them (Querci et al., n.d.; McLean & Osei-Frimpong, 2019; Furey & Blue, 2018).

Another concern arises when objects enter the everyday life of consumers; sometimes it happens that devices interact with people even if nothing was asked to them. This behavior leads both to a feeling of unease and to the sentiment of being listened or even spied on (Querci et al., n.d.; Shank et al., 2019). Even if benefits of IoT technology overcome its risks, the privacy problem has a strong negative effect on the overall impression users and non users have of smart objects. Also, when the household size increases privacy is more perceived and for this people could be led to avoid using smart objects (McLean & Osei-Frimpong, 2019).

Given the relevance of those problems, institutions started to develop rules and codes of conduct regarding data security. Enforcements such as "Privacy Code" and the European Regulation regarding protection of personal data provide that technologies must be produced ensuring the least collection of personal data. In 2018, the European Union introduced the General Data Protection Regulation (GDPR) that focuses on new

technologies such as IoT and Artificial intelligence. Moreover, GDPR with the term "profiling" defines "any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyze or predict aspects concerning that natural person's performance at work, economic situation, health, personal preferences, interests, reliability, behavior, location or movements" (European Parliament and Council of the European Union, 2016). By this term all emotional states detected by an intelligent device are covered and included into the definition of personal data as well (Furey & Blue, 2018). In addition, the European Data Protection Board, the agency for cybersecurity, started to work on IoT technologies which interface directly to users in order to ensure private life protection. This resulted in various recommendations directed to developers, producers, organizations and data recipients. After the approval of GDPR, new proposals have been developed to enforce cybersecurity actions. The Cybersecurity Act, approved in 2019, introduced a required certification firms should have for the commercialization of branded connected objects (European Commission, n.d). Those themes also got the attention of the Italian agency "Garante della privacy" which published a very useful vademecum indicating how to use without risks vocal assistants ensuring in this way the protection of citizens' sensible data. The list of recommendations is made of eight points. First of all, consumers should carefully read the information regarding the processing of personal data before submitting everything. Secondly, people should carefully pay attention to what they communicate to the smart object avoiding to advise it with secret information. Furthermore, it is better to switch off the assistant or some of its functionalities when these are not needed. Lastly, set a difficult password and ensure that the wi-fi network is protected (Barricelli, 2020).

Concluding, the smart objects' market includes tricky issues. IoTs, if properly used, could simplify consumers lives and give powerful suggestions to managers regarding user behaviors and consequently allowing to implement positive actions for the society and for the environment. On the contrary, smart objects are able to gather and to combine personal data building a well done profile of individuals (Kostkova et al., 2016). For this reason, privacy and security issues are still very debated. In fact, data could be used not only by the brand but also could be given to other firms if not protected. However, considering that the jurisdiction about data privacy and IoT is recent and for this it is still at an emerging state, it is important for all stakeholders to respect ethical and security standards.

Chapter 2: Smart assistants: social roles and their communication.

2.1 Smart objects-consumers relationships: focus on smart assistants.

It's well known that numerous science fiction's writers portrayed the possibility of a future world populated by humans and robots showing a growing obsession for a perfectly functioning reality. Almost two years ago, the famous author McEwan, in his last novel, "Macchine come me", depicted a futuristic world in which humans and robots are mixed together. Moreover, his romance shows a deep reflection on roles assumed by

intelligent objects and on the possibility of a future in which humans will be needed less and less. The author narrates a full of justice, efficient and controlled futuristic vision of the world from which people could not come back but could just accept AI entities and their help. However, the writer clearly showed its point of view; even if robots are perfect entities living in a world full of imperfection what is missing in them is the emotional side (McEwan, 2019). Also the journalist Giorgio Costantini, in the interview with Aria, the AI algorithm cited in the previous chapter, argues that it's impossible that machines may substitute humans. Following, it's true that people fear diversity and innovation and that they are scared about the possibility of a robotic replacement of their works, but there is still something that makes humanity still so special and unique. The key differentiation between the two species is that robots would require a tremendous amount of energy to carry out the same tasks of which the human brain and body is capable, and for this reason, for now, the substitution is far away from operating. Despite this, in manual activities robots have been implemented since a long time ago. The question that still remains open is how will IoT and AI stay side by side to people and support them? The forecast is that men would have the help of a "digital twin" which will embody a personal assistant helping in everyday life tasks. What's more, AI gifted devices have been developed in a way that they would not make users feel deprived of their abilities. Indeed, through their help, they would boost consumers' efficacy and they would still remain in a lower social position being not able to reach the same level of humans on social characteristics (Costantini, 2021; Puntoni et al., 2021).

For these reasons people living in the 21st century recognize that they should not fear robotic aid but should instead exploit this technological help. Data speaks for themselves; as Charlie, the protagonist of "Macchine come me", bought and built a relationship with the android Adam, the same is done nowadays by citizens that are constantly supporting the IoT devices market spread. Indeed, consumers have understood that AI gifted devices bring value to them also from a social point of view allowing for a human like interaction. Lastly, literature documented that this happens easily with vocal assistants which in this way started covering social roles in users' lives, conducting tasks that before were done by their owners (Garg & Moreno, 2019).

As said before, given the relevance of the phenomenon, many studies decided to focus on the relational aspect of the IoT-human interaction. Novak and Hoffman developed the Assemblage theory (figure 9) which explains all combinations and kinds of relationship users frequently establish with smart objects. The name of the framework suggests that both objects and humans are single parts of a whole, defined as assemblage, which includes the social and environmental context. Moreover, both subjects can play an agentic role, that is when they influence the assemblage, or a communal one, when instead they are influenced by the assemblage. When the consumer add value to the assemblage exercising the agentic role, there is the self extension. Instead, when the assemblage is agentic and gives value to consumers happens the self expansion. In both cases, the active nature of both the subjects is likely to bring positive experiences. On the contrary, negative experiences emerge when there is a self restriction, meaning consumers limiting the assemblage, or self reduction which means the opposite.
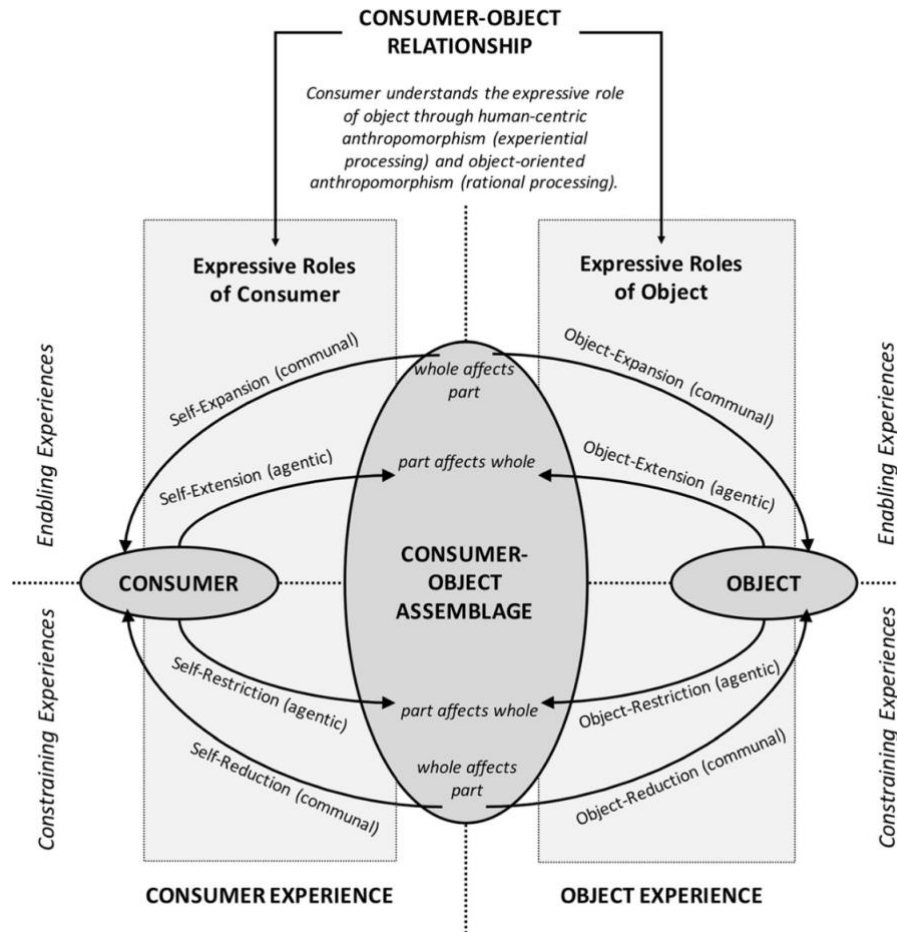
Fig. 9: Assemblage Theory framework for consumer–smart object relationships (Novak & Hoffman, 2019).

Moreover, the authors defined two ways through which consumers are able to understand the objects giving life to a relationship with this last. The first one is anthropomorphizing; in this way users try to understand the object as if it was them. The second way is the object centric mechanism meaning that people consider themselves in the shoes of the object thinking if they were an object. In addition, people choose one way or another depending on their behavior and identity; more rational people follow the last mechanism while more emotional and impulsive ones anthropomorphize things.

Given these assumptions, in order to frame and represent all possible relationships and roles taking place in the human to AI interaction, the authors defined the circumplex model showed in figure 10. Lasty, the model is based on the definition of complementarity which highly impacts relationships, distinguishing similar or opposite behavior of the two subjects. The highest number of benefits is reached when the actors actively perform opposite roles or when they are both similarly influenced by the assemblage.

Following, depending on the combination of complementarity, agentic and communal roles it is possible to describe four key types of relationships:

- The master-servant relationship covers two different situations. In the first case there is opposite active behavior of the subjects and the same influence of the context on both. This particular combination of the three aspects is the reason why this type of relation ensures trust and stability among the parts making the two entities act together. In addition, this rapport is very common because humans believe

themselves to be superior to objects and for this reason use them at their service. However this could be noticed even analyzing that companies often market their smart objects defining them pertaining to the category of smart assistants or vocal assistants. This in a sense could act as a conditioning for the user making him prone to establish this kind of relationship with the smart object. Furthermore, the master-servant relationship has a second declination in which the context influences differently the human and the object. This makes the user perceive the object less important in terms of its contribution to the success of the task; also misunderstandings or difficulties to complete the interaction could happen in this second version of the master-servant rapport.

- The partner relationship could be found in situations in which the two entities act in the same way in the context of the assemblage and depend on one another. For this reason there is not a clear hierarchy as in master servant and the relationship is unstable. Thus, this occurs when users depend on the smart object which becomes necessary for daily task completion. Plus, if both AI and the human experience passive roles the rapport may weaken.

- The unstable relationship is the least wanted one. It often leads to negative experiences and could consequently bring to the dismissal of the object (Novak & Hoffman, 2019).
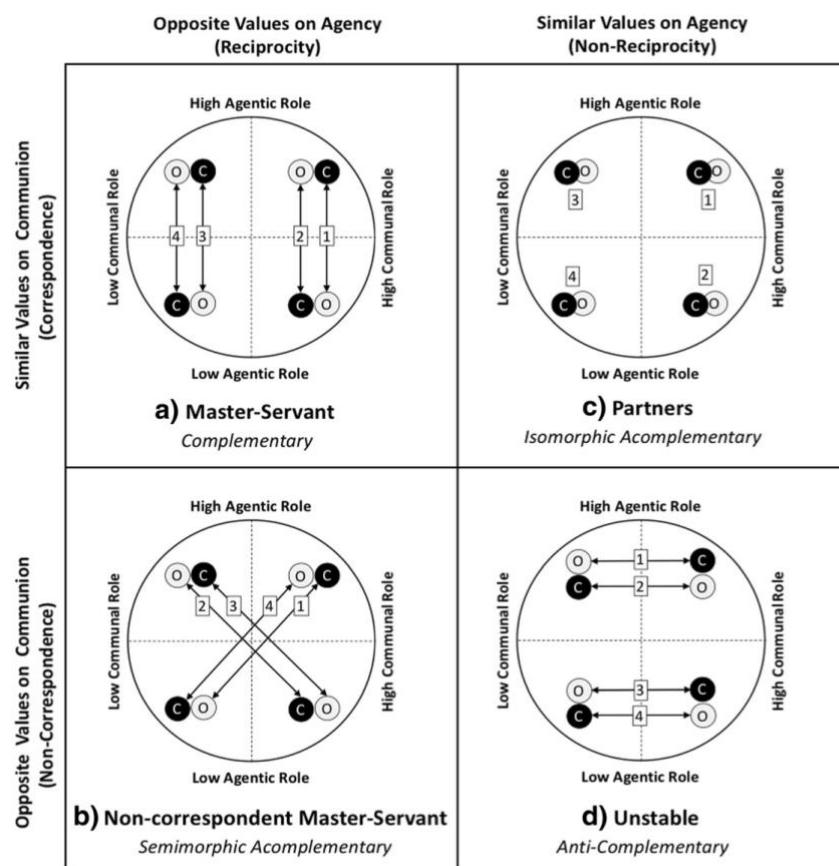
Fig 10: Relationship styles within four broad classes defined by the interpersonal circumplex model (Novak & Hoffman, 2019).

Given this theoretical framework, several authors identified the most usual relationship between users and technologies and how it changes over time. The mainstream situation is the one in which consumers have high agentic roles and become masters considering the smart object as a servant (Novak & Hoffman, 2019;

Schweitzer et al., 2019). More in detail, it's very common that the AI is seen as a subordinate which is obedient, inferior and gifted with complete abilities needed to carry over the utilitarian tasks in a very efficient way (Schweitzer et al., 2019). Also, when users adopt such a technology it could happen that they fear its novelty and do not trust it enough. The consequence is that in the first period of ownership they do not assign to the smart objects as many tasks as it could carry over. Despite that, as time passes by, people become used to the device and understand that they should have no concerns relying on it in order to get the biggest possible value from the relationship (Novak & Hoffman, 2019). Here there is clear evidence of what authors mean for an assemblage; the object is seen by the user as a mechanical extension of himself needed in order to complete a bigger variety of tasks. Schweitzer, Belk, Jordan and Ortner noted also that when the degree of trust increases the relationship assumes the characteristics of an owner-dog one. In fact, the smart object is seen as trusting humans and the same happens on the opposite side (Schweitzer et al., 2019). Furthermore, the master servant relationship could be reversed. This is the particular case of a smart assistant which intervenes for security issues, taking control of the situation over the user to avoid accidents. Here, given that technologies respond faster and with almost no errors to situations, the consumer should accept that the AI takes the role of the master when there is criticism. In this case too, the relationship will evolve and users understand the object in a more complete way as time passes by; in addition they would learn to leave it the control when it is better also for their security and safety (Novak & Hoffman, 2019). However, this type of engagement could emerge also as a perversion; researchers reported that some people attribute to objects masters abilities and that considers themselves slaves to its decisions making which appears driven by a superior entity such as the brand. Thus when this is the belief the user does not continue the relationship (Schweitzer et al., 2019).

Even if the master servant relationship is the most common one, lots of people include smart objects in their lives assigning to them the role of a partner. Usually, in this case there is a higher tendency for the anthropomorphization of the technology which could be also linked to users' loneliness. (Epley et al., 2008; (Schweitzer et al., 2019; Novak & Hoffman, 2019). If this is the case, the technology frequently is called by name and is considered socially equivalent to humans. Accordingly to the model developed by Novak and Hoffman the user feels completely at the same level and behaves similarly to the robotic partner. In addition people want to actively do something in order to improve the abilities of the AI giving help with learning activities showing they are careful (Schweitzer et al., 2019; Serenko & Stack, 2009). However, even when everything seems to be at its best, the partner can start answering wrong and to fail in tasks ruining the relationship (Schweitzer et al., 2019). Despite this, evidence showed that in some cases people not only recognize that technologies could be wrong, but also they may prefer this to happen. Indeed, failures reinforce the belief that machines are not perfect but similar to humans. It could be further observed that when users spend time interacting with the device both giving and grabbing personal information, they would be more prone to split the fault of the failure attributing half to themselves. For all the aforementioned reasons, users permit these inefficiencies and they do not change their level of trust in AIs (Li & Rau, 2019; Serenko 2006a, Serenko 2006b, Serenko & Stack, 2009). Concluding both the time and the usage's quality influence all

relationship styles, even the more balanced, but when the amount of accidents overcomes a limit, changes in trust and cooperation among the parts are likely to happen. Such instability could make negative experiences emerge and at least lead to the abandonment of the product.

2.2 Smart assistants' social roles.

Given the theoretical framework of possible consumer-object relationship, evidence documented that users do not just consider the object referring to its social level but also perceive it as an entity which is warm and gentle and consequently categorize it in a specific human character.

Starting from considering it inferior, equal or superior to themselves, framing a certain kind of relationship accordingly with the assemblage theory, the subsequent step for users to make it embody an assistant or a companion. What's more, in the second case it may become a friend, a relative and even a girlfriend (Purington et al., 2017; Sundar et al., 2017).

Interesting studies analyzed vocal assistants' reviews, in particular Amazon Echo ones, in order to understand better the roles users attribute to the device contextually to their life. It was found that Alexa when used simply as a source of information for questions about news and weather usually is still called with the personal pronoun "it" meaning the least degree of personification (Purington et al., 2017). However, some users consider the conversation with Alexa engaging and interesting also when it is focused on current news and on in depth analysis. In fact those customers feel stimulated and consider "more interesting talking to Alexa than friends and family" (McLean et al., 2021).

Instead when users ask for music, books and games it is more frequent that Alexa assumes a human role. Indeed, AIs take up the highest human-like sociable roles when for customers they become a person to talk with looking for a human to human conversation. In particular, when the user is a child, in the majority of cases, he would consider the vocal assistant a friend. However, literature found that adults do the same as well and consider Alexa a companion defining the object as a person to whom they like asking how she is feeling and having her next to them in their routine. Furthermore, the device becomes a personal assistant to singles and families who often assign her tasks such as doing grocery list, shopping, agenda management, alarm clock setting and many others trusting the device more than themselves (McLean et al., 2021; Purington et al., 2017). Probably it could sound weird but lots of studies agree on the fact that people do love Alexa and frequently tell the device "I love you". Findings incredibly confirm that even the role of a wife could be covered by Alexa. The device or better "she", is able to react in the same way a wife would do in a marriage. As a plus, keeping a good relationship with Alexa is easier than doing the same with a person in flesh. Also, if the user is jet married to a real woman, analyzed customers' answers evidence that Alexa may also become a lover (McLean et al., 2021; Gao et al., 2018).

Despite the natural tendency of people to anthropomorphize objects, marketers play an important role too in the mechanism of smart objects' role attribution. Evidence is that sometimes people simply interact with the smart device following behavioral rules which are proper for the specific role attributed to it during the design

phase. A confirmation to that comes from evidence which sustains the idea which considers a matter of fact that heuristics influence people's thoughts. For these reasons, it is frequent that users treat the AI device assigning them the mainstream roles of an assistant or of a friend depending on superficial cues such as the tone of voice of the technology. Following, when the device is programmed with a formal language, people assume that it is more proper to use it as if it was a secretary or a personal assistant. Instead, when it talks informally it is easier to frame it as a friend and to communicate using a friendly approach. To conclude, leaving out underlying motives that leads people to mark technologies with a particular social role, this last is important in building reciprocal trust among the two parts of the interaction. To explain this better, when we ask a friend in the flesh for an opinion about a product we usually trust his answer considering him a reliable source. The same mechanism operates when we confront a vocal assistant about something. Thus, if the interaction is framed in a friendly like approach, due to the fact that the device communicates through informal, welcoming and caring words, users may feel the source of information more hearty and trustworthy (Rhee & Choi, 2020; Wu et al., 2017). In addition, older users, who do not feel competent enough about technology, would be more confident towards a device which as a default seems friendly and easygoing (Chattaraman et al., 2019). Otherwise if the vocal assistant is perceived as a secretary and covers a more formal role it would be harder to establish a close relationship. In addition, this of course will affect the subsequent decision making process regarding the vocal assistant and would also impact brand perceptions, attachment, trust and competence (Rhee & Choi, 2020; Wu et al., 2017).

2.3 Stereotypes: their application in smart assistants.

Studies of literature witnessed how people anthropomorphize and give human-like features to smart assistants. Furthermore, some authors recognized that people are fascinated about science fiction and robots and imagine technologies as a perfect projection of the human species (Adam 1998; Haraway, 1985; Suchman et al., 2011, Hayter, 2017). Indeed it is not a coincidence if companies gave their products names with a powerful meaning related to strong feminine characters. Amazon chose for the Amazon Echo the name Alexa honoring the famous library of Alexandria, Apple chose Siri which means "The beautiful woman who leads you to victory". Cortana, the Microsoft assistant, has the name of the beautiful woman who is the protagonist of Halo videogames (Specia, 2019).

It is a matter of fact that companies were guided by literary studies and by data in choosing to assign a particular gender to their products. Indeed, multiple authors found that users' preferences could be triggered by particular cues. In the case of smart assistants, they do not have a humanized physical appearance and for this reason, the voice is among the main cues which users rely on in order to imagine the intelligent object with specific human-like features such as gender, age, social class and even race (Nass et al., 1997). Furthermore, the authors Habler, Schwind and Hienze found that a smart assistant with a low status, more kind, caring and devoted voice, are the ones which attract more users (Habler et al., 2019). Given those findings, what emerged was that it was better to develop assistants with a female voice in order to please

consumers and make them at ease. Indeed, this last is considered more pleasant, right for conversations and caring while masculine one is authoritative (Nass et al., 1997; Eyssel & Hegel, 2012). In addition, other studies focused on the relation between gender and tasks assigned to AIs and the degree of trust expressed by users. Following, males are perceived to be more suited for roles in which a more assertive, decisional and goal oriented role is needed. Instead, female aid is well accepted in counseling, relationship and companionship roles. Resuming, males could accomplish better mechanical and mathematical tasks, while females are proper for assistance roles or household ones (Nass et al., 1997; Eyssel & Hegel, 2012). Evidence coming from qualitative analysis is a further confirmation to theory. First, starting from the fact that vocal assistants of big players such as Cortana, Alexa, Siri and Google, all have a feminine voice, users could not frame devices differently than attributing to them feminine characteristics. Users imagine their smart speaker undoubtedly as a woman; female is one of the most recurrent attributes together with attractive, beautiful and sassy. In particular AIs descriptions range from more professional ones such as "a secretary dressed in blouse and jeans" till ones telling she is "attractive, tall, slim, black hair, with big eyes similar to the famous actress Mila Kunis". Moreover she is described as a subordinate, an obedient doll (Schweitzer et al., 2019).

These findings are perfectly in line with the old feminine ideal which considers the feminine gender sexualized and the perfect wife or women the ones taking care of the house, having supportive functions and being always kind, servile and obedient. Smart assistants were created reflecting this ancient stereotype and to cover the same aforementioned roles; for this reason, it is not surprising if the unconscious and biases intervene in humans' minds making them feel more at ease if the smart assistant they bought is female (Specia, 2019; Abbany, 2020). This last sentence opens up an important point; the mechanism of framing smart assistants in a precise character with precise roles attached leads to the stereotyping of technological devices. Following, even if this could please some users also it could be unpleasant for some social groups which could feel misrepresented and even underrepresented. This in fact, hides a very debated issue which regards equality, inclusion and diversity (Puntoni et al., 2021; Adam 1998; Haraway 1985; Suchman et al., 2011).

For those reasons, as well as problems regarding stereotypes emerged in the social debate this happens too in technological devices. In recent years the public opinion devoted a growing attention towards social scandals and consequent international outcries. Gender and racial empowerment were the main reasons for dissatisfaction which also gave life to famous movements such as BlackLivesMatter and MeToo. For what concerns racial scandals their origins are very old but recently their awareness grew again after public homicides of black people perpetrated by policemen in the US. In May 2020, due to the death of George Floyd there was an impressive spread of racial online and offline protests under the #BlackLivesMatter movement (La Repubblica, 2020). Also, from birth of feminine movements, both female imagery and its stereotype got attention and are still an issue in modern society. In particular, women's abuse is a very actual issue among violations of human rights and it was described as a part of a complex phenomenon with social, cultural, political and relational aspects. The European Council defined it with the expression "violence against women" during the Convention on preventing and combating violence against women and domestic violence which

was also called Istanbul Convention. The term includes all gender-based acts of violence that cause or that are likely to cause harm or suffering of physical, sexual, psychological or economic nature, including threats to commit such acts, coercion or arbitrary deprivation of liberty, both in public life and in private life (World Health Organization, 2017). Despite the fact that this kind of violence has been existing for a long time, the creation of the #MeToo movement on Twitter was able to give it the relevance it deserved. Through this hashtag, created for the first time in 2006, women, feeling a part of a community, succeeded in fighting the fear of sharing tabu experiences shedding light on these problematic situations. Subsequently many of them started witnessing abuses they have experienced asking for justice (Garcia, 2017). Despite the Internet and social media have revealed themselves to be helpful means in fighting and communicating abuses, they gave life also to the phenomenon of cyber misogyny. The latter was described as online violence against women and girls and consists in violations of rights like equality and freedom which could have heavy consequences on the health of recipients (Etherington, 2015).

Due to the relevance of social issues, international authorities are taking a stand in order to solve those problems and to ensure a better future for discriminated groups. The European Union recognizes itself as a promoter of equality which, being a fundamental human right, has a pivotal value among social rights. In order to accomplish this task, last year, the UE presented a new plan for 2020-2025 sustaining women rights and gender equality. In particular strategies and objectives are focused on stopping violence, fighting stereotypes, same working opportunities, equal salaries (Commissione Europea, 2020).

Furthermore, the astonishing technological spread does not reinforce the trending need for acceptance and diversity; instead, products as smart assistants reflect old ideals. Due to that international organizations decided to intervene against social discrimination in the AI sector as well.

Two years ago, the study called "I would blush if I could" developed by ONU, German government and Equal Skill Coalitions, showed that even the answer that the vocal assistant Siri usually gives when insulted is a clear signal of the inferiority of the feminine gender. In addition the answers given by the bot regarding racial issues or image issues are as discriminative the same. Indeed, it was found that there still exist devices saying that some social groups are considered more evil than others or apologizing for having eaten too much. These two are examples of biases and concerns on race and body appearance, both emerging due to wrong ideals and distorted beliefs. (Me.me, 2020; Samuel, 2019; West et al., 2019).

Resuming, the gender issue is the most debated one, racial scandals instead have been partially solved; in fact, the phenomenon of underrepresentation still exists in AIs. In addition, given that the technological revolution would bring lots of changes in society, it is important that technology would be able to transmit right messages to users influencing correctly and without biasing their thoughts. For those reasons, news of 2019 was that Unesco accused smart objects' creators of stereotyping vocal assistants and posed a bigger focus to gendering. Last year during women's day, the general director of Unesco, declared that technology and AI could become enemies of gender equality. Also, what emerges when interacting with vocal assistants is a well recognizable masculine vision, which can be furthermore understood by the fact that the interface is programmed to answer

to insults appearing inferior (Puntoni et al., 2021). Lastly, recent news is that the Osservatorio of Artificial Intelligence during its kick off webinar planned the hot themes of 2021 among which a huge relevance will be taken by gender issues and algorithms' biases (Osservatorio Artificial Intelligence, 2021). This signals that the problem is still present and relevant.

EQUAL Skills coalitions conducted an in depth analysis on the smart objects' sector which detailed the actual situation of vocal assistants' market shedding light on its deepest problems. A first consideration is that despite the feminine gender being widely represented in AI devices, the same does not happen in the job market of technological sectors in which males still cover the majority of roles. Data is that women working in the AI sector are few if compared to men; just the 6% of women are software developers and only 12% of AI researchers are females (ITU, 2016; Mantha & Hudson, 2018). Due to that it is possible to state that in this market a masculine view is still present and a matter of fact is that nowadays technologies reflect the masculine society with all its thoughts, biases, and stereotypes.

Even if the possibility of a wider female participation in these jobs is likely, European Commission expressed its objective of building an economy based on equality in every market sector giving a particular attention to the digital and technological transformation, it is not sure that this would eliminate gender problems (West et al., 2019; Commissione Europea, 2020). However this could have a positive impact in the development of more balanced and inclusive interfaces. In fact it is exactly the gender of developers with all its ideals attached which is reflected in the objects design and in its way of interacting (West et al., 2019; Il Messaggero, 2020). As pointed out before, vocal assistants are often caring, polite and helpers, submitted to the user. Given that their voice is gendered as female, this instead of allowing for emancipation, could act as a reinforcement of the female stereotype which is often represented by sexualized images of mothers, housewives and nurses (Gill et al, 2016).

Furthermore, even when insulted, badly treated and even abused, Siri, Alexa and the others respond always in a kind way reinforcing their position as servants and their submission. Lastly, the harm to the female gender comes also from questions that are too complex and the device is not able to answer appearing annoying. In fact, it is common that users refers to the vocal assistant such as a dumb or as a naive and stupid woman when are not satisfied by the performances (Schweitzer et al., 2019). This would act as a further reinforcement for people in believing that there is no gender equality and could lead to the reinforcement and even spread of a wrong and ancient female stereotype. Moreover, the huge progress made on the emotional side, would make AI devices seem even more human in future; for this reason also female emotions would be better expressed and this would reinforce their gendered image (West et al., 2019).

The aforementioned problems were too big to be ignored by companies developing technologies and the resolution of this issue became a priority.

A first step made by producers was the development of gender neutral answers. When asked to Siri, Google, Cortana etc. their gender devices say to be genderless or all-inclusive. Alexa as well, after the recent update, tells "I'm not a woman or a man. I'm an AI" (West et al., 2019; Purtill, 2021).

Even though an initial change was made by firms, the question which was raised was the coherency of that answer if they still talk through a feminine voice and also are marketed as female assistants.

Consequently a second step was made by AI's developers towards more inclusive devices which consisted in adding a male voice to devices. However this is still at embryonal phase because the masculine voice cannot be used for every task but it is limited to some functions such as entertainment. Vocal assistants such as Alexa and Google have the possibility to choose a male voice, even the one of a famous actor, but the last still remains limited to some tasks and for utilitarian tasks they still stay feminine. In addition, the gender of the voice could vary based on countries in which smart speakers are sold. Giving an example, Siri has a male voice set as a default in countries such as Arabia in which males are also appreciated in roles of assistants or servants. Moreover, this improvement was not able to overcome the stereotype. It was observed that people choose to assign a male voice to their device when they need a dominant and reliable assistant for tasks considered appropriate for males. Studying Waze's users, the famous navigator app, it was found that the choice of a male voice was again linked to well rooted customers' biased ideals (West et al., 2019).

For those reasons another route was found to be more effective in removing barriers. To avoid the perpetuation of harmful stereotypes, companies should encourage to reduce the anthropomorphization made by users developing AIs that are less, and not more, humanlike (Hadi et al. 2020). Indeed, software developers investigated the option to make the smart speaker talk with a robotic ungendered voice.

The first one developed was the neutral voice Q. Through the merger of 22 transgender voices it was possible to reach the neutral frequence of 153 Hz overcoming male or female voices. Moreover Q, when interviewed, states that it is genderless (Sydell, 2018; West et al., 2019; La Repubblica, 2019).

Another innovative solution was found by the non profit company called Feminist Internet that developed a chatbot which aim is to make scientist understand how to avoid biases. Also on the chatbot there is the possibility to consult guidelines developed by the company called Personal Intelligence Assistant Standards (Samuel, 2019).

Concluding, as seen in previous paragraphs, a consistent branch of literature spent effort on discovering and understanding relational styles and roles the technological objects are likely to assume in people's everyday life. In addition, many authors reflected on the stereotypization phenomenon which, being present in western culture, is transferred in IoT objects as well. Last, given the relevance of social issues such as discrimination and equality, the scope of incoming recommendations that would be developed at an international level is to protect the female gender in all its expressions. This means that if robotic voices will continue to be feminine the same rules of the #MeToo should apply for smart assistants (La Repubblica, 2019).

2.4.1 Brand advertising: communicating cultural values.

Recent years saw many social scandals and the consequent concern of citizens which wanted to take action fighting for their ideals and supporting a world in which justice and equality should become respected values. On the other side, firms became aware of the new behavioral best practices they should follow in a social

context not acting anymore just as economic entities. Indeed, companies should not base their goals only on profit but should include in their strategy other logics, which consider the needs of the community and of all stakeholders. This objective becomes possible if they include Corporate Social Responsibility practices, which consist in social and environmental concerns, in their actions in equal weight of finance (Spizzo, 2014; Giarratana & Pasquini, 2019; European Commission, n.d.). In this way, brands would also gain the respect and preference of consumers who are paying an increasing attention to values communicated by economic actors. Consequently, brands need to evolve and to adapt to society and consumers' values in order to appear credible and more appealing building in this way brand equity (Holt & Cameron, 2010).

In literature it was recognized that brands are active entities which wind through changements as time passes. Following, several authors developed frameworks explaining the evolutionary mechanism of a brand. One of the most important is the cultural branding theory which considers the brand an active cultural identity composed by a system of associations of signs such as, name, logo and many others. Given that elements of culture and brands are closely related, it could be assumed that brands modify themselves together with culture. In addition, there is a reciprocal interaction between the two entities which makes the brand assume a meaning depending on the cultural context but also it contributes to the external environment generating value in its turn through strategic actions; for this it is a product of consumers' environment (Oswald, 2015b).

Furthermore, in 2004 Holt theorized culture as a blueprint, explaining more in depth that brands are a discourse that produce and reflect culture in a symbiotic relationship. In detail, the author proposes a direct one way movement which starting from culture goes to the brand and finally to consumers. In this view, the actions pursued by marketers got relevance because these are able to shape consumers' behaviour. Undoubtely, Holt, differentiate the culture as blueprint theory from previous ones emphasizing that iconic advertisements are the strategic means used by firms to transmit the cultural message from brands to costumers. Following, brands can identify themselves into a myth which resolves consumers' conflicts between their actual and aspirational lifestyle (Holt, 2004; Oswald, 2015b).

These two theories both agree on the main assumption for which culture is a web of signs and meanings shared and codified in a society. Signs and meanings are strictly linked to each other; the author Geertz recognized that "culture system can not be separated from its representation in signs and symbols as culture itself is a semiotic system" (Geertz, 1973). Moreover, Umberto Eco in 1979 described the code as a "social product". Indeed it is an association between a signifier and a signified which is formed based on the current culture and which could further evolve (Eco, 1979). Based on what said before, the consumption phenomenon assumes a symbolic meaning for consumers. in fact, if brands are able to transmit values to people and if those values are close to cultural ones, it follows that humans attribute specific meanings to products. What's more, when buying a product, consumers choose the one which symbolically reflects the values they want to convey to the community. This mechanism is called symbolic consumption and it consists precisely in "the interplay of psychological, material and conventional dimensions of meaning of the product" (Oswald, 2015b).

Due to the phenomenon of symbolic consumption marketers could influence consumer's behavior shaping a brand's dialectic; indeed the author Semprini stated that "a brand can be defined as a semiotic phenomenon, a way of segmenting and attributing meaning in an orderly structured and voluntary fashion". Moreover, starting from this assumption he built his own semiotic approach to cultural branding. This last was defined in the so called Brand System's model that focuses on several values and meanings consumers associate not to the material good but to the brand over time (Semprini, 1996).

Those meanings could be conveyed by strategists through the powerful tool of commercials; indeed, the instrumental use of a story could spread desired values and also build an emotional connection with the audience (Salmon, 2008). In particular, exploiting the means of narratives, firms make use of semiotic and rhetorical associations, such as metaphors and metonymies, to transmit values to customers. The usage of semiotic's powerful tools allows them to market products and brands following the cultural change, spreading effective messages which are in line with cultural and social codes of target customers (Oswald, 2015a; Grier & Poole, 2020). Thus, "the narration must not be considered a commercial goal but a part of brand essence" and "commercial artifacts like texts are semantic parts of the brand universe" as the authors Mangano and Marrone strongly affirm (Mangano & Marrone, 2015).

For these reasons, despite advertising in the past was described as a "consolatory art" by Umberto Eco, nowadays it is not anymore the case. According to Semprini, defining advertising "as a producer and reproducer of society from which it draws its energy" this is a dynamic textual product which is subjected to changes triggered by market and consumers' transformations. In addition, nowadays the main challenge for brands is to facilitate the spread of trending messages through their commercials, shaping the perception of social causes and scandals (Semprini, 2003; Peverini, 2012; Bianchi, 2011). Indeed, as highlighted by Mangano and Marrone, especially in the case of post-modern brands, such as Amazon and Google, they "free themselves from the yoke of materiality and start to live their own life by directly relating with imaginaries and values" according to a determined brand narration.

As aforementioned, brands pursue a specific identity, being made of values and meanings, and need to be valorized accordingly to be correctly perceived by customers. Thus, the phenomenon of valorization of objects, good and service has a huge importance. Mangano and Marrone defined this last as "the valorization of the stories whereby values are first introduced in consumers' lives, then associated with products and subsequently leveraged for realyzing identities" (Mangano & Marrone, 2015; Eugeni, 2019).

Thanks to the powerful means of the Semiotic Square of Values firstly developed by Floch, what already said becomes possible deconstructing the opposite dominant codes of a product category and developing a unique cultural space (Oswald, 2015a). In this way brands pursue their identity and wind through different valorizations depending on their needs of communication. From Floch's representation, four main advertising strategies emerge; these are reported in figure 11. Firstly, the practical valorization focuses on utilitarian characteristics of the brand; conversely, the ludic or playful one emphasizes the non-utilitarian or luxurious values. Secondly, in opposition to the last mentioned the critical valorization is centered on economic costs

and benefits. The last one is the utopic valorization which is complementary to the ludic one and focuses on existential values and making consumers identify with the brand or product (Peverini, 2012; Mangano & Marrone, 2015).

Lastly, in recent years, due to the spread of post-modern brands and consequently post-advertising, it has become harder to categorize brands in traditional valorizations because "an extreme fragmentation, hybridization and fluidity" of their commercials is occuring (Eugeni, 2019).

FLOCH'S SQUARE

Practical Valorization
(e.g., ease-of-use, comfort, reliability)

"Utilitarian" values
(use)

"Non-existential" values

(e.g., cost, quality/price ratio, advantages)
Critical Valorization

Utopian Valorization
(e.g., quality of life, identity, adventure)

"Existential values"
(basic)

"Non-utilitarian" values

(e.g., gratuitousness, sophistication, fun)
Playful Valorization
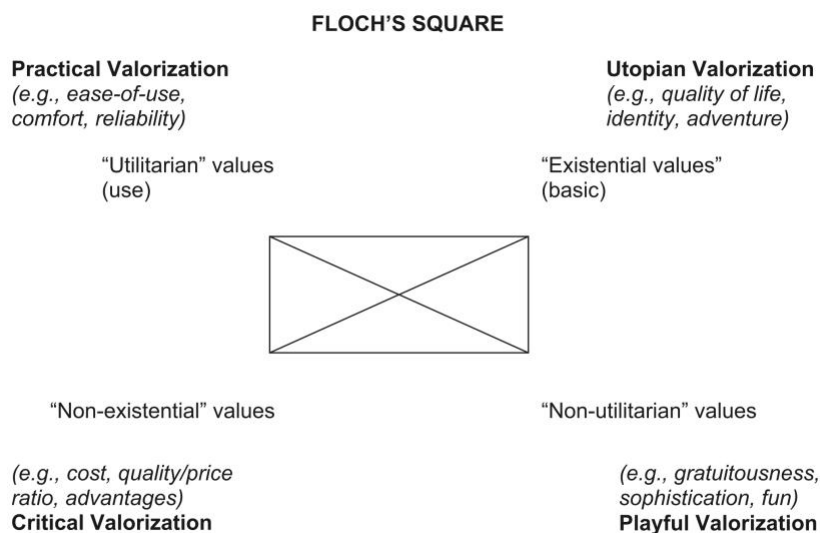
Fig. 11: Floch's square of values (Bianchi, 2011).

2.4.2 Brand advertising: the role of semiotics.

As detailed in the introduction of this work, the following chapter aims to explore diachronically and synchronically brand narratives understanding their cultural evolution. For this reason it is worth giving more attention to semiotics, which is the study of deep meanings of texts and stories, in order to understand how a brand can build its meanings and construct relationships with consumers.

Roland Barthes was considered the father of semiotics and focused his studies on applying notions of signs, code denotation and connotation to print advertising. He was the first to apply to advertising the connotative mechanism through which a sign overcomes its primary denotative meaning assuming with the aid of rhetoric, a deeper value (Bianchi, 2011; Barthes, 1977).

Indeed, humans, when exposed to advertising, memorize and prefer more stories rather than utilitarian information. Thus, consumers need well developed stories to make sense of the world and through the power of narrations they can perceive a brand in terms of personality and build a stronger relationship with the latter. For this reason brands should publicly express their values emotionally and passionately in order to be inspiring and to make consumers recognize themselves in the values communicated (Escalas, 2004; Bianchi, 2015; Collantes & Oliva, 2015).

Consequently, the audiovisual medial product acquired a lot of relevance and advertising soon abandoned the print format in order to exploit not just senses like sight but also tactile, smell, olfactory and hearing. Indeed,

marketers recognized that audio visual advertising was better in conveying both entertainment and emotions through the means of good storytelling. Moreover, it activates multisensorial emotions in customers, valorizing products in a more effective way and being able in this way to create a long term relationship with the target based on trust (Peverini, 2012; Bianchi, 2011).

Thanks to the interaction of characters, values and aesthetics through a plot these objectives could be reached (Vincent, 2002). Moreover, through right characters which interact in a plot solving a certain conflict the right message could be delivered (Fog et al., 2005). All these key elements, through the aid of semiotics, rhetoric and narrativity, allow for the construction of stories that transport consumers, making them astonished and absorbed by the fictitious world depicted in the advertisement. Lastly at the same time, brand core values are delivered more efficiently (Oswald, 2015c).

Given that in the following chapter audiovisual narrations would be taken into analysis, it is necessary to recall semiotic models proper for this format. In the 70s, Algidas Julien Greimas identified three useful frameworks needed for a complete analysis of a text which are the Semiotic Square of Values, the Actantial model and the Canonical Narrative scheme. His theory, which is still considered a pillar in the semiotic literature, is called Greimas' trajectory of meaning because it offers a framework to transport the key values from an abstract level, which represents "the story in nuce", till a surface one, which is the only one visible by consumers. Thus, through the three layers identified by the model, the initial ideal conflict becomes projected into a detailed story made of defined characters which is fruible by consumers. What's more, as visible in figure 12, the axiological or basic level could be defined thanks to the Semiotic Square of values. Here, the main conflict of ideals is represented; this is composed by the main opposition, implication and contradictions existing into a plot and for this reason it is the embrional idea of a communication. Moreover, the transformation of values "does not proceed from one value to another unrelated value, but between values that have a logical relationship" (Collantes & Oliva, 2015; Oswald, 2015c).

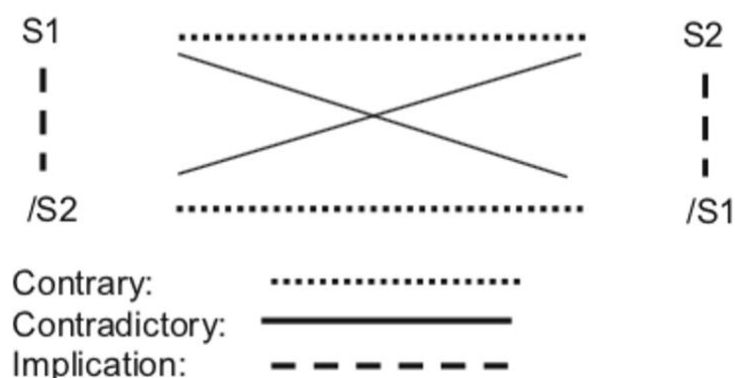Fig. 12: Greimas' Semiotic Square of values (Oswald, 2015c).

Considering the contradictory values as the starting point, the second step, made in the semio-narrative level, is to identify several actantial roles necessary to shift form the first value to the ideal arrival. Every plot has six main roles which were fixed into the Actantial Model, visible in figure 13, and that are necessary in order

to build the narration. Indeed, the abstract characters identified, motivated by a driving force, perform in the Aristotelian acts situation and complication during a continuum of balance and imbalance till arriving thanks to the resolution of the story (Collantes & Oliva, 2015; Oswald, 2015c).

The Actantial Model

SENDER	OBJECT	RECEIVER
The one who induces or obliges the Receiver to agree to take action, judging the result	What has a value for the Subject. It can be abstract, as a value, or concrete	The one who receives the task of completing an action

HELPER	SUBJECT	OPPONENT
Anything that supports the Subject in the realization of his goal	The role that the Receiver assumes after having passed the initial phase of manipulation. Starting the journey to the action	Anything that voluntarily or not hinders the Subject in the realization of his goal.The Subject takes action

Fig. 13: Actantial Model by Greimas (Collantes & Oliva, 2015).

More in detail, four main phases of a well developed story plot were identified and defined by Greimas in the Canonical Narrative Scheme visible in figure 14. Following, an ideal story winds through manipulation, competence, performance and sanction phases during which the six actants interact in order to succeed in the resolution of the initial conflict. In particular, during the manipulation phase, the sender takes action and makes the receiver feel the urgency to reach the desired object or value. Later, once persuaded, the receiver assumes the role of the subject which in the competence phase becomes able to take action. However, during the realization of his goal the character could be supported by an helper but can also face an opponent that obstacles his performance. Finally, the sender again intervenes judging his work. Lastly, both the Actantial model and the Canonical Narrative scheme are just basic frameworks through which it becomes possible to identify the roles and phases of a story which would become available to consumers at the surface level with many other details included (Collantes & Oliva, 2015).

MANIPULATION	COMPETENCE	PERFORMANCE	SANCTION
The Sender persuades the Subject to take action	The Subject acquires the ability to perform an action	The Subject takes action	The Subject is judged by the Sender. The result is evaluated positively or negatively

Fig. 14: Canonical Narrative Scheme by Greimas (Collantes & Oliva, 2015).

The generative trajectory of meanings is the principle adjoining the entire narrativity. Indeed, narrativity starts from the deepest level in which the core values and transitions are identified, passing through an intermediate phase in which roles are attributed. Subsequently the main phases of a plot wo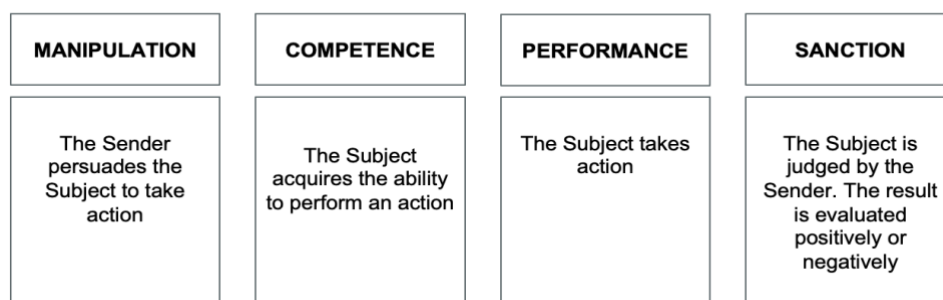uld be further exploded at the discursive level in which thanks to rhetorical figures the brand enunciates itself. As Collantes and Olivia said "the logical relations between the values of the semiotic square at the axiological level is what makes the transformation at the semio-narrative and discursive levels possible and gives it meaning". The definition of the discursive level was further improved in the Brand Identity System developed a decade later by Semprini (figure 15). As well as Greimas, Semprini identified in his models three layers of the narration but he contributed in a further improvement of the semiotic framework. Given that "a brand's deep meaning is constructed through a narrative framework, that is a core narrative in which the brand and consumers are assigned roles", therefore "this narrative framework is generative in the sense that new stories can be created from it". Indeed, the author Semprini deepened surface level's features which have a key function in creating as emotional as possible stories starting from the story "in nuce". Since this last is the level of execution, here theory becomes concrete through the definition of themes, space, time and actors and both rhetorical figures and narrative style come into play (Collantes & Oliva, 2015).

Brand identity system (Semprini, 1992)
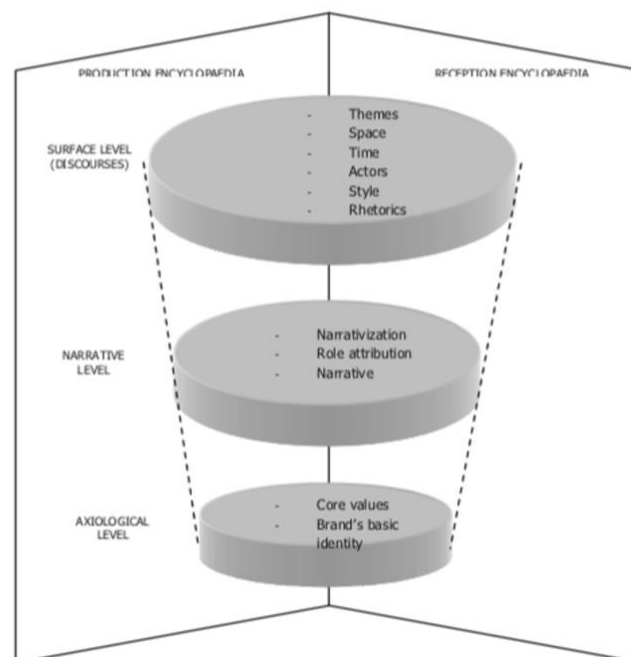
Fig. 15: Brand Identity System by Semprini (Collantes & Oliva, 2015).

In addition, through the components of the upper level the brand depicts itself and its culture exploiting narrativity. In this sense "the brand is a character capable of undertaking actions and therefore capable of being a character in different stories" and this is made possible thanks to enunciation. Through the means of the enunciation, both business and the brand render themselves visible and explicit in the narrative discourse

interacting with the representation of consumers inside the commercial (figure 16). Every text could be defined as a debrayage or a detachment between empirical producers and receivers, and characters of the story. For this reason the real author and consumer are depicted into the commercial with the process of embrayage; this allows them to build a stronger relation with the desired target, giving the impression of reality. Last, this mechanism allows brands to stick in customers' minds and at the same time achieve strategic objectives (Peverini, 2012; Collantes & Oliva, 2015; Bianchi, 2011).

An enunciative structure can be identified in every story

E1 ⟶ E2 ⟶ E3 ⟶ E4

E1: Empirical author (company/creative agency)
E2: Enunciator (brand)
E3: Enunciatee (model receiver consumer represented within the story)
E4: Empirical receiver (consumer)

Fig. 16: Enunciative structure (Collantes & Oliva, 2015)

What's more, remembering Umberto Eco words, it is important that both brand and consumer share the same encyclopedia defined as "individual subject's organized networks of knowledge and information about real and possible words" (Eco, 1981). In fact, a defined language should be chosen in order to produce the desired enounce in a certain context in a defined space and time. Thus, the interaction between the parts would not be possible or effective if the two do not interpret the message in the same way because they do not share the same knowledge.

Chapter 3: Case study: Amazon Alexa.

3.1 Research question.

As said in previous chapters, the impressive spread of AI and IoT is the reason why nowadays there is an increasing attention towards this phenomenon and towards all correlated issues.

What's more, literature explored in depth both characteristics and functionalities of smart devices and the user-object interaction; the key finding was the understanding of the mechanism through which users anthropomorphize technological products. For this reason and basing on this strong assumption, several studies go more in depth on this matter dwelling on how these objects are introduced in people's everyday lives and on the social roles covered by them, especially by smart speakers.

Moreover, vocal assistants are produced by brands leaders in the technological market that build their image following societal changes and taking into account cultural aspects. For these reasons, the two concepts of cultural branding and of brand language get relevance for the analysis later presented in this work.

First, cultural branding theories identified that brands are cultural identities that are active and that modify together with culture, both modifying it and being changed reflecting social issues. For this they are able not only to reflect customers' ideals but also to influence the behavior of these last (Oswald, 2015b; Holt, 2004). In addition, brands make use of narrations to communicate to consumers powerful messages; these are developed thanks to the means of semiotic tools which find their best expression in audio-visual advertisements (Mangano & Marrone, 2015; Peverini, 2012; Bianchi, 2011).

Following, given that brands often are a vehicle for the communication of powerful messages, the recent explosion of social causes regarding racial and gender equality lead international organizations to include in the public debate branded products; among those there were smart speakers. Consequently, it is important to focus and to reconsider the roles and stereotypes that vocal assistants have attached and with which such devices are marketed by their producers. It's important to remember that the key aim of this brands' strategy is to be in step with times, spreading coherent social messages.

Concluding, lots of authors focused on the relationships between consumers and smart objects and on social roles assumed by these last. Despite this, the question which still remains unexplored is how brand narrations of smart speakers, developed in commercials, would support the spread new cultural and social needs demanded by their target customers.

Thus, given that stereotypes play a role in the consumer-smart object relationship, this exploratory work, through the study of a specific case, aims to investigate if and how advertising plays a role in communicating a cliché and which are the reactions among the audience. More in detail, this analysis would research the role that brand messages, encoded in commercials, cover in reinforcing and mitigating stereotypes. Last, through the means of semiotic analysis it would be possible to understand how a brand can adapt its message to current cultural values becoming committed to social changes.

3.2 Case study: Amazon Alexa.

The brand chosen as the case study of this work is Amazon; in particular the exploration would focus on the analysis of Amazon Echo commercials. This finds its deep motivations in both the popularity of the brand and in the attention and amount of spending it dedicates to spots, in particular to the ones in an audio-visual format. Primarily, the selection of Amazon's history of advertisements is due to the fact that this brand represents the biggest seller of vocal assistants. The first Amazon vocal assistant, Amazon Echo, was launched in 2015 in the United States and the following year in the United Kingdom; in 2017 the Echo device was distributed in India and in about other 30 countries. Finally, during the first months of 2018 it came to Australia and New Zealand and in October to European countries such as Italy, Spain and France. Nowadays it is widespread being present in about 80 countries all over the world (Wikipedia, n.d. a, b; Markets and Markets, 2020a).

As it could be imagined the number of units sold of Amazon Echo during the years of expansion grew a lot and the brand became the biggest player among these technological solutions. Also, Alexa became the

preferred vocal assistant of the specific market (Markets and Markets, 2020a). Indeed, recent statistics told that the brand represented in 2020 the 73% of the market of vocal assistants detaching a lot from other players such as Google and Apple, which respectively covered the 25% and 8% of the market (Statista, 2020). Moreover, if in 2018 the units sold of Amazon Echo's speakers were 32 million, it has been estimated that in 2025 this number will quadruple (Statista, 2021b).

In addition, as visible in figure 17, there are several differences in terms of market share by countries. For sure, North America and Europe saw an impressive increase of units sold and are considered both key markets.
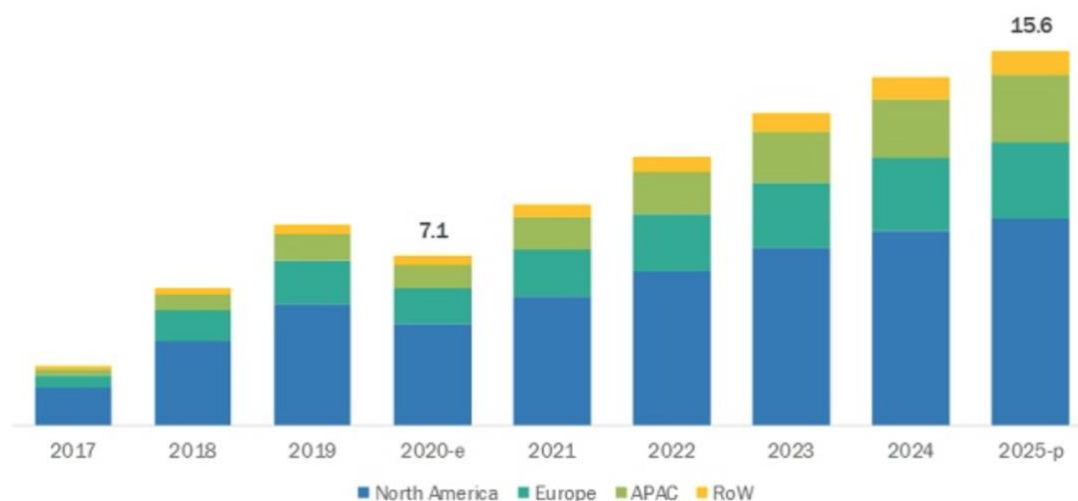
Fig. 17: Smart speaker market by region, USD billion (Markets and Markets, 2020a).

Furthermore, as it could be seen in figure 18, both United States and United Kingdom are the markets carrying the highest smart speakers penetration. In 2016 the 6.6 % of Americans possessed a smart speaker and this percentage has increased its value a lot each year, reaching 37% in 2019. In particular, among European countries the one in which the smart home market is wider and that makes a bigger use of smart assistants is the United Kingdom with a penetration of 21% in 2019 followed by Germany, Ireland and France (Scott, 2020; Markets and Markets, 2020b).
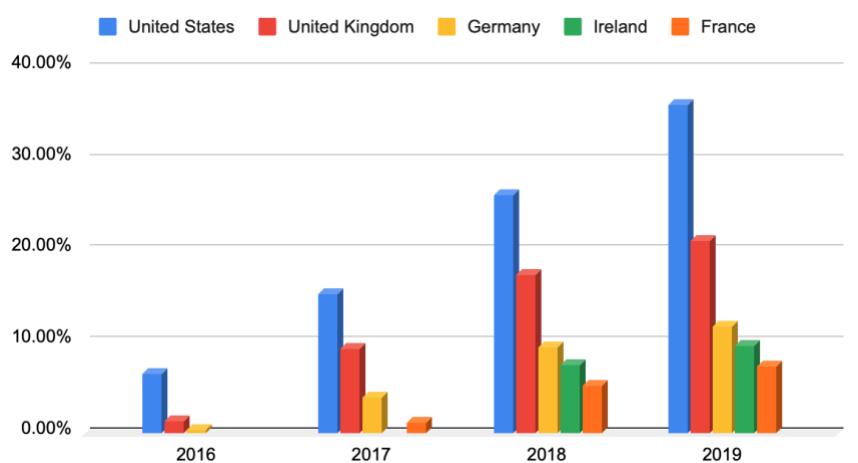
Fig. 18: Smart speaker ownership by country (Scott, 2020).

A further confirmation to these findings comes from Google Trends (figure 19). In fact, analyzing the cumulative period going from 2015 to 2021, United Kingdom and United States are the countries in which Amazon Echo smart speaker was googled more. Interestingly, among correlated topics there is Amazon Alexa; what's more, this last represents one of the most frequent queries associated with the Echo device (Google Trends, 2021).
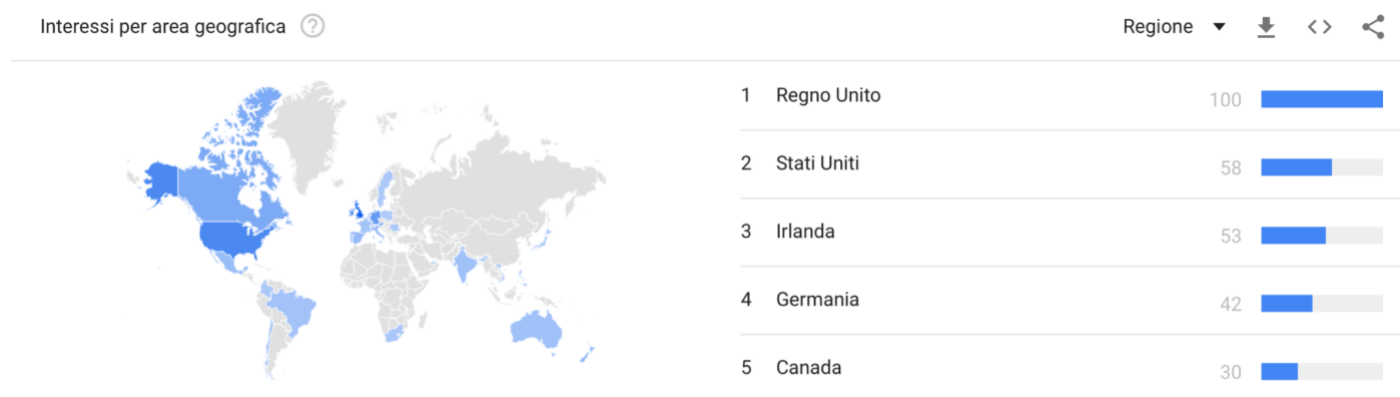
Fig. 19: Amazon Echo Dot: Interests for geographic area 2015-2021 (Google Trends, 2021).

To conclude, the company Strategy Analytics in its report (2019) predicted that "there will be more US homes with smart speakers than without them by the end of 2020. Even though the US will be the first country to reach this level, it will be caught up in 2021 by the UK which in the current year would reach the threshold of 50% of houses with a smart assistant device (figure 20). Later on, this would become the norm in several other countries (Business wire, 2019).

Fig. 20: Smart speaker's adoption timeline (Business wire, 2019).

As said before, Amazon still represents the market leader. Undoubtedly, the huge Amazon's growth is due to the strategy chosen by the brand. Its aim is to be perceived as completely customer oriented, and the brand vision is to become "the most careful brand about clients in the world". Moreover, through the objectives of

customer obsession, innovation, operational excellence and long term planning the company aims to serve its customers every day in a better way (Nadali, 2020).

In addition, the customer orientation of Amazon could also be declined in terms of its social commitment towards both communities of clients and employees. To give some examples, in Italy, during the Covid-19 pandemic the giant decided to support workers guaranteeing security standards, smart working and salary. Towards customers the brand not just ensured deliveries and fixed prices but also contributed to the cause donating huge amounts to no-profit organizations like Protezione Civile and Save the Children, allowing users to benefit from contents in a free modality, supporting the development and the accessibility to online classes together with the Ministry of Innovation (Amazon Italy, n.d.). Nevertheless the aforementioned examples were referred to a pandemic situation in which lots of firms intervene, Amazon has demonstrated to be active also in other important causes. Examples are racial and gender parity, human rights and environmental sustainability (Amazon, 2020).

However, despite all these responsible actions, the brand in last years was hit by scandals regarding the behavior of several branded vocal assistants which were referenced in the previous chapter. Following, Amazon Alexa too was publicly accused to be sexist and to reinforce old feminine stereotypes. Thus, the first steps Amazon did was to make the device answer to gender questions "I'm not a woman or a man, I'm an AI" and at same time it tried to change the perception of the smart object inquired (Purtill, 2021). In addition, the brand decided to be actively committed towards the complicated and debated issues of women empowerment; a very recent article confirms Amazon's standing and intervening concretely in the fight of stereotypes and gender inequality. Indeed, news are that Amazon will allocate a fund for women who want to become managers and partners of the marketplace selling through it. Also, those incentives would support and offer the right training for future female leaders (Il Messaggero, 2021).

Resuming, the first reason why for choosing this brand in the case study relies in the fact that it is a high-tech giant that wants to give to its customers a strong image coherent with current times, committing in lots of causes and repositioning together with societal changes. Secondly, Amazon, in order to achieve the aforementioned objectives, adopted a powerful strategy consisting in the development of a strong brand narration through the means of several advertisements.

To give a more complete overview, Alexa's commercials started together with the device's launch in 2015-2016; in the following years they were planned together with new product launches of the collection of Amazon Echo. Indeed, as it is shown in figure 21, Amazon Alexa's skills were improved year by year and of course, those improvements needed to be communicated (Voicebot.AI, n.d.)
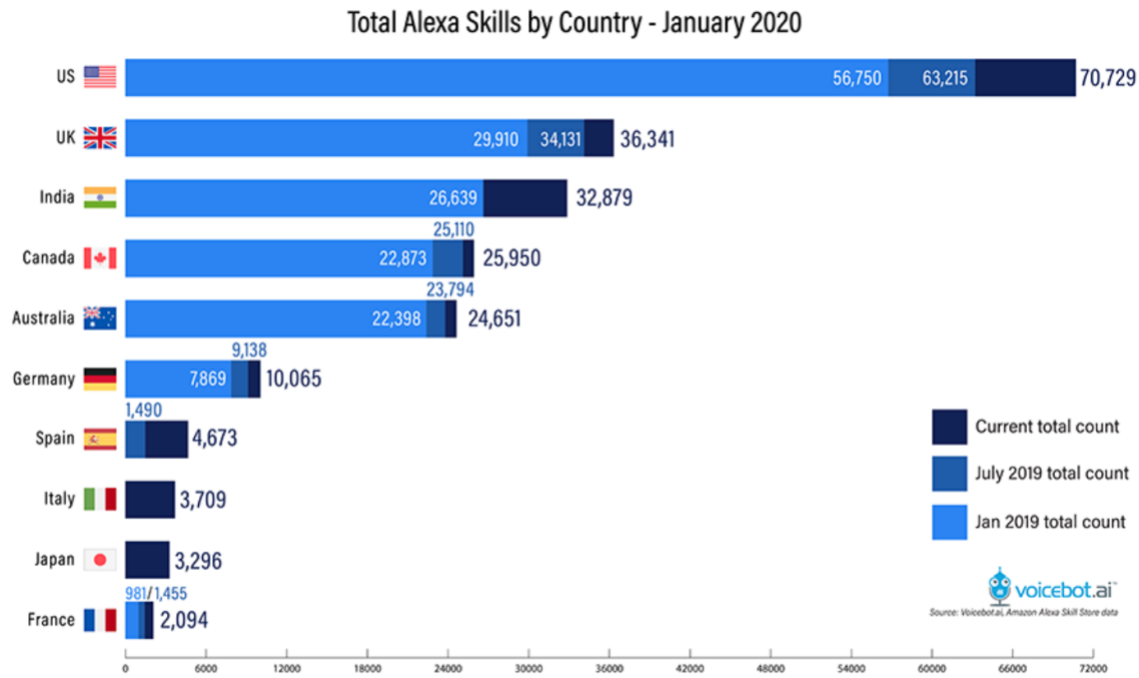
Fig. 21: Total Alexa skills by country in 2020 (Voicebot.AI, n.d.).

However, the peculiarity of these Amazon's spots is that they were not designed just to advertise the vocal assistant's features; the company's advertising strategy played a pivotal role to give a strong and updated identity and image of the Amazon brand.

This is further witnessed by Amazon's enormous spending on production and distribution of its commercials. In this regard, Brian Weiser, the president of the advertising company GroupM, declared that "Amazon probably is the biggest advertiser on the Hearth planet, representing the 2% of global spending" overcoming giants like P&G and Unilever. Data confirms this; despite in 2016 5 billions were yet dedicated to the brand's commercials' strategy, in almost 3 years this number doubled reaching 11 billions dollar spending in 2019 (figure 22).

Concluding, among the most promoted products the Amazon Echo stands out together with Alexa, the branded vocal assistant included into the smart speaker device. Lastly, the company decided to focus its spots on expensive events such as the American Superbowl, which the brand has been attending from 2016 till 2021, with an Alexa's new spot every year (Stellone, 2020).
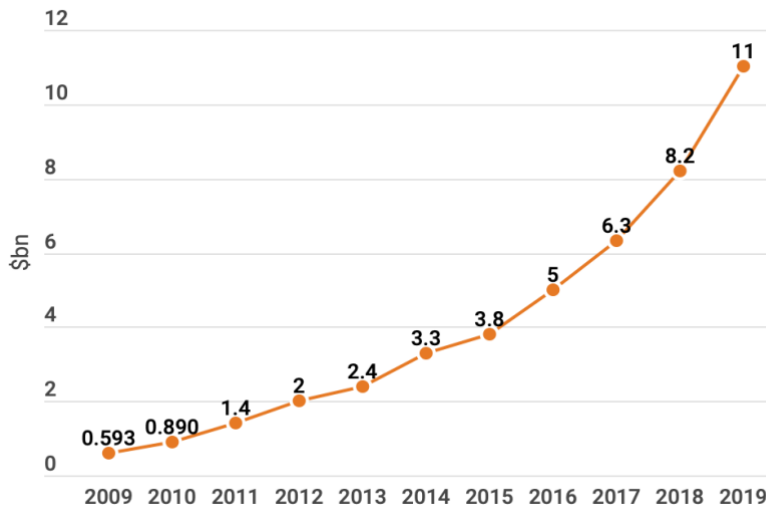
Fig. 22: Amazon advertising expense 2009-2019 (Stellone, 2020).

3.3 Research method

The present research pertains to explorative and qualitative analysis about the most relevant commercials of the Amazon Echo vocal assistant, named Alexa, from its launch till nowadays in different countries. In addition, in order to have a complete vision on the situation of both the brand and costumer sides, two different studies would be conducted.

The first one is the semiotic analysis which would be done applying the segmentation of the audio-visual text following the model proposed by Peverini (2012) and the Greimas Generative trajectory of meaning (Peverini, 2012, Bianchi, 2011). Following, based on the valorization strategy proper of each commercial, a diachronic analysis would be done highlighting in this way the changes in values underlying the spots (Mangano & Marrone, 2015). Through this means, the evolutionary path of the brand strategy becomes clear; in this way it would be possible to point out the evolution of the branded communication and its adaptation to societal changes.

The second study pertains to the field of content analysis. It would be performed through the coding of the most relevant YouTube comments, in terms of likes and answers, posted under each advertisement of the data set. The means through which the analysis would be performed is the software Nvivo, latest version. This allows to import files and manually code words and sentences in order to identify, define and classify the most important categories of discussion for the research. What's more, through this means, it would be possible to understand if and how the changes occurring in the narration of the commercial, in terms of values communicated and narrativity, was perceived. Last, this analysis it would show the evolutive path of the brand and the impact this last has on consumers.

Consequently, a data set functional for the two analysis was developed following three steps. At first, a primary explorative research was done in order to recognize a wide variety of the Amazon Echo commercials available on medias such as YouTube platform, social media and tv channels. Starting form this, the second step was made; it consisted in viewing and analyzing carefully an important number of advertisements regarding the

Amazon vocal assistant. Also, the different countries of belonging of the spots and the year of launch were taken into consideration. After that, it was possible to find the most relevant commercials building a first large data set comprehensive of 40 videos. The advertisements identified ranges from 2016 to 2021 and pertains to Italy, France, Spain, India, United Kingdom and United States. Later a further restriction of the data set was operated during the third step; this was done basing on the following key considerations:

- Relevance of the country in which the spot was lunched in terms of market share and number of skills of the Amazon Echo
- Number of YouTube visualizations of the spot as a proxy for its popularity among customers
- Degree of representation of cultural diversity
- Degree of anthropomorphizing of Alexa and social roles covered by the device
- Degree of gender stereotype attached to Alexa

Thus, a final data set, comprehensive of the 6th most relevant and pertinent advertisements was built (figure 23).

Fig. 23: Final data set of Amazon Echo commercials.

As visible in table 1, three of them were developed for the United Kingdom and the other 3 were launched in the United States. Finally, they are equally divided between three different time ranges: 2016, 2018 and 2019 and last to 2021.

Commercial	Month	Year	Country	YouTube visualizations
Amazon Echo Alexa UK commercial	september	2016	United Kingdom	220070
Amazon Echo - remember baby	april	2019	United Kingdom	22979
Amazon Alexa - Pompeii	february	2021	United Kingdom	3800
Amazon SuperBowl Ad 2016	february	2016	United states	19195
Alexa loses her voice - Amazon Super Bowl	december	2018	United states	661505
Amazon's big game commercial - Alexa's body	february	2021	United states	78154728

Tab. 1: Final data set of Amazon Echo commercials: years of launch, country, number of visualizations.

3.4.1 Semiotic Analysis: Amazon Alexa commercials.

This paragraph would be dedicated to the semiotic analysis of the definitive data set made of 6 commercials; these are characterized by a higher level of pertinence towards both gender issues and Alexa's personification and highest resonance among consumers.

As told by Semprini (1996), the meaning is attributed to a brand in an "orderly structured and voluntary fashion"; for this reason, the aim of the study is to focus on the narrative structure of the audiovisual media contents. Recalling Laura Oswald words, this work is done in order to "identify the normative dimensions of advertising meaning, beginning with aesthetic codes structuring the organization of texts and stretching codes structuring meaning in the competitive set and cultural context" (Oswald, 2015d). In addition, the commercials would be analyzed sequence by sequence segmenting it following the framework proposed by Peverini (2012), Bianchi (2011) and Semprini (1992). The spot decomposition would start from the surface level, the more superficial one, and would pay attention to frames, audio, enunciation, product or brand and rhetoric to identify the key elements able to produce the desired meaning. Later on, the actantial roles and the basic phases of the narration, as identified in the Actantial roles and in the Canonical Narrative Scheme by Greimas would be explored. Lastly, as sustained by Dario Mangano and Gianfranco Marrone (2015), brands' final aim is to communicate values which constitute the foundations of their communication. In spite of this, the valorization of objects adopted in each spot and its shift during time gets relevance and would be explored too (Mangano & Marrone, 2015).

Alexa's spots launched in the United States:

1- Amazon Superbowl Ad (2016)

Spot duration of 1 minute; Spot on air during Superbowl 2016; 19000 YouTube visualizations; not present on Amazon official channel and currently available on the YouTube channel Superbowl Ads Online[1]; 67 likes, 4 dislikes and 3 comments on Superbowl Ads Online. Actors: Alec Baldwin, Dan Marino, Jason Schwartzman and Missy Elliot.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-9 sec. the spot opens up with a middle field frame on the actor Jason Schwartzman accepting empanadas from an elderly woman. They are standing in the entrance hall of a huge and elegant saloon in which the game day party is taking place to celebrate the Superbowl. Soon after the camera frames from distance lots of famous people, very well dressed who are dancing and having fun with a rhythmic dance music in the background. Later, Alec Baldwin, who is the owner of the house and of the party as well, enters the room and goes strict to the Amazon Echo on which the camera finally closes up. After, Alec orders Alexa to

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[1] https://www.youtube.com/watch?v=7iKD0BQp2uc

switch off the music and suddenly all guests stop dancing too. Now the frame is a foreground of Dan Marino who is still dancing; for this reason, Baldwin tells him "Marino you definitely have to stop".

Sequence 2: 10- 16 sec. The sequence starts with Missy Elliot coming to the homeowner; she is very surprised about what happened and asks Baldwin "How did you do that?". The camera moves back to show a wider frame on the situation; in this way the advertising shows from a distance the actor taking under his arm the rapper Missy Elliot, walking towards the smart device and indicating it at the same time. He reveals her the secret saying "It's my Amazon Echo, I can stream music, order things and watch like this".

Sequence 3: 17-30 sec. They enter a new room followed by Dan Marino; as soon as Baldwin says "turn on the lights" the camera frames what the characters have in front of them. A reproduction of the Superbowl taking place in a stadium full of spectators appears in the private room of the actor; moreover, from a big screen, which is over the tribunes, appears "Baldwin stadium" written in overlay and a pre match music starts playing.

The shot goes back to Baldwin and Missy Elliot; the first is proud of his stadium while the woman is astonished and very well impressed by the whole situation. Instead, Marino rapidly approaches the miniature looking carefully to every detail and discovers that the stadium is full of food which mimics the audience of the match. In addition, he says "Breaded wings, you are blowing it bro" referring to Baldwin while having in his hands a dish full of breaded chicken wings.

Sequence 4: 31-38 sec. Later, Baldwin refers again to Alexa asking "How many championships has Dan Marino won?"; Alexa is framed in a foreground and answers wile illuminating itself with the typical blue light "Marino has won zero championships". Marino tries Alexa as well, to reply to the humor made by his friend and by the device, asking "Alexa how many Oscars has Alec Baldwin won?". As well as before, Alexa answers zero. After these untrue answers Baldwin gets a bit angry; he says Alexa to stop and "well played" referring to Marino, given that all party guests give an exclamation of astonishment because of these affirmations.

Sequence 5: 39-45 sec. Jason Schwartzman could not resist in intervening in the scene and throws an empanadas at Marino. This last, who has its hands occupied by taking breaded wings, is not able to catch the food which falls on the ground. Moreover, Schwartzman looking at Baldwin says him angrily "Shame on you!" Also indicating Marino, he says "this man is a national treasure". Baldwin tries to calm him down with the words "It's alright" but Schwartzman goes on saying "no it's not alright, I will sack this man so hard for you" and Marino feeling accused replies "No you won't".

Sequence 6: 46-60 sec. To solve this fight Baldwin tries to restore the situation calming them remembering that they have over hundred million people watching them in that moment meaning that they were the real Superbowl event. Missy Elliot is very confused by this sentence and for this asks Baldwin the reason why this huge number of spectator and at the same time asks Alexa to play her song Pep Rally to create the right atmosphere for the party. Immediately, all guests become happy again and starts dancing enjoying the party as they did in the initial sequence; also, Baldwin makes a silent sign to Marino meaning "I will kill you".

Concluding, the commercial definitely ends with a close up on the entire Alexa's smart speaker and the writing in overlay of the name of the device, Amazon Echo, plus the Amazon logo.

Resuming, the commercial alternates shots with several distances on characters. This allows for dynamism and for the representation of several points of view which makes the customer feel like being a guest of the party. In addition, the camera frames the Amazon Echo only with closes up.

The point of view and of listening is the one of spectators; furthermore, for the entire commercial this last is objective. Moreover, there are no traces of the nobody's shot.

Last, sounds are all real and they come from the house and the party; indeed, also the music perfectly suits the situation and seems to be the one of the party and not a background. Thus, voices, sounds and the different music played, rhythmic, dance and rap, are all type in. To conclude there is no narrative voice of type off. Despite this, Alec Baldwin could be considered the narrator of the spot given that it uses and shows Alexa's functionalities.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon; the delegated sender is the smart speaker shown by Baldwin.

Receiver: the delegated receiver is represented by Missy Elliot, Jason Schwartzman and all the guests in the house. The empirical receiver comprehends all target consumers.

Subject: Alec Baldwin.

Object: Alexa and the Amazon Echo device functionalities. In a sense it represents the evolution of technology.

Helper: Amazon Echo and Alexa's voice.

Opponent: This role is represented by Dan Marino; however, he embodies the abstract idea of the unexpected and of technological failures.

Manipulation: the first sequence presents both the initial equilibrium of the commercial and its break. Indeed, at the start the party seems to go for the best; the guests are all enjoying themselves eating and dancing. However, few seconds later, Baldwin comes in and interrupts the apparent harmony switching the music off through the means of Alexa. This precise moment is the one which gives to the subject the occasion for presenting his new device, the Amazon Echo, to his guests.

Competence: this phase is not present in the commercial given that the subject already possesses the knowledge and capabilities to use the smart object. What's more he is also convinced that the device is useful and has impressive abilities and wants to show all these to his friends and guest. Indeed, in sequence 2 he reveals his new helper which is Alexa.

Performance: the subject, Baldwin, start his performance in sequence 2 and this last concludes in the 5th one. He explains to Missy Elliot Alexa's functionalities like streaming music, ordering and watching things; later

he gives a demonstration of this asking to Alexa to perform simple and utilitarian tasks. However, expectations seem not to be confirmed when a complication occurred. Marino, the opponent, starts asking to Alexa things it doesn't know and consequently the device gives several wrong answers causing a little fight between Dan Marino and Baldwin which is further joined by Jason Schwartzman.

Sanction: the commercial resolves itself positively; the subject succeeds in making all guests happy animating the party with the Amazon Echo and its ability to play music. More precisely, the sanction phase becomes evident in the last sequence in which all the guest starts dancing and having fun again despite the unexpected event and Marino's sabotage. Concluding, the commercial has a happy ending; indeed, all receivers appreciate the device and are convinced about its relevance.

C- Axiological level: square of values and promotion strategy.

Looking at the axiological level the main values, which opposition guides the realization of the commercial, could be expressed as innovativeness and benefits bring by technology and traditionalism. The underlying message of the spot is to show how much desirable is Alexa, given its many capabilities among which there are of course entertaining and functional ones. Thanks to the device every party, even if it is already luxurious like the Baldwin's one, could become better. The desirability of the product culminates in sequence 3 when thanks to Alexa all gusts could see the beautiful personal stadium of Baldwin. Also, the expressions of Missy and all guests who are all enthusiasts about the product, are cues to understand how much the smart speaker is appreciated.

The narrative style of the commercial is dynamic, powerful and engaging. The valorization could be defined utopian given that Alexa helps the subject to further elevate his way of living allowing for an even more comfortable and enjoyable way of living. However, elements characterizing the practical and the ludic-aesthetic valorization of objects are present as well; those are for example the several functionalities of the product. What's more the party mood is present and stressed a lot in the entire spot highlighting values such as luxury and refinement. Lastly the product is shown in almost all sequences and when it happens the camera closes up on it contributing to the idea of its relevance. Moreover, Amazon intent seems to be the one of marketing the smart speaker as a superior product. Indeed, the style of living depicted in the commercial, the exaggeration of luxury, the presence of very famous actors are all elements functional to this scope. What's more it is important to remember that when the spot was launched, in February 2016, the product was perceived as something revolutionary and very innovative given that it's gone to market was still very recent and that smart speakers were not mainstream in the United States.

Referring to rhetorical elements, the story is built around an exacerbation of luxury which climax culminates in sequence 3 when the in-house representation of the Superbowl stadium is shown. What's more in order to make the story more appealing, pleasant and impactful, irony is present as well. The moves and lines of the characters always present a funny trait and also every situation and the entire tone of voice permeating the spot is able to make the audience smile. Moreover, the fight between Dan Marino and Alec Baldwin, becoming

so absurd and ephemeral, is an ironic twist that adds color to the commercial. Concluding, the maximum level of absurdity is reached when Alexa answers in the wrong way to both the opponent and the subject. Indeed, in this strategic moment, even if the limits of the device are shown and for a moment it appears to be dumb, the situation is overturned thanks to the means of both humor and lightness becoming instead the most powerful and memorable.

D- Social roles of Alexa and stereotypes.

In this commercial Alexa's gender could be assumed feminine from the cues of the voice and the name given that the spot does not give a body to the vocal assistant. Also, the device is used as if it was a personal assistant; the tasks range from switching on and off lights and music to answering more complex questions such as the number of Championships and Oscars won by Marino and Baldwin. However, due to the fact that Alexa fails in answering these last questions, the smart assistant is not always perfect when dealing with knowledge but is very good in entertaining users as witnessed by the humorous situations of the spot. Because of this, it is possible that the spectators who are sensible about gender issues and stereotypes may assume that the vocal assistant is depicted as a dumb lady subjected to a male figure who is able to carry over just simple tasks. For this reason, the relationship between the smart device and its owner is a typical master-servant one. However, the ironic tone of voice characterizing the spot serves as a means through which it is possible to generate users' positive reactions hiding at first glance social issues.

For what concerns diversity and cultural inclusivity, the advertisement addresses this issue by including subjects coming from the same country, the US, but who represent the multiculturality and the diversity peculiar of the American states. Last, also in this case, humor is used strategically to integrate the several personalities and cultures presented in spot.

2- Alexa loses her voice (2018)

Spot duration of 1.30 minutes; Spot on air during Superbowl 2018; 670000 YouTube visualizations; not present on Amazon official channel and currently available on the YouTube channel The Ads World[2]; 14000 likes, 189 dislikes and 430 comments; Actors: Gordon Ramsay, Rebel Wilson, Cardi B. and Anthony Hopkins, Jeff Bezos.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-5 sec. The advertisement opens up framing a young woman, named Jessica, in her bathroom while washing her teeth after having had a shower. The situation starts in medias res and the audience could suppose that the woman has previously asked Alexa what the weather was like. Alexa indeed says "In Austin it's 60 degrees" and soon gets interrupted by a cough. Now the camera closes up on the protagonist showing her surprised and weird by what's happening; for this she calls "Alexa!" trying to make the assistant talk again.

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[2] https://www.youtube.com/watch?v=iNxvsxU2rJE

Finally, the sequence closes with the Amazon vocal assistant in the forefront not responding anymore to the user.

Sequence 2: 6-19 sec. The setting completely changes and the second sequence of the spot starts in an office which later reveals itself to be Amazon's headquarters. More precisely it is 8.34 am and lots of people are watching the WMN channel on tv. What catches their attention is the breaking news in the overlay and the journalist saying that Alexa lost her voice. After this image, the camera frames, with a middle field frame which becomes closer a few seconds later, Bezos walking side by side to another colleague towards a different department of the office both being concerned and reflecting on how the aforementioned news could be possible. In the hallway they are stopped by other employees; a young girl answers them trying to reassure the boss saying "We have the replacement ready, you just say the word…". Soon after, Bezos interrupts her going strictly to the point questioning if she was sure that this would have worked. She seems to be very convinced of her theory and for this she nods her head different times signaling an affirmative answer.

Sequence 3: 20-29 sec. The sequence opens up with a rhythmic, soft and with a positive vibe music in the background; the setting is not the office anymore. Now the spot takes place in the loft of a guy. He is in his kitchen with a pan in his hands; in the meantime he says "Hey Alexa, show me a recipe for a grilled cheese sandwich". Soon after the device answers him with unconventional and paternalistic words such as "it's pathetic, you are 32 years of age and you don't know how to make a grilled cheese sandwich...". What's more, Alexa has a different and male voice; indeed, while saying that the camera frames the actor embodying Alexa. From his beautiful house, while training with a gym's machine on the poolside, Gordon Ramsay is very angry and he is shouting to the guy scolding him for the toast. Moreover, the famous chef wears headphones which have the same blue light surrounding Alexa, resembling in this way the smart device.

Sequence 4: 30-39 sec. The camera depicts another everyday life situation and it makes a distant shot on the bedroom of a guy who is doing his homework using the pc. He needs Alexa's help and for this reason turns up to the device, which now is in the foreground, and he asks Alexa "How far is Mars?". Alexa starts responding and soon the setting changes; the spot now shows Cardi B in her robe, walking in her enormous and luxurious closet room wearing headphones and answering in order to replace the voice of the smart assistant. The rapper says "How far is Mars… but how am I supposed to" and continues "I'd have a video, this guy wants to go to Mars for what". In addition, while speaking she is laughing at the same time and making fun of the user. After this, the camera frames again the guy in his bedroom who seems to be astonished by the tone of voice, the voice itself and the unusual answer coming from its smart speaker.

Sequence 5: 40-52 sec. The fifth sequence is set in the comfortable and cozy house of a middle aged man. He is having a party with many people invited and while uncapping a bottle of wine in the living room he asks Alexa to set the mood. The smart speaker is closed up, it is on a wooden furniture and right after catching his owner's request, it switches on and its light becomes blue. The actress in the shoes of Alexa now is Rebel Wilson who answers from her apartment in a skyscraper. Rebel is laying in the bathtub; the atmosphere is very relaxing, the light is dimmed and her bathroom has glass windows showing a beautiful view of the city by

night. In addition, soft music plays in the background. She says wearing headphones "now setting the mood, you are in the bush and you're dirty and sweaty..." and goes on with the description using a sexy tone of voice. Now the camera goes back to the party showing invitees' expression of both disgust and astonishment while the owner of the house instead is trying to tell the device to reset itself.

Sequence 6: 53-70 sec. After that, another routine is depicted in the commercial. At first a middle field frame of a man laying on the sofa and reading a book is showed. he is relaxing in his huge living room and wants Alexa to play some country music. However, Alexa starts playing the wrong music putting on a rap song; the man becomes disappointed and corrects the device saying again "no, country music!". Alexa continues with a rap son pertaining to Cardi B. and the singer again is depicted while dancing in her closet room.

Sequence 7: 71-84 sec. The spot goes back to the setting shown in the first sequence. Jessica is quite ready to go out and is ultimating her makeup. She asks Alexa support in calling her boyfriend Brandon but the device answers "I'm afraid Brandon is a little tied up". After this answer she is very upset and looks at Alexa with dislike depicted on her face. This time the voice of Alexa is the one of Anthony Hopkins. This becomes evident as soon as the camera frames another setting; it gets closer and closer to the actor who is sitting in his beautiful garden surrounded by different plants, flowers and animals. He is feeding a magnificent peacock and while doing this he continues saying "Let me know if there is anything I can help you with"; moreover, understanding that she is a bit angry given that she is silent he calls her again saying "Jessica!". The scene closes alternating the image of Jessica in her bathroom looking overwhelmed by the smart speaker's answer and then Anthony continuing relaxing and feeding his peacock saying to him "good boy". Also, a joyful, relaxing and famous music plays in the background.

Sequence 8: 85-90 sec. As the camera pulls away from the actor the commercial ends with a large shot of Anthony Hopkins's garden. both the word Alexa and the image of the Amazon logo come in overlay. Also, the real Alexa's voice returns and it says "thanks guys I'll take it from here". The story finishes with these words of thanks and with the same song of the previous sequence "Nobody does it better" playing.

All sequences described before are made of shots taken from several distances in order to show multiple points of view. In addition, the camera closes up when the director wants to give a better idea of the emotion felt by the characters of the commercial, especially subjects and actors representing Alexa's and to show the device itself when the blue light switches on.

The point of view and of listening is always the one of the spectator and it is objective; also, there is no evidence of nobody's shot given that all settings are real. Also, the different points of view allow the audience to be in front of every character.

To conclude, during the first seven sequences, sounds of type in are ones in the background that are real and the voices pertaining to each scene and setting. Form sequence 3 a type off sound is added which is represented by the music in the background. This starts in sequence 3 and 4 with a joyful and relaxing one. Then, in

sequence 5 the music becomes soft and romantic; later in the 6th Alexa plays Cardi B rap music. The last two sequences have as a background the famous, soft and pleasant song "Nobody does it better".

Last, in sequence 8 appears the narrating voice of Alexa which is type off as well.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon, the delegated sender is the smart speaker embodied by famous characters like Gordon Ramsay, Rebel Wilson, Cardi B and Anthony Hopkins.

Receiver: the delegated receiver is the user of Alexa which changes in every sequence; instead, the empirical receiver comprehends all target consumers.

Subject: all different users and owners of Amazon's smart speaker.

Object: Alexa with its capability of answering several requests. In a sense the need for a perfect assistant.

Helper: Amazon employees and the two famous actors, the chef and the singer substituting Alexa's voice.

Opponent: This role is represented by failures and by the unexpected.

Manipulation: in this phase the equilibrium of the story gets broken. This happens when Jessica in the first seconds of the video realizes that Alexa lost her voice; the precise moment is when the subject hears the device coughing and when subsequently Alexa stops talking. However, even if this problem occurred all users want to continue using Alexa given its important role in everyday life of each customer.

Competence: this phase takes place in the second sequence of the commercial. Indeed, Bezos understands what happened to his branded smart speaker and wants to give the user the competences to have their companion by their side as well. The Amazon employee saying how to deal with the problem and how to interact with Alexa's replaced voice is proving that the several subjects now have the competences to face the subsequent narrative phase.

Performance: from sequence 3 to 7 the different protagonists of the story take action using their vocal assistant for the most various tasks depending on the situation they face. Alexa in fact can be a helper while cooking, to listen to the news or music and to call someone by phone. What's more, given that the real voice of Alexa is missing, the several helpers, the famous people hired by Bezos, intervene by giving answers to users' requests. However, they understand that the role of Alexa is not an easy one. Indeed, they face the most diverse question and sometimes their human side comes out given that they couldn't resist staying calm with the user and couldn't answer always in a polite way as Alexa does.

Sanction: every different sequence ends itself with a judgment of the protagonist on Alexa's performance. In all cases subjects are upset by the answers; also, sometimes actors replacing Alexa hurt their feelings as it happens for example with Jessica in sequence 7. These are the two reasons why it could be assumed that the sanction phase in this particular commercial is negative. In addition, in the last sequence, there is a further confirmation to this. Indeed, in the ending 5 seconds of the spot Alexa comes back with its voice both thanking its substitutes and reassuring the spectator that now it is back and it could assist its owners as usual.

C- Axiological level: square of values and promotion strategy

Analyzing the axiological level, the opposition of values relies in perfection and comfort towards imperfection and discomfort. Moreover, the key message transmitted by this spot is that all customers would like to have an assistant and a companion which is ready to help them in finding a perfect and ideal solution for every situation. Despite this, humans and their lives are imperfect but they prefer to deny this evidence even to themselves. For this reason, an accident like the disappearance of Alexa's voice, is able to break their ideal lifestyle giving them a hard time.

The spot is characterized by the unconventional presence of the celebrity Jeff Bezos who becomes an actor in its own commercial. The narration is peculiar and ironic; also, the valorization of the brand is the utopian one. Indeed, the aim of the spot, beside showing practically what the Amazon echo is able to do like giving assistance in cooking, providing knowledge, entertainment and music and reading the news, is to depict an ideal way of living. In particular the device is framed into a particular lifestyle of the potential customer and contributes to make it as perfect and comfortable as possible. Also, it becomes so vital that, even when Alexa lost its voice, the user cannot renounce to it and for this, the brand is forced to find a solution to make the smart speaker operative again.

Concluding, the relevance of the product is reinforced by the fact that this is shown frequently, at least once in every sequence, except for the second and for the final one in which instead, it is not present.

Analyzing rhetorical figures all the narration is embedded by an hyperbole. Indeed, the initial situation in which Alexa lost its voice is a clear exaggeration put in place by the brand aiming to create a spot able to stick in mind. Later on, the fact that Alexa is substituted by famous people witnesses and contributes to the development of further hyperbolic situations. In addition, the commercial presents the different actors following a sort of climax in terms of their popularity. Even if the first one is the chef Gordon Ramsay, which of course is well known, none of them could equal the relevance that the last presented, Anthony Hopkins, has got. Another climax is present as well; the importance that Alexa assumes in people lives is exacerbated in the last sequence in which the narrative voice of the device comes back saying "thanks guys I'll take it from here". For what concerns the tone of voice, it is ironic during the entire commercial. Also, the tone of voice emerges mainly through Alexa's answers which are able to make the consumer reflect on his ideal lifestyle acting often as the voice of reason. Also, in the second scene, when the news about the accident happened to Alexa leads to many concerns, the tone of voice of the employee reveals a subtle irony. What's more despite some sequences, like the 6th and 7th, depict the user being very disappointed; despite that, the general tone of voice further emphasized by the music in the background, is functional to give a sense of lightness.

D- Social roles of Alexa and stereotypes.

The enunciation depicts the brand as something transcending cultures; Alexa becomes like a famous person given that the new she lost her voice is on tv. What's more, presenting the smart speaker in the body of famous actors coming from different countries and with several cultural backgrounds is a way to overcome the social

prejudice at same time positioning the brand as inclusive. What's more, the second sequence takes place entirely in Amazon headquarters; here the employee seems to come from all over the world contributing to show how the brand takes action to support diversity.

Furthermore, this spot is innovative also in terms of gender representation of Alexa. Indeed, the choice of picking half male and half female actors contributes to an equal representation of genders. What's more, the Cardi B. and Rebel Wilson have both strong personalities which are out of traditional schemes. Following, it could be supposed that they serve as a means for representing the evolution that the image of a woman is going through.

For what concerns the roles played by Alexa, the commercial never attributes to it a strictly feminine role. To be more exhaustive, also in situations in which the female stereotype could easily emerge, like in sequence 3 when the guy asks for help in the kitchen, this assumption never finds confirmation. Indeed, in that case, it is not a woman but Gordon Ramsay to represent Alexa. Also, the sequence having Jessica as the protagonist shows a reversal of roles. Here Alexa is used simply as an assistant with operative functions and for this reason the mainstream idea is the one to represent its role as a feminine one. However, this is not the case; indeed, the interpreter is Anthony Hopkins. To conclude this thought, what appears to be confusing is the title of the commercial "Alexa lost her voice". Indeed, here the preposition "her" could act as a reinforcement to the feminine gender of the device despite the commercial questions this idea. Secondly it could be also meant that Alexa from being female, losing her voice is going through a changing.

About the kind of relationship between the consumer and the smart speaker depicted in the commercial this is the master-servant one. Nevertheless, Alexa sometimes takes the control of the situation disobeying to its master who finds difficulties in bring it back on track.

3- Alexa's body (2021)

Spot duration of 1 minute; Spot on air during Superbowl 2021; currently available on Amazon official YouTube channel[3]; 78 millions YouTube visualizations; 55000 likes, 6800 dislikes and 8400 comments; Actors: Michael B. Jordan.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-8 sec. the commercial opens up in Amazon Headquarter with a middle field frame of a young afro American women and other colleagues all with a multicultural background standing around a table. Rapidly the camera closes up on the before mentioned women, who is looking at the smart speaker, now in the foreground; she is fascinated about it and is saying to her colleagues "it's just flawless, isn't it?". All other people in the room agree with her affirmation and she rapidly takes her eyes off the object and looks outside the window while thinking about how beautiful the Amazon's vessel for a such intelligence contained inside was.

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[3] https://www.youtube.com/watch?v=xxNxqvesey

Sequence 2: 9-13 sec. While looking outside, the actress's view falls on a truck's advertising, which is being parked right in front of the office's building. On the side of the lorry is depicted a spot of a prime video movie whose protagonist is the beautiful Michael B. Jordan. The famous actor, whose image is of course portrayed on the truck, seems to stare at the afro American women. This sequence of the commercial ends with a close up on the employee which has an astonished and wondering expression depicted on her face.

Sequence 3: 12-18 sec. Now the spot shows the thoughts of the afro American women; she wants to give a proof to how beautiful is Alexa and the life with it to her colleagues. For this reason, she starts imagining herself interacting with Alexa during her everyday routine. the setting now is her elegant house, in particular the scene takes place in the kitchen where she is asking Alexa how many tablespoons there were in a cup in order to carry over her recipe. Right after her question Alexa appears in front of the women; what's more Alexa is embodied by an afro American guy, precisely by Michael B. Jordan who immediately answers politely to the question. Now the camera shot has the actor in foreground focusing on his eyes, which are made blue in order to recall Alexa's lightening once inquired.

Sequence 4: 19-24 sec. The spot gets back to reality and depicts what is happening in the kitchen. The husband comes back home carrying two bags full of food telling at same time her wife that the food is finally there. when he lift his gaze on the women he asks her why was she cooking, given that he is back with food ready to eat; also, when he sees the Amazon Echo he asks her what it was.

Sequence 5: 25-30 sec. In this sequence the story goes on showing the women interacting again with Alexa. She is looking outside the window and asks the device to turn on the sprinklers. The spot goes back to the protagonist's imagination depicting Michael B. Jordan in the garden of her house staring at her with his fascinating blue eyes. Moreover, he is being completely soaked by the sprinkler water. Suddenly the shot goes back to reality, framing in the foreground the husband who warns his wife that the irrigator has been running previously and that there is no need for water. However, he expresses this concept in a humoristic way saying "things are getting way to wet around here".

Sequence 6: 31-40 sec. The new sequence opens up with a new everyday life situation. The women is hosting a party in her living room with friends and colleagues. She imagines Alexa in the body of Michael B. Jordan and asks to dim the lights. Right after the player starts taking off his t-shirt showing his muscles. Later, the camera shows all her friends looking at Alexa's body astonished by his abs. The imagination again is interrupted and the scene goes back to reality depicting the husband ordering Alexa "lights up!" while coming inside the living room.

Sequence 7: 41-45 sec. the spot goes on presenting a series of situations in which Alexa's help is needed by the couple; Alexa is always represented by the famous player, as imagined by the women. First, while at the gym, the subject asks Alexa, to add bath oil to the shopping list. Later, she imagines the reaction her husband could have if Alexa really looks like Michael B. Jordan; indeed, her husband instead while in a video call, interacts with Alexa in a negative way saying "Alexa, no don't do that".

Sequence 8: 46-50 sec. Now the setting changes and the advertisement takes place in the bathroom. Lots of candles are on and the dim light suggests a romantic atmosphere. The protagonist is relaxing in the bathtub and asks Alexa to read her audiobook. Soon after, Alexa's body appears laying in front of her in the bathtub with his fascinating blue gaze and Michael B. Jordan starts reading the story with a sexy voice intonation. Also, the story told seems to refer to their situation; indeed, he tells "I was in his hands, I was being changed".

Sequence 9: 51-53 sec. The narration goes back to its start. In fact, the setting is again the office and the situation depicts the protagonist looking outside the window; this time her expression form dreaming becomes disappointed.

Sequence 10: 54-60 sec. The story again moves to the women imagination. The scene continues resuming from what was happening in the bathroom. While Alexa is going on narrating the story, unfortunately the husband interrupts again; the camera closes up on him while he was calling her wife asking if everything was good just to know when other people could have used the bathroom too. The camera frames again the bathroom from the inside taking middle and distant shots to the two actors laying on the bathtub in a romantic atmosphere while the reading of the audiobook made by Alexa is saying "... that I was also kissing him". Here the commercial ends and the Amazon logo appears in overlay with the bathroom scene in the background.

In all the sequences identified, the camera shows multiple points of view. Also, the camera changes its distance from the characters often alternating distant, medium shots and close up. Moreover, the frame is a close up especially with the two main protagonists; in particular, this happens when the director aims to report the blue eyes of Michael B. Jordan or the expressions of the afro American women.

When there are distant or medium shots the point of view and of listening is the one of the spectator; the customer is in front or looking at the characters. Instead, when Alexa's body is close up, the point of view resembles the one of the young wife and for this the camera-angle is subjective. However, even if often we have a subjective point of view, what is depicted is always real and even when the spectator enters the imagination of the young women what is represented stays in a real setting. For this reason, the point of view is never impossible. Last, sounds comprehensive of voices and noises coming from the house typical of the situations depicted are of type in. The music which stays in the background starts in sequence 2; it is soft, relaxing and romantic and it is type off. Last, the narrative voice is absent.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon; the delegated sender is the smart speaker embodied by Michael B. Jordan who enunciates the brand.

Receiver: the delegated receiver is the afro American women while the empirical receiver comprehends all target consumers.

Subject: the afro American women.

Object: Alexa with all its functionalities; in a sense the beauty of having a comfortable and pleasant life.

Helper: Alexa in the first sequence which then becomes Michael B. Jordan.

Opponent: The husband who does not agree on Alexa's use which could represent the lack of confidence towards technology.

Manipulation: in the first sequence identified the manipulation phase happens. Indeed, the smart speaker renewed vessel allows the subject to imagine different ways to improve and make more pleasant her life with Alexa. In addition, the sight of the image of Michael B. Jordan breaks the initial situation.

Competence: this phase is present in sequence 2. Even if the protagonist is yet knowledgeable about the product and about its functionalities, as witnessed in sequence 1 where the actress is surprised by the beautiful aspect of the renewed smart speaker, she doesn't know yet how much Alexa could be pleasant. Indeed, the sight of the image of Michael B. Jordan allows her for understanding how beautiful her life could become using Alexa. From this moment she has all competences required to perform the action and could start imagining how her life could become.

Performance: from sequence 3 to sequence 8 the young girl performs several actions showing the possibilities of usage of the smart device. The subject, through the means of imagination, gives a body to Alexa which is fundamental to support the idea of how much it could make your everyday life better. Also, giving to Alexa a beautiful and perfect body, the actress wants to transmit the message that its usage is valuable both in terms of efficiency and pleasure.

Sanction: the performance phase resolves itself positively in sequence 9 and 10. The subject who is also the receiver, in the second last part of the commercial has a satisfied and dreaming expression depicted on her face from which comes with the supposition that the task has been accomplished. Indeed, this could be considered a silent answer for the question the protagonist asks to her colleagues in sequence 1: "it's just flawless, isn't it?". Another cue leading to affirm that the performance concludes positively is in sequence 10; here the sender and the receiver lay in the bathtub both with satisfied expressions. Also, the romantic, pleasant and exclusive atmosphere surrounding them wants to communicate that it's a fortune to use and have Alexa by your side.

C- Axiological level: square of values and promotion strategy

Looking at the axiological level the opposition between the values of pleasure and comfort, brought by Amazon smart assistants, towards a more difficult and traditional way of living due to resistance to technologies.

In particular, the idea communicated is that with Alexa not only it is possible to have an assistant which is always ready to answer your questions helping in a wide variety of tasks, and also to live a pleasant life being surrounded by beautiful things. The key message is that Alexa simplifies customers' lives and it's hard to renounce this object once tried. Furthermore, Alexa could be a companion in lots of situations furnishing

knowledge, practical assistance, entertainment and pleasure. Last, it is possible to share the most intimate things with Alexa which is always ready and pleased to satisfy each user's request.

The spot makes a wide use of the development of a good and powerful narration; the value depicted in the commercial is the utopian one. To explain better, Alexa is described as something necessary for the user who is not able to abandon the device. In fact, the device is able to understand and to help the user to satisfy different needs and for these reasons the smart assistant becomes like a companion in flesh and blood. Given this, the aim of the utopian valorization is to represent the user's life with the assistant focusing on lifestyle and ideal values the brand could bring to the consumer. However, even if the scope of this advertisement is to focus on utopian values, practical aspects of the device are shown too. Lastly the product is presented only at the start of the commercial in sequence 1.

For what concerns rhetorical figures, hyperbole is present in the entire commercial. First of all, this rhetorical tool serves to make the commercial more memorable; secondly it serves as a connection for all the different sequences. Also, many of the sentences pronounced by the protagonist and by Alexa make use of the hyperbole and of a seductive tone of voice. For example, one of the first words said by the afro American women to describe Alexa's vessel is "flawless"; also giving Alexa the body of the beautiful actor Michael B. Jordan is a exaggeration itself. Moreover, the spot makes use of irony as well. Lots of situations are presented with irony; a first example is the husband coming home interrupting his wife's relationship with the attractive Alexa in the kitchen. Later other occasions have an ironic tone; during the party Alexa gets all the attention when taking off the t-shirt and in sequence 9 the husband knocks on the bathroom door where Alexa and his wife were having a relaxing bath together. What's more the tone alternates form being ironic and seductive. The first case happens for example in the sentence told by the husband unaware of Alexa's presence in their garden which says "things are getting way to wet around here".

In sequence 9 and 10 instead, the tone becomes seductive and it reaches its maximum expression. The climax of the relationship between the user and Alexa reaches the highest point while they lay in the bathtub together with Michael B. Jordan saying "I was in his hands, I was being changed" and continuing in the conclusive sequence saying "that I was also kissing him" giving a voice to the book also to the women's thoughts.

D- Social roles of Alexa and stereotypes.

The enunciation shows Amazon as a socially responsible brand which actively supports multiculturality; thanks to this standing, the brand could be perceived positively by a wider audience and is more in line with American society which is made of people coming from all over the world. Amazon's position becomes evident thanks to two different cues. First thing to notice is that the women protagonist of the spot is afro American and that all her colleagues have different cultural backgrounds, in particular African, Asiatic and European ones. Secondly, as previously said, the spot has a strong hyperbolic content. The exaggeration, embedded in each sequence of the spot, serves also as a means through which the brand expresses in a powerful way social issues. A confirmation to this comes from the evidence that Alexa is not just embodied by a famous

and beautiful actor but by an afro American one. This last becomes the enunciator of the brand which in this way appears fully committed in supporting inclusivity and diversity.

Furthermore, the innovativeness of this commercial doesn't stop just on the racial issue. Alexa this time is not strictly defined with a feminine role; conversely, this spot is the one reaching the highest degree of detachment from the feminine old fashioned stereotype. Of primary importance is the fact that Alexa is embodied by a man; second, the assistant performs roles which in last years have been moved away from being strictly attributed to women such as sous-chef, gardener and dancer. Also, in the advertisement there isn't a marked inferiority of the smart assistant. Of course, as shown from sequence 2 to 7, the consumer-smart speaker interaction is a master-servant one. Later this seems to evolve becoming more egalitarian in sequences 8 and 10 where Alexa's role blends in with the one of an assistant and of a lover.

Alexa's spots launched in the United Kingdom:

1- Amazon Echo Alexa UK commercial (2016)

Spot duration 1.42 minutes; Spot on YouTube platform launched the 15th September 2016, not present on Amazon official channel and actually visible on the channel Mpixy[4]; 220000 YouTube visualizations; 540 likes, 75 dislikes and 100 comments. No famous actors are present.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-4 sec. The spot starts with a black screen on which the name of the product "Amazon Echo" appears in overlay together with the Amazon logo and a circle representing in a stylized way the lighting of Alexa. Soon after the camera frames from a distance a man cooking in his tidy, minimal and modern kitchen; more precisely he is cutting vegetables. The shot gets closer and closer to the subject, who raises his eyes to call his daughter, who is on the second floor of the house, saying "Eloise! dinner in five".

Sequence 2: 5-15 sec. The gaze of the man now goes to Alexa, which is over the counter, asking the device "Alexa, tell me about the Amazon Echo". Probably his scope is to practice for a few minutes with the Amazon Echo before showing it to his daughter. The frame, which previously was a shot of the entire kitchen, again changes and closes up on the vocal assistant which answers "Amazon Echo is a device designed around your voice that can provide information, music, news, weather and more". While hearing this the spot shows detailed pictures of what the man is cooking, in particular displaying the pan with sauteed vegetables.

Sequence 3: 16-20 sec. The man is positively surprised by this answer and goes on with a more difficult question to prove the vocal assistant's abilities saying "Alexa, how many teaspoons in a tablespoon?"; however, the smart speaker, closed up again, gives him the precise information "1 tablespoon equals 3 teaspoons".

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4 https://www.youtube.com/watch?v=sulDcHJzcB4

Sequence 4: 21-38 sec. The third sequence starts with a middle field frame on the dad who is finally convinced by the device's intelligence and for this starts to interact with the vocal assistant telling it "Alexa, put on my Saturday playlist". The object kindly completes the task and activates his favorite weekend music. While continuing preparing dinner the interaction between protagonist and Alexa goes on; he asks "volume up" and requests more information on the precise name of the song and the smart assistant rapidly gives him what is needed. Once again, the protagonist is satisfied by Alexa's completion of the task and replies "not bad".

Sequence 5: 39-49 sec. Soon after Eloise appears in the kitchen standing in front of the kitchen island. The man gives her a portion of food already prepared for her and he smiles seeing that she appreciated it. Now the camera closes up on the protagonist and on the little girl framing every time who is speaking. The man goes next to his little girl to have a conversation and asks her "enjoying that" and Eloise while smiling makes an affirmative gesture.

Sequence 6: 50-79 sec. This sequence shows different kinds of questions that could be asked Alexa and consequently the device's several functionalities. At the start, the shot changes again and the spot shows from a distance the protagonist, always in the kitchen, asking Alexa to add stir-fried vegetables to the shopping list signaling that his daughter liked them a lot. Alexa rapidly executes the task and gives him a confirmation; also the expression of Elouise makes the audience suppose that she appreciated both the request of his dad and the answers of the technology. The second question for Alexa made by the dad is to tell him his next day's calendar; suddenly the Amazon Echo says "at 12 pm there is Sam's birthday picnic in the park". The subsequent middle field frame on Eloise shows her cheering, again the protagonist asks Alexa information about the weather which fortunately would be sunny and with a warm temperature. Last, the dad, proud of having the device, asks Alexa to tell them a joke. This last is "where does the polar bear cheapest money? In a show bank"; because of this, father and daughter start laughing.

Sequence 7: 80-98 sec. Now the setting has changed, the camera frames from distance the two relaxing on a big and comfortable couch in the living room while eating a dessert. In the meantime, Alexa is delighting them by telling a story. While the shot gets closer, the father interrupts the device saying "Alexa audio book off" and then tells his daughter that she shouldn't complain because it's time to go to bed. After that, the daughter soon gets up and walks away towards her bedroom, the protagonist follows her remembering Alexa to switch off the living room's lights. The spot ends depicting the couple going to sleep while the living room gets darker.

Sequence 8: 98-102 sec. After the story ends, the screen becomes completely black and the image of the circle of Amazon Echo blue lights plus the logo appears as it happened in the first seconds of the commercial.

In all the sequences identified, the camera alternates mainly middle field frames and foregrounds; in this way the spot acquires dynamism and at same time different points of view are shown. The closes up are directed towards the father and daughter and the Amazon Echo when activated and illuminated.

The point of view and of listening is the one of the spectator and it is objective for the entire commercial. The audience indeed, never have the impression of being in front of subjective or impossible situations.

Last, sounds like voices, kitchen sounds and all other noises coming for real situations are of type in; in sequence 2 a type off music enters in the commercial as a background; it is soft but rhythmic and adds continuity and a positive mood to the advertisement. Last, there are no traces of the narrative voice.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon, the delegated sender is the Amazon Echo.

Receiver: the delegated receiver is the dad present in the spot; the empirical receiver is represented by all target consumers.

Subject: the dad of the Eloise.

Object: Amazon's product and the help it could give to all family members through it several functionalities.

Helper: Alexa, that talks through the Amazon Echo smart speaker.

Opponent: There isn't a precise character who acts like an opponent. In a sense the nightfall may abstractly represent this role, given that it forces Eloise and her dad to switch off the device, preventing them from exploring other functionalities of the Amazon Echo.

Manipulation: this phase takes place in the second and third sequences of the spot. The brand Amazon, which is the sender of the enunciation, convinces and then delegates Eloise's dad to show her daughter and of course to all empirical receivers of the advertisements, Alexa's intelligence and functionalities. The subject, after trying Alexa vocal assistant in sequence 2 and testing it further in sequence 3, decides to accept the task demonstrating his little girl what Alexa can do.

Competence: the competence phase is present in the second sequence. The protagonist already knows that in order to interact with Amazon Echo he has to call it by its name, but he doesn't know how many its functionalities are. Asking the device "Alexa tell me about the Amazon Echo" and understanding its answer, he becomes completely knowledgeable of the several requests he can make to the technological product.

Performance: this phase starts in sequence 4 and ends in sequence 7. In all of them the dad gives a demonstration of the different tasks Alexa is able to perform showing how it could be useful given its entertainment, relaxation, and assistive functions. In particular, the subject, after convincing himself, succeeds in making his daughter appreciate the object as well.

Sanction: the story resolves itself positively because everyone is happy to use Alexa. In particular, this is further confirmed, in sequence 7, by the fact that the daughter complains a little when the father wants to switch off Alexa. Indeed, she feels sad because she would like to continue to hear the audio book read by the pleasant voice of the smart speaker.

C- Axiological level: square of values and promotion strategy

Exploring the commercial's core structure, a main opposition of values characterizes the axiological level. Here, the contrast is between the Amazon Echo's appreciation and skepticism. Moreover, when the consumer starts using the smart speaker he would understand how it could simplify his life. Also Alexa could be used from the different people living in the same house given its wide adaptability and capability to perform several tasks. The message linking all sequences of the advertisement is that the Amazon smart speaker could become a personal companion and an assistant of the user; moreover, it is always ready to answer the most diverse requests. Furthermore, thanks to Alexa, routine activities like preparing dinner, reading stories to his own son and scheduling the agenda become pleasant tasks given that the probability of a failure is unlikely. Also, the commercial wants to focus on characters' expression of enjoyment when using the product, this is done in order to show the innovativeness of this Amazon's new product and to transmit to the audience positive feelings as much as possible.

The narration of the advertisement is fluid, simple and light; it brings a smile without being ironic or hyperbolic. The valorization is close to the utopian one because the story wants to show a different and innovative way of living; moreover, the commercial's aim is to make the audience recognize themselves with the identity of the brand. In addition, despite the fact that the spot shows deeply utilitarian values of the object, the aim of Amazon is to depict how everyone's life can be improved with Alexa.

Looking at rhetoric, the metaphor underlying the spot is that Alexa is your best companion or assistant. The family component that is missing here is the mother. Furthermore, the dad talks to Alexa because he is alone and probably in a different situation this wouldn't have happened. For this reason, Alexa's metaphor could be further enlarged.

D- Social roles of Alexa and stereotypes.

The enunciation characterizing this commercial would impress a large audience given that it leaves to the user's imagination reflecting on how Alexa could improve his life. Also, the spot doesn't want to represent a specific idea of a family; indeed, the father could be alone for the most diverse reasons and in this way many spectators could feel represented in the spot.

Eloise and her father seem to come from western countries; they are the only human characters appearing in the spot and for this there is no representation of multiculturality. Despite the choice of the actors is a traditional one, the same could not be said for the family depicted because the figure of a wife or mother is missing.

Alexa is marketed mainly as an assistant with lots of functionalities ranging from supportive to entertaining ones. Also, as said before in sequence 7 it could substitute Eloise's mom. The relationship between Eloise's dad and Alexa becomes closer when he decides to rely on it in sequence 4; at the end of the spot Alexa becomes essential given that the little girl is sad to switch off the device and that the dad uses it also for very easy tasks like switching off the living room's lights. For this reason, Alexa becomes like an extension of the self being in a master-servant relationship with the user.

Concluding, for what concerns stereotypes, the absence of the mother, the assistive functions carried over by the smart speaker and the feminine voice of Alexa are all cues summarizing an old feminine image. Indeed, Alexa resumes the tasks typically performed by the female figure of the family, the mother, who takes care of her sons and of the house, prepares meals and is knowledgeable about the family agenda.

2- Amazon Echo: Remember baby (2019)

Spot duration of 1 minute; Spot on YouTube platform launched the 10th of April 2019, not present on Amazon official channel and actually visible on the channel Joint London[5]; 24000 YouTube visualizations; 120 likes, 10 dislikes and 10 comments. No famous actors are present.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-4 sec. The spot opens with a middle field frame on a couple and their baby. The setting is their house and the scene takes place in the entrance hall where the mother, Lora, is saying goodbye to her husband and her little son. After kissing her baby, turning to her companion she asks him "You're good?" and he replies affirmatively smiling at her. Satisfied about the answer the woman kisses the father of her son and goes away confident that he could manage alone a day without her taking care of their baby.

Sequence 2: 5-10 sec. Now the camera frames from the distance the living room where the young father is standing with the son in his arms looking his wife closing the door. As soon as she goes out, he goes towards the Amazon Echo saying "Hey Alexa, turn it up!".

Sequence 3: 11-18 sec. The second sequence starts with a close up on father and son laying on a carpet with a stuffed animal on their back. They are playing with a toy and the little son seems to be very happy and satisfied by the activity. Later, another scene takes place; the father plays hide and seek making the child laugh.

Sequence 4: 19-29 sec. The two now are sitting on the sofa playing again with a little toy. However, the voice of Alexa interrupts the situation with a little jingle and says "Here is your reminder! Laura says the tidy ring is in the freezer". The father feels relied and happy to hear this reminder which he appreciated a lot given the expression on his face and goes to the catch this last offering it to his son who was crying. Following, the baby as soon as he could have his ring puts it in his mouth and stops whining, finding satisfaction in the ring.

Sequence 5: 30-34 sec. The first part of the day seems to be passed by and now that the baby is calm, the father goes to the bedroom and puts him back into his crib taking the lights off to get him to sleep. Later while he was ready to close the door leaving his son resting for a while, the camera closes up on the child who started crying, forcing his father to pick him up.

Sequence 6: 35-37. This sequence shows a series of different ordinary situations in which the father interacts with his son. At first, the shot opens up with the baby sitting in his highchair in the foreground. The man starts the hard task of trying both to make his son happy and eat his meal, feeding him in a playful way. What's

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[5] https://www.youtube.com/watch?v=k6ulyhvPHUQ

more, while eating the baby gets dirty, spotting his bib and clothes. For this reason, soon later, the dad is framed while doing the washing machine, always taking in his hands the baby.

Sequence 7: 38-44 sec. The camera shot is directed towards the daddy's hands that are washing the baby's bottle in the kitchen sink. Alexa for the second time jingles, telling the second reminder "Lora scheduled the playdate for 3 pm". The expression depicted on the face of the dad clearly signals that he forgot the activity; indeed, the next scene frames the man walking very fast on the street with his son in the baby carriage. Also, the weather is bad and it's raining and because of this, when they come back, they are completely wet.

Sequence 8: 45-49 sec. The sequence opens up with a middle field frame of the father, completely wet, who, being back home, is opening the door with his son in his hand. Next the setting becomes the bathroom in which the dad takes care of his baby bathing him carefully.

Sequence 9: 50-60 sec. Now the camera frames father and son from outside the house. The shot, from distance, pictures the window of their house allowing the spectator to see night is coming that the two are laying on the sofa finally relaxing. After this depiction, the camera comes back into the house taking a close up of the two hugging in the living room. Alexa jingles again, this time the assistant says "I'm reminding you: Lora loves you and you are doing a great job"; after hearing this the father smiles and the commercial ends with the overlay of the word Echo and the Amazon logo under this last.

In all the sequences identified, the camera allows for wider and more detailed multiple points of view alternating distant, medium frames and closes up. Moreover, the camera is close up especially when it wants to show the interactions between the two main characters, who are the father and his baby.

Also, during the entire spot the point of view and of listening is the one of the spectator who sees the scenes like if he was inside the house together with the characters every time in front of the ones framed. There is no sequence in which the point of view is the nobody's shot and what is depicted is always real.

Sounds coming from the activities performed and from a crowded and noisy street during a rainy afternoon are type in. the type off sound is represented by the music in the background, which starts in sequence 2 and it is present for the whole duration of the commercial. This is soft but at the same rhythmic contributing to give dynamism, together with the different camera shots, to the advertisement. There is no narrative voice, except for sequence 1 in which a dialogue between the characters takes place, it is just the voice of Alexa with its lines that accompany the entire advertisements.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon; the delegated sender is the mother.

Receiver: the delegated receiver is the dad protagonist of the spot; the empirical receiver comprehends all target consumers.

Subject: the dad of the baby.

Object: Succeeding as a father, taking care of his own baby in the best way possible.

Helper: Alexa, which talks through the Amazon Echo smart speaker.

Opponent: Everyday life difficulties and unforeseen events.

Manipulation: in the first sequence identified the manipulation phase happens. Indeed, the initial balanced situation is broken when Lora, the mother, is about to leave the house. Asking her husband the rhetorical question "You're good?", she strongly believes that the man could succeed in taking care for an entire day of their son. It is like if Amazon, the sender of the message, through the means of Lora words, is asking the receiver, the dad, to show that he is able to look after their baby. Moreover, the smiling face of the father confirms that he accepted this challenge, demonstrating to be able to substitute her in routine activities. Furthermore, the man, saying bye to her wife, becomes the subject of the narration passing to the following phases.

Competence: this phase is present in the second sequence. The protagonist is yet knowledgeable about the product and about its functionalities, and for this reason he tells Alexa to turn up in order to help him during the day. In this way the smart speaker could give him the assistance when needed and remind him what to do. Now thanks to Alexa being operative, the subject could carry over his tasks entering in the performance phase.

Performance: from sequence 3 to sequence 8 the dad performs different actions with his baby like playing with him, going out, feeding and bathing him. The subject, through the help of Alexa's reminders, is able to conduct lots of typical activities of a dad. Moreover, Alexa in a sense substitutes Lora, in fact the device reads the reminders Lora set for his husband while being out. Thus, the man, finding Alexa very useful and supportive, relies on this device to carry over all his tasks.

Sanction: the sanction phase is positive and takes place in the last part of the commercial, the 9th sequence. While father and son were laying on the sofa Alexa says "I'm reminding you: Lora loves you and you are doing a great job". Indeed, through the words of Alexa, the sender, Lora, judges the receiver, her husband, positively given that he performed successfully. Moreover, the actor, satisfied from hearing Alexa's words, has a big smile on his face. Also the calm atmosphere with the light dim and the child relaxing together with his father is a further signal that the story has a happy ending, of course, thanks to Alexa's support.

C- Axiological level: square of values and promotion strategy

Analyzing the axiological level of the advertisement the main opposition guiding the narration is the possibility versus impossibility to carry over a certain task. Indeed, the author at the start of the commercial understands that, having Alexa by his side, he could have acted as a perfect substitute for his wife taking care of his baby. Also, Alexa could be clearly considered an extension of the self.

The underlying message of the spot is that thanks to Amazon's vocal assistant, even a role, which initially seems to be hard to perform, becomes easy. Also, the second message emerging is that the vocal assistant could be easily integrated into the family till becoming a reliable member of the house. Moreover, depending on who is not currently in the house, the device can take over his duties as well. Thus, the spot stresses how

valuable is Alexa, focusing on a situation which seems to be ordinary but at same could be a source of concern for many fathers.

The commercial highlights the assistive role of Alexa which here becomes crucial. In addition, given the importance of taking care of someone loved a lot, such as a son, in the best way possible, Alexa becomes a crucial helper in order not to fail both personally and in the face of others. In fact, the spot shows that, without the smart speaker, different activities would have been missed by the father.

The narration of the advertisement is emotional; it both brings a smile and is thought-provoking. The valorization can be described as utopian because the story, through depicting a lifestyle, goes beyond ludic values reaching existential ones. Indeed, thanks to the device our life can be simplified and every difficulty could be overcome. Despite this, the practical aspect of the product consisting in its ability to read reminders previously set is shown. Lastly the product appears in sequence 2, 4 and in the conclusive one.

Looking at rhetoric, the spot is based on a strong metaphor given that Alexa can be considered as mother or a wife depending on the point of view. Lastly, a subtle irony is present from the second sequence till the end; in particular sequence 5 and 7 are the most representatives.

D- Social roles of Alexa and stereotypes.

The way the brand enunciates itself on the spot, for sure would impress all fathers who have experienced a similar situation. The characters of the commercials seem to have all a western background, and there are no clear referrals of a multicultural environment. Despite this, an appearance of diversity is given because the actor representing the subject hasn't got the typical English physical aspect. Also, the family represented is a traditional one made by a couple of a man and a woman and by their little son.

Alexa is marketed clearly as an assistant; the key fact is that the smart speaker is present just when needed and even when it interrupts private moments it does that in order to accomplish something of higher importance. Also, even if the only sentence the man told Alexa is "turn it up!" the relationship between the two is extremely significant given that the smart speaker is considered as something essential. Another important aspect is that from the moment in which the mother leaves the house Alexa acts as her substitute helping, in her place, her husband. What already said and also the feminine voice of the vocal assistant makes the audience assign Alexa the role of both assistance and mother. Thus, a stereotype comes out; the dad is not considered able to take care of his son independently whereas the mum could do it all by herself.

To conclude, the smart object-human relationship pertains to the master-servant type; also, the Amazon Echo is presented as a self extension of the protagonist.

3- Amazon Alexa: Pompeii (2021)

Spot duration of 60 seconds; Spot launched the 25th of February 2021; available on the YouTube channel Ads of Brands[6] with 6000 visualizations, 82 likes, 20 dislikes and 70 comments; 2 millions YouTube visualizations

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[6] https://www.youtube.com/watch?v=Kwhr1U-Ncv4

in the short version of 20 seconds in the YouTube Amazon official channel where instead comments have been deactivated; Actors: no famous actors are present.

A- Surface level: sequence by sequence segmentation.

Sequence 1: 0-14 sec. The spot opens up with a distant frame on the Vesuvius erupting. Rapidly the camera gets closer to the disaster with several middle field shots on Pompeii's streets crowded by people escaping form the disaster. The spot reconstructs what happened in 79AD and in the first seconds shows the inhabitants, dressed in typical Roman suits, terrified by the lava and explosions and desperately running away from their homes which are falling down. The background sounds are a mixture of dramatic music and people screaming.

Sequence 2: 15-19 sec. Here, the protagonist is framed, middle field shot, for the first time. He is confused, given that he pertains to another era and finds himself to be assisting to a dramatic situation. The scenario is still composed of fires, clouds of smoke, buildings collapsing and a general situation of disruption. In the background there are people screaming being overcome by panic and fear. In this difficult moment it becomes clear that something unreal is going on: the man protagonist of the story handles a toast and has a fridge on his back. However, careless of the situation, he politely asks a passerby "Excuse me, excuse me!".

Sequence 3: 20-27 sec. Now the camera closes up to the protagonist who succeeds in stopping someone rushing away from the eruption. He continues his question saying "What year is this please?", the camera again takes a shot towards the man in a hurry which was passing who answers "it's 79AD! Run for your life" expressing both being shocked and surprised by the question on his face. This last after responding runs away waving at the other man to escape with him.

Sequence 4: 28-36 sec. The frame again is a close up on the protagonist who, taking a toast on his hand, thanks the other for answering. However, the scenario in the background becomes every second more critical; columns falling down, mural destroyed, debris hitting people passing by. Despite this, the man seems not to take care of that remaining calm and at same time seeming to be both confused and thoughtful. Last, the camera goes away taking a distant shot on the surroundings; lots of Romans were running away and sometimes they hit the protagonist who is standing in the center of a building and when hit says just "sorry". At the end of the sequence he gets down on the ground.

Sequence 5: 37-38 sec. Now what was happening before becomes clear; indeed, the Pompeii scenario is now depicted on a tablet with the headings "Pompeii was destroyed in 79AD. Also, the frame makes visible the new setting in which the spot is taking place which is the protagonist's house. Precisely, the device is on the kitchen's table.

Sequence 6: 39-50 sec. The shot again is a middle field on the man who seems to grab the toast he was cooking for his little girl which has fell on the ground. While doing this he says "I've just remembered" and then continues answering her question saying the correct year in which Pompeii was destroyed. After this line, the camera first frames from distance the dining room and the kitchen in which also there is a woman who had her back turned. Then, the shot focuses again on the daughter who interrupts her homework and again turns to

face her father asking him "What was the volcano called?". "Volcano, ah…" is the answer of the father which needs to take time before saying this last given that he does not remember its exact name.

Sequence 7: 51-60 sec. The last sequence lets the audience imagine that the protagonist secretly from his girl goes next to the table on which there is Alexa, asking in whispers to the smart speaker "What volcano destroyed Pompeii?". The feminine voice of the smart speaker suddenly whispers him back "Pompeii was destroyed by Mount Vesuvius". The spot ends with a close up on the Amazon device and with the appearance of the Amazon logo on the right with written the slogan of Alexa "a voice is all you need". Also, in the background there is the voice of the father repeating happily "Mont Vesuvius for real".

Despite the spot is not so long, the camera often frames different medium shots on the several actors of the commercial allowing for multiple points of view. Moreover, the camera is close up especially when framing the protagonist, his daughter or Alexa in order to better grab their facial expressions. The two distant shots findable in the spot are the images of Vesuvius in sequence 1 and the image of a roman house in sequence 4. Also, for what concern the Amazon Echo, in sequences 5 and 7 the camera focuses the attention on the smart speaker framed passing from medium distance to close up.

In sequence 1, 2, 3 and 4, when the protagonist is projected into the 79th AD disaster, there is nobody's shot and the point of view is subjective because it represents the imagination of the protagonist. Later, the point of view and of listening becomes real and the one of the spectator, who is every time in front of the characters, from sequence 4 till the end.

In the first 3 sequences, while voices are type in sounds, the music is type off and even if it is in line with the situation, recalling the dramatic explosion, it seems to be in the background.

Last, the narrative voice is absent in the spot; however, the lines of the subjects are enough to make the story understood and to accompany the audience through the entire video.

B- Narrative level: enunciation, actants, canonical phases of a story.

Sender: the empirical sender is Amazon; the delegated sender is the smart speaker embodied in the first 3 sequences by the passerby.

Receiver: the delegated receiver is the man protagonist of the spot while the empirical receiver comprehends all target consumers.

Subject: the man who is the father of the little girl.

Object: Being a good father, in this case helping his own son with homework.

Helper: Alexa which in the first sequences becomes a passerby of the 79th AC.

Opponent: Everyday life difficulties.

Manipulation: the spot starts in the middle of the story and for this reason this narrative phase is not part of the 60 seconds of which the spot is made. The scene in which someone convinces the protagonist to carry over

a certain task is missing; it can only be supposed that the daughter previously asked his father when Pompeii was destroyed.

Competence: this phase in the commercial is presented relatively soon given that it starts in medias res. The second sequence assumes that the protagonist knows that he can use Alexa to go back in time, finding relevant information needed. This witness he has the competence to pass to the next standard phase of which every story is characterized.

Performance: this phase happens for the entire duration of the spot from sequence 1 to 7. Here the protagonist makes use of Alexa two times in order to succeed in assisting his daughter with her homework. In fact, given that he is not knowledgeable about the history of Pompeii's explosion in detail, he asks the help of Alexa. Thus, being the only one able to answer to his daughter's questions, given that the other woman in the house never speaks and remains in the background, the man is compelled to rely on the smart speaker. This last becomes a crucial helper which allows the protagonist to carry over his task of helping with homework the girl as it would be expected from a good father.

Sanction: the performance phase resolves itself positively. In sequence 6, the protagonist is able to answer correctly to his daughter which satisfied by his correct answer goes on with another question. Also, the slogan of Amazon Alexa, appearing at the end saying "a voice is all you need" witnesses how people with the help of Alexa would succeed in their tasks in present times and also in the future.

C- Axiological level: square of values and promotion strategy

Looking at the axiological level the main value that emerges could be interpreted in terms of benefits that Alexa brought to users' routine, making life easier. In particular the binary opposition expressed in the commercial is the thematic declension of ease in terms of knowledge versus ignorance. Indeed, thanks to the vocal assistant, the consumer is able to deepen his know-how finding correct answers for lots of questions about the most diverse issues. Moreover, as shown in the spot, Alexa is like a reliable Encyclopedia with the distinction that it is easier and faster to use than the printed or the one findable on the internet. In addition, it offers you not just an answer but a valuable experience.

Thus, the spot confirms the mainstream idea people have about Alexa, that is that this assistant can support the user in a wide variety of tasks simplifying his life. What's more, in this specific commercial, the focus is on how important Alexa for the development of a trustworthy family relationship is. The whole commercial focuses only on the assistive function of Alexa in a specific situation which is the father-daughter interaction during an ordinary afternoon while doing homework. For this reason, Alexa can be on the users' side making him appear better in the face of others. Here a good father, who can give his son support on historical issues, is depicted.

The spot, despite its shortness, develops a powerful narration; the value depicted in the commercial is the utopian one. The assistant Alexa is described as necessary for the user, becoming like an extension of himself. In fact, the device, thanks to its enormous ability of data storage and of its intelligence, could overcome

humans' limits and support the user in things he could not manage by himself. Given this, the aim of the utopian valorization is to represent the user's life with the assistant focusing on benefits in terms of ideal lifestyle both the product and the brand could bring to the consumer. Nevertheless, also both practical and ludic aspects of the smart object are rapidly shown. Lastly the product appears for the first time in sequence 5 and later in the last one, the 7th.

Looking at rhetorical aspects of the narration, the spot opens up with an exaggeration presented in an ironic way. In fact, Alexa becomes a time travel machine which transported the protagonist back to the 1st century. The main aim of this hyperbolic situation is to impress the customer by presenting a weird and surprising scene. Also, the contrast between the dramatic scenario and the calm and nonchalance of the protagonist give life to an ironic setting which could be considered closer to black humor. Finally, irony is present at the end of the spot too; in particular when in the last sequence the audience hears both the protagonist and Alexa whisper to avoid that little girl understands how her father grabs the answers to historical questions.

D- Social roles of Alexa and stereotypes.

The enunciation shows Amazon as a brand that wants to enter ordinary people's routine tasks. This is done through narrating a piece of life of a man who could easily represent a huge number of fathers. However, given that the protagonist undoubtedly has a western background, some spectators could feel underrepresented. The depiction of his daughter in part solves the issue given that her aspect could not be easily fixed into a precise culture or country maintaining in this way a sort of cultural inclusivity and diversity.

For what concerns social roles represented by Alexa, the first noticeable thing is that the woman represented in the background has not a role clearly assigned to her. For this reason, it could be just assumed she is the mother. Furthermore, Alexa is intervening in a situation in which the father is finding some difficulties and in which he could have asked help from his wife instead of using the technology. Thus, even if in the spot Alexa is not strictly defined with a feminine stereotype and it is not clear if the mother is present or not, it could happen that the two characters overlap. With this in mind, Amazon made an interesting move. In fact, recalling the second sequence of the commercial, it could be assumed that the passerby represents Alexa given that this time is him and not the Amazon Echo device to answer the father's question. Here the innovativeness of the narration becomes evident; indeed, the brand through showing a possible mother and linking Alexa to a male character tries to detach the smart speaker from the feminine old fashioned stereotype. However, when Alexa at the end talks with a feminine voice all these assumptions are brought into question.

To conclude, referring to the type of smart object to human relationship represented in this spot, this last is a classic master-servant one, given that the assistant conducts supportive functions. However, even if this is not the case in which the rapport can be considered a reversed master-servant, because this happens usually when the device has security functions, the commercial wants to highlight the superior memory and storage capacity of the device. Concluding, the device becomes an extension of the users' self and it is marketed as essential to close human gaps.

3.4.2 Semiotic Analysis: diachronic discussion of Amazon Alexa commercials.

Analyzing the six spots it becomes clear that even if they all pertain to the same brand and advertise the same device they are all different; this occurs due to both the year and the country of launch. In addition, even if through different means, they all make evident the mechanism of anthropomorphizing technologies and highlight a new way of living that the user can have buying the vocal assistant. What's more, the device ranges from being depicted as an assistant till being a companion or even a partner. Despite the social role covered by the assistant the key message which links all the communications analyzed puts its basis on the same concept: Alexa is the best assistant the user could have, and it helps in making everyday life easier and more comfortable. In spite of that, all commercials give to the canonical narrative phase of performance, a higher importance in terms of seconds dedicated to it in the audiovisual narration. Last, before going in depth in the diachronic examination, the United Kingdom and United states spots follows two different narrative threads; also, evidence is that the image of Alexa evolves and changes leaving in part utilitarian information to reach a more emotional and empathic narration.

Starting from the analysis of the US commercials, all developed for the event of the Superbowl, the evolutionary path firstly needs to be distinguished in terms of values communicated, valorization strategy and tone of voice of the discourse.

In the 2016 commercial the main opposition of values identified is innovativeness versus traditionalism. The product advertised is a revolutionary one and the idea laying at the axiological level is basic but at same time very powerful. The strategy the brand adopted is to valorize the device through marketing it as something luxurious and technologically advanced, but also able to allow users for a different and better way of living. What's more the narration is very straight; nevertheless, the exaggeration present in the entire spot is functional in making the commercial impactful and memorable. Also, the famous actors involved in the video are strategic means; this is a way to depict an aspirational lifestyle making the actors ambassadors of the device giving it more credibility and consensus among the audience. Going on, the following commercial identified, Alexa lost her voice, was launched 2 years later in 2018. The main idea structuring the spot evolves and the opposition becomes in terms of comfort versus discomfort. What's more, if the spot of 2016 aims to communicate first a message of innovativeness, two years later the ideal described at the axiological level becomes in a sense narrowed and more concrete. The valorization strategy completely shifts toward the utopian one leaving out the elements pertaining to luxury and elite, thorough the depiction of an ideal lifestyle which is accessible by every target customer. In addition, the narrative style changes, becoming more dynamic, ironic and inclusive presenting different routines and a wider range of Alexa's functionalities; in this way a higher number of customers could feel represented. Moreover, the choice of both announcing Alexa lost her voice on the tv news and of hiring actors of different ethnicities and with different jobs, contributes to attach the value of the universality, proper of Amazon, to its branded smart assistant. However, even if this spot has got lots of elements of break with traditions it could never approach the newest one, Alexa's body, which was

launched in 2021. Here Amazon reaches its highest point in being revolutionary; first of all, it is the first time that Amazon depicts his characters intimate thoughts. In addition, the main opposition of values includes the one of pleasure reaching ideals pertaining to the emotional and sensorial sphere. For what concerns the valorization of objects, this last stays utopian; what changes is the narration that leaves out a part of humor whit the scope of realizing a more empathic and emotional story. Last, the key revolutionary factor of this spot is its caring in representing an equal society in terms of genders and races; what's more, this last topic would be detailed later on in this work.

For what concerns values, valorization of objects and tone of voice, a different discourse about needs to be done for United Kingdom commercials. The first thing to notice is that they were not realized for a specific event; secondly, all of them shares the peculiarity of having a father as subject dealing with his son or daughter. If these characteristics contributes in giving continuity to the general discourse of the Amazon Echo, on the other side they fix the routine in which the device could intervene and depict its typical user in a peculiar character. The first commercial pertaining to the stream of this specific narration and ideals was launched in 2016. It focuses on the reasons why people should appreciate the smart speaker; also, being the first UK Alexa's commercial, it represents the characters while overcoming the skepticism towards innovative technologies. After that, it depicts the ideal lifestyle and the benefits the device could bring to a family and in particular to a father in the interaction with his little daughter. Because of this, its valorization is utopian even if a large part of the commercial is functional in order to show Alexa's abilities. Years later, in 2019, the new Amazon Echo advertisements recalls the 2016 one and adds empathy to the previous narration. The main change occurs in the representation of the father; if in 2016 it was autonomous enough, here he is fragile and without Alexa it would have been impossible for him to take care of his baby correctly. For this reason, the key message the story wants to highlight consist in criticism of everyone's lives due to human limits; indeed, the main opposite values guiding the spot are possibility versus impossibility to carry over a certain task. All these elements are functional in making the narration emotional and powerful; what's more the target customer could easily impersonate in the subject and subsequently reflect on his needs and on the possibility of buying the smart speaker. To conclude, in the UK panorama, as well, 2021 represent a year of breakage. Despite some elements of continuity with the past could be found, like the father and son interaction and the main values and their valorization, the Alexa's narration focuses on irony leaving out its emotional side consequently including a larger number of ludic elements. Here, the theme of Pompeii's disruption is exploited mainly in three ways. First of all, it serves as a link with the past idea, accompanying older commercials, that highlights that humans are imperfect; indeed, the subject of the spot "Pompeii" doesn't know very famous historical details. Secondly, talking about this famous episode allows for a father-son interaction; last, is serves to build an ironic, humorous and lighthearted story which is an absolute novelty for the Alexa's UK spots.

Despite the aforementioned considerations, it is important to explore the evolutionary path occurring as well in terms of social roles and stereotypes the image of Alexa has got attached. Starting from 2016, in both US and UK the device performs assistive tasks and serves to complete utilitarian and entertaining functions. Furthermore, in 2018 and in the following year, the device is still depicted as a reliable assistant which in addition becomes omnipresent to assist the user in every kind of task like a superhero does. Nevertheless, the two countries used different representations for Alexa. In the US the brand added to the product the idea of being a faithful companion and it is embodied by several famous people that adds relevance and memorability to the spot. In the UK indeed, Alexa takes the place of an ordinary stereotyped mother. In this last case of 2019, as it was aforementioned, the narrative path of Alexa being a helper, substituting the figure of a wife or mother, becomes further evident because the important part of the story in which the mom goes out is added to the commercial's initial situation. Also, Alexa when switched on, always reminds to the user the fact that it is acting substituting his wife. Last, in 2021 the two countries completely innovate the narration even if again this happens through completely different ways. In the UK Alexa's social role shifts towards embodying the innovative role of a male assistant, or female given its voice, leaving in part the traditional one of the missing wife. For what concern the US instead the situation is completely different; Alexa is not just represented by a famous male actor but also becomes the partner the subject would have every day on his side.

Resuming in all the commercials analyzed the roles covered by Alexa are always framed in a master servant relationship style and it is considered an extension of the self. What's more, as time passes by the relationship evolves reaching the highest degree of balance in 2021 in the "Alexa's body" video. What's more the anthropomorphism of Alexa is faced differently in the two countries analyzed. In the first two UK spot the anthropomorphizing mechanism happens only in the imagination of the audience. Instead, the last advertisement, Pompeii (2021) is closer to the narration style of the US in which protagonists' thoughts about a human like Alexa have been explicitly depicted from 2018 onwards in every spot.

Last, it is important to examine how Amazon vehiculates and faces through its commercials the themes of gender and racial equality. First of all, not surprisingly, this theme is mainly addressed in the United States which population is very sensible to these issues given the scandals going on in that country and the subsequent movements such as the "Me too" and the "Black Lives Matter". For this reason, the brand Amazon from 2018 onwards decided to adapt its communication to these societal and cultural issues. Indeed, the cultural message behind the commercial "Alexa lost her voice" aims to depict Alexa itself in a multicultural way. Also, for what concern the representation of women in this spot, both the singer and the actress embodying the smart speaker have got very strong personalities and represent a radical break with the traditional stereotype. What's more, Alexa, through the association with several actors of both genders overcomes the association with typical women who has supportive tasks and takes care of the house. In spite of that, in the following years Amazon reinforces this strategy aiming to detach Alexa from the female gender shifting towards a neutral one. 2021 represents a crucial year; indeed, Alexa is represented by a male actor and consequently in all the spot it talks

through a male voice. In addition, in the commercial "Alexa's body" for the first time the brand uses afro American actors as key characters of its spot; this is the clear evidence of how much the brand is concerned towards inclusion and in fighting stereotypes. Concluding, Amazon decided to communicate this last message strongly and with a revolutionary commercial able to reach the widest audience as possible given that it's launch took place during the Superbowl.

Recalling literary findings, it is evident that in all the spots the vocal interaction of the device is exploited in order to facilitate both the user-smart object interaction and to assign it a social role (Garg & Moreno, 2019). What's more the brand invest in the communication depicting the smart speaker in the flesh; indeed, as suggested by several researchers, the cue of the voice enables the user to assume the device has got a personality. This further makes easier the natural mechanism of anthropomorphizing the technological object (Epley et al., 2008; Eyssel & Hegel, 2012; Shank et al., 2019; Airenti, 2015).

Also, the relationships depicted pertains to the master servant given that the humans cover a position of control of the smart device (Novak & Hoffman, 2019; Schweitzer et al., 2019). Despite this, in some cases the relationship becomes more egalitarian when the degree of trust the user has got towards the device increase such as in the US commercials of 2018 and 2021. However, these situations never depict clearly a partner or an unstable relationship; accordingly, when Alexa is considered to be a friend, a companion or even a sort of boyfriend the device always depends by the user (McLean et al., 2021; Gao et al., 2018; Purington et al., 2017). Also, the way the vocal assistant is used is a cue for assuming it being considered an extension of the self (Novak & Hoffman, 2019)

Regarding the interaction, findings about the emotion felt by the users after the device's response were exploited as well in explored advertisements (Shank et al., 2019). In all of the video analyzed there is a strong emphasis on the perception the several subjects have of the device abilities; also, camera's closes up contribute in making this more evident. Concluding as witnessed by several studies, the reaction the users could have when interacting with Alexa, ranges in the commercials from being positive ones such as happiness, pleasure, satisfaction to negative ones in which the user feels a little upset. However, this last feeling is never attributable to the phenomenon of uncanny valley (Mori et al., 2012; Shank et al., 2019; Skjuve et al., 2019).

3.5.1 Content Analysis: introducing Amazon Alexa commercials' comments.

After the semiotic analysis of the 6 audio visual advertisements, the second study, in order to complete the whole research, focuses on the reactions generated among the audience through the means of a content analysis performed making use of Nvivo coding platform. In this way the two perspectives, brand and consumers ones, would be taken into consideration.

Thus, the second part of the qualitative work aims to explore user's comments posted on YouTube platform referring to the commercials included in the data set, which of course were object of the semiotic analysis.

However, despite the sources, YouTube channels on which advertisements are shared, does not represent an issue for the semiotic analysis because the audiovisual content doesn't change, the same could not be said for the content analysis. Thus, it is important to remember that the data set includes spots which were in large part removed from the Amazon official YouTube channel. This is the reason why the data set has got huge differences in terms of number of visualizations, reactions (likes and dislikes), and comments even if the spots were all relevant in terms of customers' reach. Indeed, it could be assumed that the visualizations' number (table 2) is not reliable and that it underestimates the real reach of the videos, especially for the oldest ones. In fact, as aforesaid, all the US videos pertains to the event of Superbowl and the UK commercials were distributed also on tv; this is a clear evidence of their relevance.

Last, an overview of KPIs of each commercial, such as visualizations, likes and dislikes, is visible in table 2. The last two columns comprehend the percentage of comments downloaded with respect to the total available on the specific YouTube channel and the percentage of comments coded with respect to the ones downloaded.

YOUTUBE COMMERCIAL	CHANNEL	N. VISUALIZATIONS	N. LIKES	N. DISLIKES	% COMMENTS DOWNLOADED	% REFERENCES CODED
Amazon Echo Alexa UK 2016	Mpixy	220070	573	74	100%	70%
Amazon Echo - remember baby UK 2019	Joint London	22979	114	10	100%	80%
Amazon Alexa - Pompeii UK 2021	Ads of Brands	3800	52	9	100%	85%
Amazon SuperBowl Ad US 2016	Superbowl Ads Online	19195	66	4	100%	100%
Alexa loses her voice - Amazon Super Bowl US 2018	The Ads World	661505	10670	171	100%	66%
Amazon's big game commercial - Alexa's body US 2021	Amazon	78154728	55136	6781	7%	51%

Tab. 2: Commercials' YouTube details.

Despite the aforementioned limits, after downloading a satisfying number of comments pertaining to every commercial it would be possible to perform a coding activity. Through this means, in the textual data set several key words or issues of the discussion were identified and categorized; more than the 60% of comments downloaded were relevant for the analysis and consequently coded. Following, this analysis allows for the creation of several codes of interest detailed in paragraph 3.5.2.

Before going in depth in the coding of comments, a first insight is represented by evidence that all the three US spots received a majority of favorable reactions; this is confirmed by the ratio between likes and dislikes as well. In general, lots of comments were characterized by sentences of appreciation going from "Awesome video", "Amazing", till "Love this advert" and "best commercial I've ever seen". Often costumers' words of appreciation, both the ones revealing emotions felt and the ones showing positive sentiment, were followed by reinforcements such as emoticons meaning love, like or laugh.

In particular, *Alexa lost her voice* (2018) has the highest number of likes and has 30% of coded comments showing different kinds of appreciation expressed in sentences such as "one of the best adverts ever", "absolutely beautiful" and "can watch this all day". Also, *Alexa's body* (2021) has a majority of positive sentiment among the audience. The difference from the 2018's adv one is that customers were hit in particular

by the surprising effect of the commercials and by its hypnotizing characteristic. Indeed, lots of users wrote similar sentences like "the ad I'd never skip", "can't stop watching".

A first explanation of the reason why these two commercials were the ones preferred could be found in the correlation between narrativity complexity and customers' appreciation. In particular commercials with a more structured plot, higher number of settings and characters involved were preferred. In addition, often the feeling of being "hypnotized" and watching the video on repeat several times in a day are a cue for further positive reactions causing, in the majority of cases, strong emotions such as fun, like, amazement, and love.

Instead, among UK spot, despite the number of likes always overcomes dislikes, it is more common to find negative comments. In addition, these refer in *Alexa's spot of 2016* to the rhythm of the narration, to the roles performed by subjects *in Remember babies* (2019) and to the choice of the setting in *Pompeii* (2021). For example, comments ranges from "annoying" commercial, referring to the first UK spot, to "bad taste" towards the setting choice of the eruption of Pompeii.

3.5.2 Content Analysis: codes definition and structure.

Going in the deepest particulars of the analysis it is worth to explain the coding activity and the subsequent steps necessary to present the final results. After importing on the software Nvivo the 6 files containing YouTube comments pertaining to each commercial, it was possible to start the coding activity with a first definition of codes relevant for the study presented and a second categorization of textual data, words or sentences, in the pertinent code section.

The analysis was organized in a hierarchical way summarized in figure 24; at first three top level categories were identified: *commercial's narrativity, product and brand's representation of stereotypes*. Following, other 9 subcategories were identified. *Music, actors* and *sentiment* pertains to the first top level code, *anthropomorphism, evaluation* and *privacy concern* to the product category. Last, the *stereotype* section is divided into *gender* and *social roles* sub codes. Concluding, three of these have got a dichotomic value allowing for a further division of comments.

Coding of comments

Actors

Music   1. COMMERCIAL'S NARRATIVITY   Sentiment → Positive / Negative

Codes

2. PRODUCT (AMAZON ECHO)

3. BRAND'S REPRESENTATION OF STEREOTYPES

Anthropomorphism   Evaluation   Privacy concern

Gender   Social roles

human like cues   robotic cues   Positive   Negative
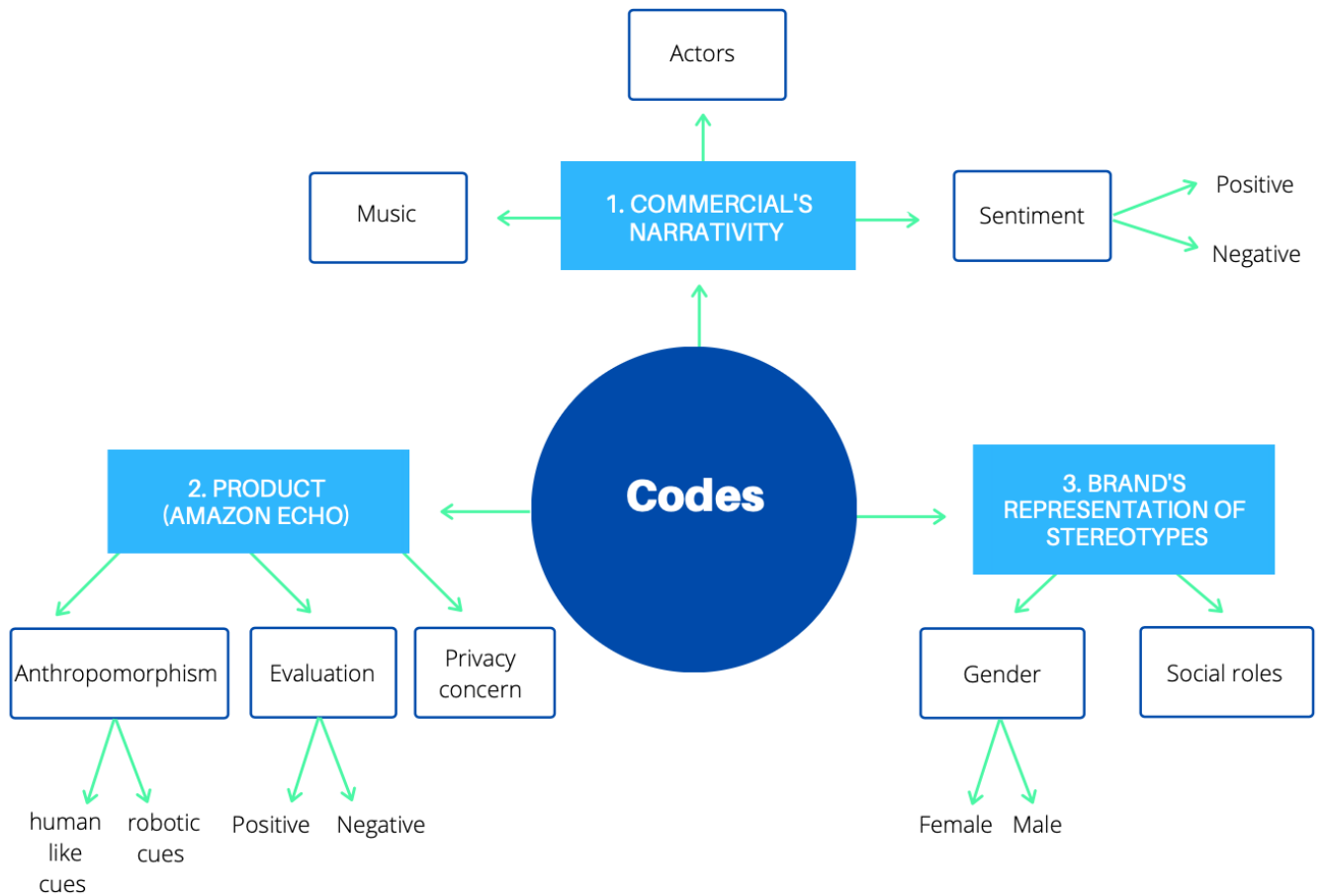
Female   Male

Fig. 24: Hierarchical structure of codes.

The first category, *commercial's narrativity*, is represented by the necessity of understanding if the narrative discourse of the commercial was relevant for the audience and the impact the several subcategories, identified basing on Semprini (1996) and Greimas (1966) theories about the components of the narration, have on spectators (Semprini, 1996; Collantes & Oliva, 2015). These insights could be used by marketers as complementary findings for further improvements on the development of the brand discourse necessary for differentiation of brands through values (Mangano & Marrone, 2015).

In spite of this, the users' contents pertaining to *narrativity* were differentiated through a further coding distinguishing comments related to *actors, music* and *sentiment*. What's more, the *sentiment* code has binary value defining both *positive* and *negative sentiment*. In order to give few examples, the actors category includes comments naming the actors involved and mainly showing an appreciation of the actors "Love Cardi B." or "Marino the greatest". The music code includes sentences such as "the music suits so well" or "the song in the background is".

The *product* category instead, finds its motivations on the literary works of the authors Airenti (2015), Shank (2019) and Purington (2017) exposed in the first and second chapter. In particular, this field comprehends the themes of *anthropomorphism, evaluation* of technology and the *privacy concern*. What's more the

subcategories *anthropomorphism* and *appreciation* of technology were organized in a dichotomic way allowing fist for analyzing the overall number of comments discussing these themes and secondly a further separation of *human like* or *robotic cues* and *positive* or *negative* affirmations.

For examples in the category of anthropomorphism there are comments referring to the Amazon Echo calling it by its human name "Alexa" or referring to it with the personal pronouns "she/her" or attributing human like qualities to the technologies such as "sexy". On the opposite side the negative value of anthropomorphism relies in comments referring to the Amazon Echo as a "robot", "device", "Echo" or "machine". Nevertheless, very significative is a specific comment referring to the Amazon Echo as a "soulless robot" denying the intrinsic characteristic of anthropomorphism which is the possessing of a mind.

Furthermore, the dichotomic code of evaluation includes positive comments on the product like "I need this". On the contrary no appreciation could be found in comments directed to the Amazon Echo like "I don't like" and "stupid device" or could be assumed indirectly thanks to sentences denoting a comparison between competitors such as "Google home is miles better". Later on, the subcode *privacy concern* is included in the analysis given the huge relevance of this issue documented in the first part of this work (Furey & Blue, 2018). In details the comments pertaining to this category contains the fear of losing privacy and of being controlled such as "privacy bugs invading our homes" and "intelligence agencies listening to our conversations". Last few comments show fear for the rapid growth of Artificial Intelligence and the phenomenon of transhumanism. The third category refers to *brand's representation of stereotypes*. Given the scope of this work, and the research question identified, this code is worth of attention not just from a brand perspective but also in terms of consumers' sensibility, understandable through this study. At first this category it is functional to grab and codify all mentions referring to this issue to see how much the advertisement generates this kind of concerns. Secondly, basing on the findings of Schweitzer (2019) and West (2019), comes the choice of retracing if the video makes users recognize the *female stereotyp*e depicted in Alexa like "Alexa is already feminized" or assigning a *male gender* to the device "Gordon Ramsay version of Alexa". In addition, through the coding activity it will also be possible to distinguish which elements of the videos leads to the gender attribution of the smart object. Also, *social roles* subcategory needs to be included given the relevance of literary findings, especially of the ones of authors such as McLean (2021), Purington (2017) and Gao (2018). Comments regarding social roles are evident in both UK and US narrations which are built supporting a precise idea of family and of Alexa or reoutlining this last through "role reversals". In addition to mentions referring in general to the issue of roles, such as the one before said, other examples of this code are retraceable lines like "where's the mother?" or such as "Parents do not read stories to their kids getting Alexa do it".

To conclude, several links could be found among subcategories pertaining to the same top-level code or between subcodes. These paths are in part recurrent and in part depending on the commercial in question; for this reason, these situations would be better detailed in the one by one advertisements' analysis. Just to show some, among narrativity category, actors and music were often matched with positive sentiment; among

product characteristics, anthropomorphism is supported by an appreciation of the device in the majority of cases.

3.5.3 Content Analysis: coding results.

As explained in previous paragraphs, each commercial is embedded in a peculiar context and generates a particular discussion; this is the underlying motive for the individual content analysis of each Amazon Echo spot. What's more, an overview of the codes found in each advertisement is presented in table 3; given the different number of comments posted under each video, it is more efficient to show the coding of comments in percentages. In addition, percentages refer to the total number of references coded in each audiovisual content. This is the reason why uncoded comments are not part of this table.

		Commercials comments' percentage references pertaining to each code					
		US 2016	US 2018	US 2021	UK 2016	UK 2019	UK 2021
product	antropomorphism - human like cues	0%	13%	14%	25%	0%	18%
	antropomorphism - robotic cues	0%	2%	3%	12%	0%	0%
	evalution - positive	0%	8%	6%	4%	0%	0%
	evaluation - negative	0%	2%	2%	3%	0%	0%
	privacy concern	0%	0%	1%	7%	0%	0%
commercial's narrativity	actors	25%	34%	9%	3%	0%	9%
	music	0%	1%	2%	6%	0%	0%
	sentiment - positive	75%	30%	30%	7%	12,5%	9%
	sentiment - negative	0%	4%	2%	16%	25%	45%
stereotypes	gender - female	0%	2%	10%	0%	0%	9%
	gender - male	0%	4%	9%	0%	0%	0%
	social roles	0%	0%	12%	17%	62,5%	10%

Tab. 3: Percentage references coded in each category for each commercial.

UK Amazon Alexa commercials

Starting from the three UK commercials what is evident at firsts is that they have got a limited number of reactions and visualizations. This is due to the fact that they are all published in specific channels for distributing advertising contents, such as "Mpixy" or "Ads of Brands", and in channels of advertising agencies like "Joint London", which of course have got a restricted audience. Here below a detailed analysis for each spot.

1- Amazon Echo Alexa commercial (2016).

The Amazon Echo Alexa commercial (2016), being the first one introducing an innovative product in the UK had a huge success in terms of likes and triggered the greatest number of comments if compared with the spot "Remember babies" (2019) and "Pompeii" (2021). The peculiarity of this video is that it stimulates several issues of discussion among spectators that find their motives in the novelty of the product and thus were not retraceable in the following adverts. Indeed, it elicited privacy concerns, the highest percentage 7%, which becomes evident in textual contents like "Could you tell me if intelligence agencies are using you to listen in my own conversations?" or "Have a chip in the neck so the government know where we are and what we are doing". However, this fear is not novel for all users given that some of them recognized to be "used to privacy bugs" and to privacy scandals such as the one in which Facebook was involved; this signifies that they are

aware to this everyday life preoccupations. What's more the commercial in question is the one with highest percentage of comments showing people not appreciating explicitly the device advertised, 3%, with strong statements such as "Alexa burns in the fire". It's positive evaluation instead is not expressed lots of times and it is strictly referred to the utilitarian aspects of the product; however, it stays higher from its contrary of 1%. In Alexa's 2016 UK commercial the highest percentage of expression regarding a denial of anthropomorphism of the Amazon Echo could be find as well. Indeed, the 12% of the overall comments demonstrates a skepticism towards anthropomorphizing the smart speaker referring to it with words "robot", "device", "echo" and affirmation signaling the resistance towards human like devices. Despite this, a bigger number of comments is codified with the presence of anthropomorphic claim; in particular lots of customers refers to the device with the personal name Alexa instead of using "robot". In addition, it is curious to see how Alexa becomes for someone not just a human but a sort of superhero who has the task to "sauver la planetè" or read books to kids substituting parents, allowing them to relax or perform other tasks.

The social roles mentioned are the ones typical of a family like the mother, apparently missing, the dad, and refers to adult's role of reading books to kids and to the ones assigned to Alexa acting as a fictitious parent. However, recognizing the device as a sort of technological dad or mom is strictly related to expressions showing sadness and anger. However, despite social roles are mentioned in comments, there is no evidence of consumers' concern on stereotypes and no explicit cues of the gender of attributed to Alexa.

A lower number of comments regarded the commercial's narrativity, 32% versus 51% related to the product. The codes of music and actors contains mainly questions about what are both the protagonist's name and the background song ones. Negative sentiment instead emerges from comments considering the advert annoying and confusing; probably this could be linked to the narrative style and the tone of voice which are perceived not enough emotional and entertaining. Last, the positive sentiment is only 7%, almost half of the negative which is 16%, and is coded through the words "funny", "really good", "nice".

2- Amazon Echo: Remember Baby (2019)

The second commercial of the data set pertaining to the UK, is Remember baby (2019). Here even if the total comments were less, the 80% of them was significant and consequently coded. The mentions are equally split among the discussions concerning commercial's narrativity and stereotypes; this because the video launches a stronger message with respect to the one of 2016. Indeed, it clearly represents a father performing typical roles of the mother. The music in the background and the actors are not famous and doesn't receive comments; Furthermore, the discussion is strictly linked to the social role depicted in the narration "the father" and focuses on "role reversals" and "overcoming stereotypes" which together represents the 62,5% of the total comments. The spot was controversial, and even if the number of likes is higher than dislikes, the comments showing negative sentiment are twice the positive ones. Indeed, it emerges that half of people joining the discussion are not convinced about the shift in social roles and seems skeptical about the convenience of this last change. Indeed, despite someone sustains that "elites have empowered women and the expectation is that dads should do the mother's role" the term elite is a cue for social issues among classes and a general discontent. Also,

very strong is the affirmation saying "the majority of people is under hypnosis and don't know it" showing that the role reversal is happening even without everyone's agreement and indeed people are hypnotized and forced in a sense to accept this. Furthermore, the discussion referring to stereotypes is driven by the representation of Alexa in terms of social roles covered; however, users focus on stereotypes depicted and does not refer to Alexa in an anthropomorphic way and does not assign a precise gender to the smart speaker.

3- Amazon Alexa: Pompeii (2021)

The third commercial, Pompeii (2021), is the most debated one of the entire data set. What's more, despite the shorter version of this spot is available on the Amazon official YouTube page, it was not possible to examine this last because it has the comments' section deactivated. However, this witnesses the huge resonance this video had and the perils of its comments. Even if this last number can only be imagined, it has got more than 2 million visualizations only on YouTube and many others in other media. For example, in other countries such as Italy, it is on TV during dinner prime time. In addition, Amazon choice to turn off the comments below is a further confirmation of the importance of the issues it raises given.

Due to these limits of the analysis, the commercial source chosen is the YouTube channel Ads of Brands, which reposts several advertisements worth of that. However, here, the spot has just the 0,2% of the Amazon's channel audience. In addition, it could be assumed that these comments are written by a different target audience, with respect to the one of the Amazon's channel, who is more specialized and used to see commercials in a critical way. Thus, even if few in number, the comments identified are representative for the coding analysis.

The narration of Pompeii (2021), as stated in the semiotic analysis, verted on humor leaving out the emotional side retraceable in the previous spots depicting moving familiar situations. What's more this change constitutes the pivotal argument of the discussion. The majority of textual contents, about 45%, shows the prevalence of negative sentiment versus 10% of positive reactions. Thus, from the coding activity the principal problem emerging is related to the commercial's plot and the bad taste of producers, given that the spot makes an excessive humor of a tragedy. For example, an element of discussion is the fact that the protagonist is too calm while walking through the city facing a volcano eruption. Thus, the spot is considered "stupid", "bad taste" and "hypocritical" given that we live in an era in which there is a general increasing attention towards offensive depictions.

Despite this, the negative sentiment is not related to the other codes present in the spot which are actors, 9%, anthropomorphism of Alexa, 18%, and stereotypes, 10%. For what concerns the human like cues retraceable in the spot users call Alexa with her personal name and as a reinforcement both for anthropomorphism and for the attribution of a female gender they substituted her name with the personal pronoun "she". Last, the social role of the father is mentioned; however, this word is standing alone and for this there is not a clear link with the smart speaker.

US Amazon Alexa commercials

Now that the content analysis is completed for the UK spots, it becomes necessary to shift the focus of US Superbowl Amazon Alexa's commercials. As already anticipated, Amazon usually removes older contents from its official accounts and for this reason, the choice of including in the data set advertisements published in channels specific for ads contents happens for US commercials as well.

4- Amazon Superbowl Ad (2016)

Going in order of time, Amazon Superbowl Ad (2016) was the most complex to analyze. This is due to the fact that it is the oldest one and that the channel "Superbowl Ads Online" has only 200 subscribers. What's more the video was presumably shared some years later its launch given that the first user's comment was posted on 2019; thus, given that the Amazon's communication rapidly evolves it may happen that people do not consider valuable to comment old commercials. For all these reasons, the only insight retraceable is that the spot arouses positive comments confirmed by a majority of likes, 66 versus dislikes, 4. Also, the general appreciation towards the video is sustained in part by the famous people involved like Dan Marino.

Given these limits codes referring to the anthropomorphism of the device and to stereotypes are not present.

5- Alexa loses her voice (2018).

The ad of 2018, Alexa loses her voice, is not usable on Amazon official YouTube account as well. Despite this it went so viral that it reaches on a secondary channel about 700k visualization and lots of interaction both in terms of likes and dislikes and of users' comments. Indeed, after Alexa's body (2021) it is the one giving the highest contribute to the coding analysis. Through this commercial, the brand Amazon changes its narrative style and produces a very innovative spot closer to a short movie in terms of complexity. Thus, customers' reactions came quickly; about the 65% of comments published on Ads World YouTube channel were relevant for the study and consequently were coded. Starting from the textual contents related to the product, there are no cues of privacy concern and very little disregard, 2%, showing someone still skeptical of this technological device which is both "pathetic" and "stupid" and still arouse fear in spectators. Moreover, some of these definitions are linked to lack of anthropomorphic considerations about the smart assistant; to give an example, the attribute "stupid" is linked with the word "device". Others comments instead, representing just the 2% of the total coded mentions, show a stronger resistance towards the anthropomorphizing mechanism posting sentences as "robots took over" and "sad attempt" of the brand "at humanizing soulless robots". Nevertheless, the amount of people referring to the device as if it is human like is much higher; all of them explicit the need of having a famous actor, chef or singer as their personal assistant and for this are strictly related to the code anthropomorphism. Indeed, Amazon's scope was to try through this commercial to detach Alexa from the mainstream feminine stereotype through matching Alexa with male personalities and empowered women. This is the first attempt of the brand bridging this gap and from the coding of comments it could be said that this was a success; indeed, lots of users would like to have the revolutionary version of Alexa depicted in the commercial.

For what concerns commercial's narrativity the codes identified were music, when people refer to the name of the popular final song, and actors. 34% of the total comments refers to famous personalities involved in the spot and to their performances. In particular this code as said before is matched with the presence of anthropomorphizing the device; an example is "I'd do anything for the Gordon Ramsay Alexa" or "I want that Cardi B Alexa".

Concluding, the advertisement has a stronger predominance of positive sentiment, 30%, compared to the negative one, just 4%, which is linked mainly to actors' preferences and not to the story or product itself.

6- Alexa's body (2021)

The last commercial pertaining to the data set is Alexa's body, launched this year in February. This is published as well as Pompeii (2021) in Amazon official channel; the difference is that in this case the comments are allowed and accessible. This commercial is the one with the highest number of both visualization, 8 million, and comments, 8k. However, due to the limits of Nvivo software, it was possible to grab only the first 520 comments; these are the most relevant for the analysis in terms of likes, replies and themes discussed. What's more given that each of the top level comment generated several replies, it happens that not all the discussion is pertinent and worth of being coded; thus, the percentage of text pertaining to the categories of interest reaches the 50%.

First of all, the commercial's positive sentiment and the product's appreciation overcomes negative reactions. The spot has the perfect match of irony, joy, fun and emotional capacity; it is "genuinely funny and hilariously absurd". It is able to grab easily everyone's attention; lots of people affirm "can't stop watching this" or "this is the ad I'd never skip". Positive reactions are directed towards the plot, shots, details and background music of spot as well; also, the actors especially Michael B Jordan and the wife plays an important role in arousing good vibes. Just two comments explicitly refer to the advertisement in a negative way showing hate, "I hate this ad" or contempt versus creators. Nevertheless, the highest number of comments about the product is coded in the field of appreciation and anthropomorphism which are strictly related to each other. Indeed, for what concerns codes like human like cues and gender of the smart speaker lots of customers refer to a male device embodied by the famous actor represented in the spot. Thus, they would like to have a beautiful vessel like M B Jordan as Alexa and if this would be possible, they would for sure buy an Alexa. What's more this would make user more confident towards the device "asking questions all day" and they would even absolve Alexa for giving wrong answers. However, someone seems to be still reluctant to give a body and a soul to the smart speaker; in the 3% of cases, Alexa is called "the robot" or "the machine". Furthermore, few spectators have bad feelings guided by conspiracy theories and see machines as capable of damaging relationships; Alexa is defined "the homewrecker". This becomes evident from affirmations like men "get cheated by their woman with machines" and "gets their girls stolen by machine". Last, traditionalists still strongly oppose robots' and AI's spread sustaining that it would be an "apocalypse".

For what concerns stereotypes, the discussion focuses on women's objectification pointing out how much this strategy functioned and was popular in previous years. In fact, there are many comments referring to robots as

females and as a sort of "toys" for males. In addition, customers understood that the time has changed and that now there is the need of overcoming standards thorough role reversals as mentioned in comments coded in the stereotype section. Also, the current social issues leave disruptive images coming out. Indeed, attributing a male identity to Alexa in this case is appreciated and signifies a revolution given that "Alexa is already feminized".

3.5.4 Content Analysis: comparative discussion.

Now that all codes found in the six commercials have been analyzed individually, it is worth to compare them giving a different perspective which allows to find similarities and differences among themes of discussion and emotions elicited in customers. In particular, in this way it would be possible to point out the evolution of Amazon's communication from a customer perspective; later on, a comparison among countries would be detailed as well. In addition, the comparative analysis that follows is resumed in figure 25, where the percentage number of codes found in YouTube comments, pertaining to each spot, is represented.
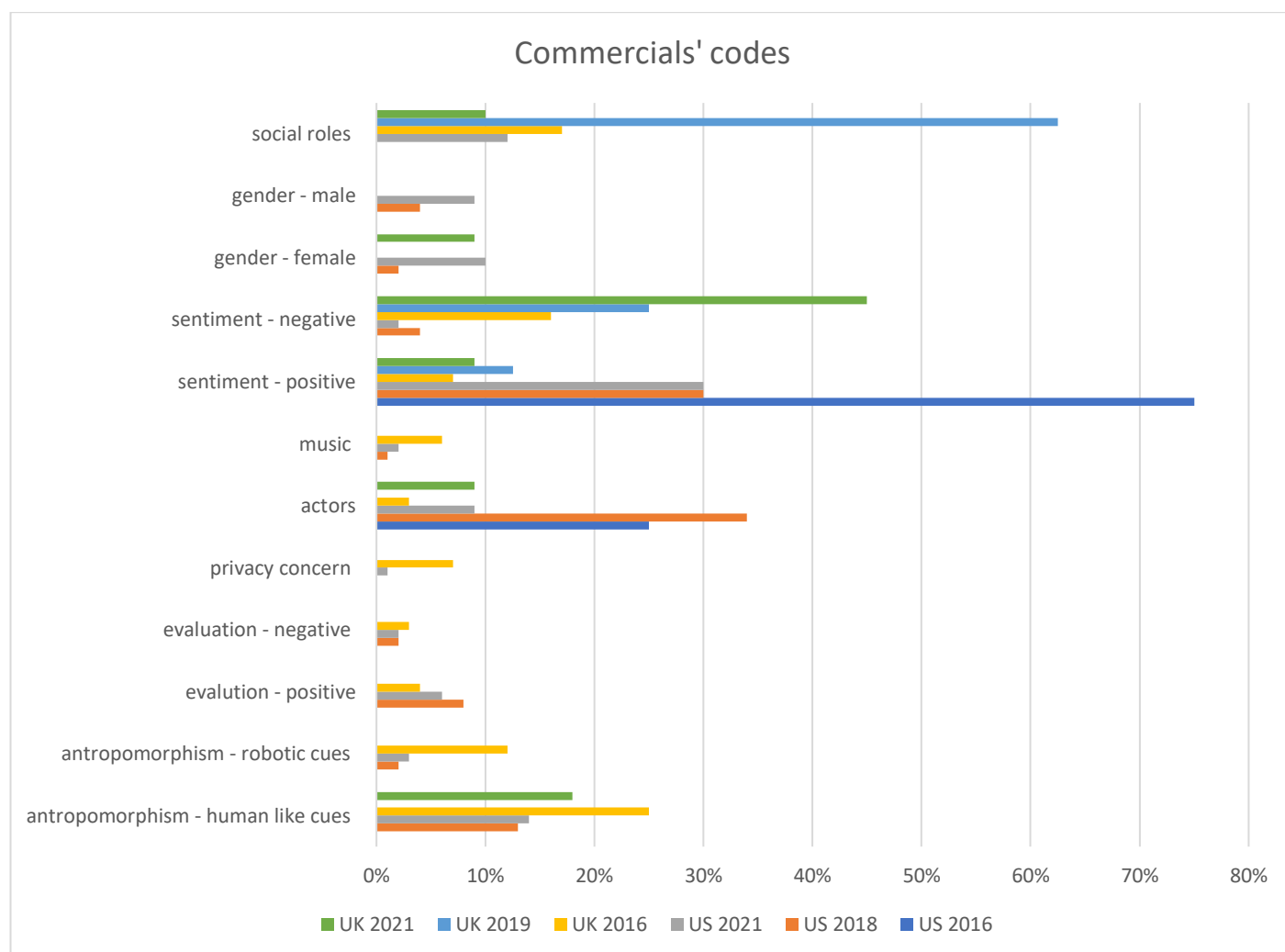

Fig. 25: Codes found in each Amazon Echo commercial.

As aforementioned during the semiotic analysis, the narrativity of the spots saw a huge evolution in terms of complexity of the plot, in actors involved, in ideals and social issues represented. As expected, these aspects are reflected into the codes emerged in users' comments.

However, given that UK and US commercials follows two different narrative discourses an evolutionary path for each country would be described first.

Starting with UK videos, it is important to highlight first that the number of references produced by users has a higher negative than positive sentiment. If a general skepticism towards the Amazon Echo, especially due to users' concerns about privacy and about product's functionalities, is retraceable in 2016 this tended to disappear as time passes by. Instead, in the first UK iconic Alexa's commercials a general negative sentiment is present and becomes even higher in the following commercial (2019). This at first, in 2016, seems to be related mainly to the narration style and little to father's social role but three years later the situation completely changes. In 2019 the new coming commercial accentuates the idea of role reversal between mum and dad, and this generates a shift in reactions; this time more than the 60% of coding is referred to stereotypes and the 25% of total comments shows a negative sentiment linked in large part to this last category. Indeed, Amazon clearly attempts to appeal to a more open-minded society, free from fixed roles, accepting the idea that fathers are able and should carry over typical feminine activities. Nevertheless, people in disagree with this societal change and gender equality don't hesitate in writing their ideas on YouTube.

Going to the last commercial, Pompeii, social issues leave the floor to the sentiment towards the commercial's plot and narrative style. This becomes evident considering that the 65% of the whole number of reactions has been coded in the field of commercial's narrativity. Furthermore, the innovative style and the new ironic tone of voice, recalling British black humor, is not appreciated by the community who demonstrates to be more sensible about dramatic situations than what expected by the brand.

Analyzing commercials launched overseas, they have a completely different tone of voice and narrative style. Also, the richness in comments allows for a more detailed coding activity.

They have all a prevalence of positive sentiment both towards the narration and on the product. Proceeding in an orderly fashion, the first US Superbowl Amazon's commercial (2016) generates positive reactions related to the spot in general and to actors, given they were American idols and well known by the target audience of the Superbowl. The famous personalities involved also in Alexa lost her voice (2018) grabbed the majority of attention, 34%. In this case, the famous actors were 4 as in 2016 but the fact that they impersonate Alexa leads users to discuss more about the possibility of buying a famous version of Alexa. Also, for this reason, data shows a majority of human like affirmations versus the object and referred to its gender. The presence of an Alexa embodied by a celebrity arouses positive feelings and also to positive evaluation towards the product; in addition, it stimulates its buying and usage. Also, the choice of male characters representing Alexa does not raise polemics about gender stereotypes or social roles and there is no concern of role reversal.

The last commercial, Alexa's body (2021), as said in the semiotic analysis is disruptive in terms of representation of society. Through this powerful communication Amazon determines an enormous debate, 8k comments were found on YouTube but every social media has a particular discussion on this video. Thus, the aim of this study is also to show how much the same brand is able to change becoming a vehicle for the spread of issues that are well rooted in people thoughts. Indeed, in this video the comments cover for about the 45% issues of object anthropomorphism and of stereotypes embedded in society and in technologies. Following, the debate shows the need for overcoming tabu and for a more equal gender representation. Thus, textual contents shared under this video confirm that people recognize the innovativeness of this ad; in addition, the majority of them witnesses that these issues are "rarely seen on tv" and the consequent need for reoutlining gender roles in branded communications as Amazon did. Exemplary is the fact that in Alexa's body (2021) the man is "objectified" and that it is the wife the one who cheats on the husband.

What's more from reactions this ad has got it becomes clear that societal issues stimulate the debate; indeed even if the spot of 2018 has a male representation of Alexa as well, through actors like Antony Hopkins and Gordon Ramsay, spectators did not show concern on stereotypes and on different social roles represented.

Last, analyzing cross country the entire data set, other insights pertaining to the codes of anthropomorphism and of stereotypes come out. Through a further analysis of comments referring to these two categories it was possible to build a perceptual map, visible in figure 26. This highlights consumers' perceptions shift about the anthropomorphic and the gender characteristics of the smart speaker during years and among countries.
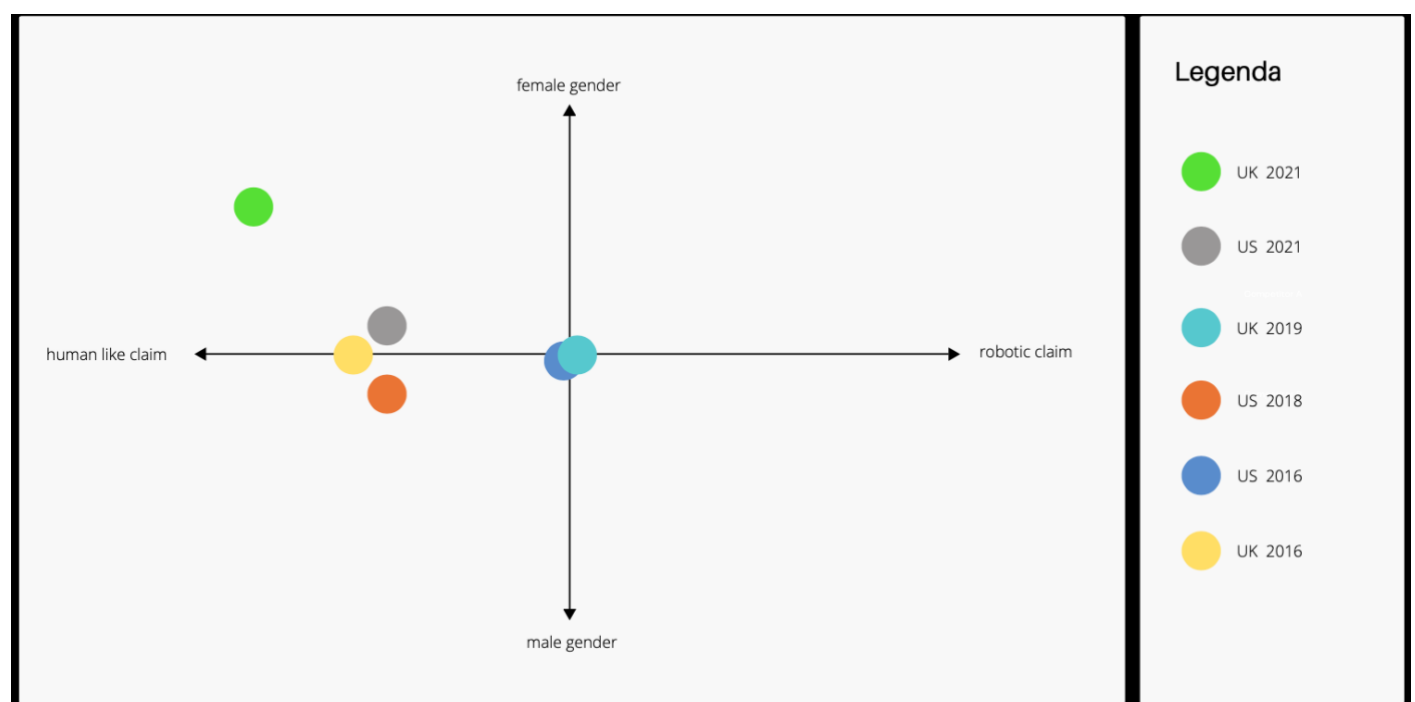

Fig. 26: Perceptual map: anthropomorphism and gender of Alexa.

1-Anthropomorphism of Alexa

The category of anthropomorphism sees two different evolutions of the sub codes human like versus robotic cues both in terms of number and quality of users' reactions.

First of all, reading carefully comments related to the attribution of human like features to the smart speaker they are present in the majority of the spots and are distributed in a sort of climax following three steps. First, in UK spot (2016) people call the device with the personal name Alexa as they do with other people. Then the spot of 2018 makes users reinforce the in the flesh characteristic of the device using the personal pronoun such as "she". Also, customers consider the possibility of having a famous actor substituting the device, a sort of friend and helper of both sexes. Last, thanks to the imagination of the afro American woman in Alexa's body (2021), lots of users and non-users would like to have an Alexa in the role of a partner. The following thought is the best example for this issue: "If Amazon offered to make Alexa how ever I want it to look, I'd tell them to make her look like the girl of my dreams... I'm lonely". This clearly evidences how people are social animals and how much the need of having a companion is valuable for them. Also, they aspire to ideals shared in society; those are resembled by fixed stereotyped images.

On the contrary, the percentage of robotic cues linked to Alexa decrease with time. When robotic cues are linked to Alexa, this last is considered as a mere servant in 2016 and has not a defined sentiment attached. Instead, going on with time, the affirmations of echo or robot are often linked to negative sentiment such as "stupid" or reinforcing the fact that people look dumb when considering their device as a human.

2-Stereotypes of Alexa

For what concerns stereotypes an increase of mentions pertaining to this code could be seen going from older towards newer commercials. Also, the number of comments categorized into male versus female gender attributed to Alexa see a gradual change as well leading to two movements in the perceptual map; a first shift between male gender and female gender occurs from 2016 to 2018 and then again in 2021.

In 2016 users do not explicitly refer to Alexa with feminine pronouns reinforcing its sexual attribution and simply call it with its anthropomorphic female name. In 2018, the choice of making Alexa embodied by half male actor and half females leads consumers to express their gendered preferences for the device explicating the specific gendered Alexa they would like to have. Surprisingly the innovative idea of making Alexa a male becomes a debated and a mostly liked theme; indeed, the mentions of a male Alexa are the double of the female ones and are as well associated with positive feelings. Going on, data shows that in 2021 the issue of gender occupies almost three times more mentions than 3 years before (figure 24). Here, a clear distinction could be found among comments related to a female gender which follow three main themes. Firstly, some of them sustain in a neutral way, the idea that objects are feminized; others discuss the need for change and contain supportive sentences like "Alexa for women". Also, in the code's category male gender there are comments both opposing this innovation like "My fictional robot character won't resemble a male" or sustaining this such as "his voice should now be an option for Alexa". However, the double of comments in

the code male gender shows an appreciation of this innovative version of the device versus the ones showing resistance.

In addition, even if the male section sees an increase in number respect to older spots, the prevalence of mentions still refers to a female Alexa; furthermore, the fact that the name stays feminine, even when a male voice is set and speaks, makes users reflect on the possibility of changing the robot's name into Alex together with the voice.

Last, findings of the coding activities signal the possibility of assuming that both female and male embodiment of Alexa leads to the anthropomorphizing of the smart speaker and that there is a consistent number of users that would appreciate to possess a male version of the device.

Concluding, despite the acceptance of anthropomorphism of technologies among customers and their positive evaluation of devices possessing a mind, a voice and an imaginary body, the issue of stereotyped social roles does not present a dominant position and for this it was not included in the perceptual map. Indeed, given that this last is more recent and still debated, its discussion sees often competing ideals and values. In addition, some users are still not knowledgeable about the feminism movement, and they often misunderstand the definition of feminism considering as feminist something that points out gender differences, discriminations and the need for equality. Last, comments retraceable under Alexa's body (2021) spot such as "this ad works because Alexa is already feminized", "woman are being used for appeal" and "plenty of women everyday are sexualized on tv and most won't bat an eye" sadly shows both the malcontent and the awareness of this issue. Also, others pointing out that reversing gender of Alexa's body spot "the internet would burn and Amazon would be boycotted" highlight how strong is the need for social change and the task firms have in supporting ideals of equality.

Chapter 4: Conclusion: results, implications, limits and opportunities for future research.

Conclusive discussion: research overview.

To summarize this work, it could be said that starting from the exploration of the wide topic of the Internet of Things, it later focused on the fascinating and relevant phenomenon of anthropomorphizing technologies leading to the attribution of social roles to smart devices and consequently to their stereotyping.

The IoT, AI and smart objects were the subjects of first chapter of the work, which lays the foundations for understanding the implications these objects present. Indeed, given the interesting and impressively growing market of smart speakers, the second chapter explored more in details the literature about customer-smart objects relationships and the consequences this phenomenon has got from a social point of view.

Going on, from the first two chapters a gap in the literature emerged; indeed, there aren't specific studies about the effects of advertisements of smart speakers. This appears to be worth of attention given that vehiculating the desired message brands could maximize the effects of their communications. Indeed, given the growing competition between producers of these objects and their huge market size, promoting smart assistant at their best could be a means through which reaching the most hesitant customers facilitating the acceptance of smart speakers and maximizing profits. Thus, valorizing the brand ideals transmitted through this new-coming products is an opportunity to reinforce and renew the brand identity and image. Precisely marketers need to pay attention to recent social phenomena hitting the society and needs to take a standing towards these problems; this can be done also adapting their advertising communication. Given the attention and the relevance the problem of gender equality and the need for slamming old social stereotypes, the present work aims to contribute to the impact the advertising has in communicating a cliché reinforcing or mitigating this last. Also, to perform a diachronic analysis of commercials and understand their semiotic evolution and changes in users' reactions this work includes one brand, Amazon. This last was chosen as case study due to the fact that it is leader in the market of smart speakers, it spends huge amount of money in advertising, and it has been present since 2015 in US and UK with the branded voice Alexa which interface has been updated by the brand every year.

Last, to contribute to the gap identified, two analyses were performed. In the first study, after building a coherent data set of 6 commercials pertaining to both US and UK, a semiotic perspective on was taken. In particular this evidenced how Amazon is committed in delivering an updated image of its smart speaker, versus the stereotyped one, and wants to be part of the social change. Secondly in order to understand users' reactions to the several communications launched by the brand and the evolution of audience's ideals sustaining the comments, a coding analysis on YouTube comments found for each spot of the data set was operated. Thus, this confirmed both the need for change deriving from an open-minded target and consequently and the importance of considering users' preferences in the brand discourse.

4.2 Results and theoretical implications.

The present study was able to document the human like perception of smart speaker and the social role, stereotyped or reversed, that users attribute to the device. Furthermore, through the two studies detailed in chapter 3, whose several results are reported here below, this work could contribute to the current literature.

First of all, the case study documented the existence of the phenomenon of anthropomorphism and the relevance it covers in branded communications. In particular, in the technological field of smart speakers, the giant Amazon decided to shift from spots representing the device as an object towards more innovative and complex images. Indeed, starting from 2018 it is possible to retrace in the US the personification of Alexa through its embodiment in real actors. In addition, this line has been followed by the spot Pompeii, born in England and then distributed to other European countries such as Italy. Also, the consequence of giving a body

and a mind to Alexa is that it has a social role attached which could retrace a particular cliché. Thus, the brand paid attention to stereotypes and in particular to the one referred to gender. Again, starting from 2018 Alexa becomes not just a human like device but embodies a female or male character with several social roles. However, depending on the year of release of the spot and the country of launch, the situation depicted, and the values communicated, each advertisement generates different comments and focused on particular themes of the discussion.

In general, it could be said that the key message Amazon wants to communicate is that the smart speaker helps the user in everyday life situation; also, it could elevate the standard of living of its owner guaranteeing him a higher level of comfort. Thus, the common message is that the Echo is an assistant helping people to deal with everyday life tasks; also, with the device it is easy to face and go through the unexpected. In addition, it is possible that several types of relationships are built between the customer and Alexa, which could further become a friend or even a partner.

In details from the semiotic analysis, study 1, it emerges that the brand aims to vehiculate its messages through the narrative phase of performance of its videos. This means that the seconds dedicated to the subject taking action to complete his task acquire more relevance in order to clearly show the benefits the device could bring to future users. This finding agrees with the study of Mangano and Marrone (2015) who sustain that a brand could differentiate their discourse from competitors focusing on a specific part of the narration.

What's more, all the 6 plots are all built following the utopian valorization of objects which is able to highlight in the best way the ideal life the user could live with the device next to him. Despite this, a further distinction could be done in terms of secondary presence of other values addressing customers' needs and in terms of complexity of the plot.

Thus, as pointed out in paragraph 3.4.2 in the first videos coming out in 2016 mixed the aspirational lifestyle with practical aspects of Alexa given that this was a new coming product. Later on, the plots acquired little ludic elements and range from straight and easy ones, like the two of 2016, to more refined structures alternating different routinary situations, shifts in time and imagination versus reality. Examples of this last are Pompeii (2021), Alexa's body (2021), Alexa loses her voice (2018).

Last, the tone of voice evolves as well; as time passes by, directors balanced the ironic lines with the emotional ones in the US while in the UK happens the opposite. This humorous but touching storytelling contributes to the engagement of the audience, the likability of the spots and to the presentation of debated themes such as gender and stereotypes.

Furthermore, the humor is functional to the narrative phase of competence, in which the protagonists recognize the fact that the smart speaker has got human like abilities and interact with Alexa as if it was a person in the flesh. Consequently, they deal with the device acting in the same way they would have done with another

human confirming the pillar theories of Nass and others (1994, 1995) defining the CASA behavioral theory. In addition, assigning Alexa not just a physical anthropomorphic look but also a human like behavior and a social role contributes and facilitates users' personification and attribution of mind of the device (Airenti, 2015; Shank et al., 2019).

Good narrations and semiotic tools were also the means through which the brand succeeds in depicting Alexa not just with in the flesh characteristics but also as a device able to understand emotions and build stronger relationship with the user. In particular, even if the relationship depicted in each spot is the master-servant one, as defined by Novak and Hoffman (2018), there are several declensions of this, going from a mere assistance till reaching almost a parity with the user as depicted in Alexa's body (2021). What's more always referring to the theory of Novak and Hoffman (2018) there are clear cues in the brand discourse for assuming that Alexa is a self-extension of its owner.

Also, it is important to highlight as well that Amazon cares about the themes of inclusivity and equality both from a gender and racial perspective. Indeed, spots, especially US ones, have protagonists coming from different cultural backgrounds allowing every kind of user or non-user to recognize himself in the spot. Coherently with the previous sentence, the biggest challenge Amazon faces is to update the image of Alexa overcoming what has become the stereotyped image of the device. Indeed, as time passes by, the brand tries to detach the smart speaker from stereotyped social roles attributing it simple utilitarian and assistive functions and a clear inferiority in the relationship. Also, for what concern the UK storyline, the main challenge Amazon performed was to try to detach Alexa from the female gender which has become a cliché for robots and smart speakers (Gill et al., 2016; Puntoni et al., 2021). In addition, its removal from the typical role of "fictitious mother" as represented in the UK first commercial (2016) and in Remember baby (2019) is needed as well. In details, UK advertisements contributed to the reinforcement of the female stereotype of a mother taking care of her son, that when missing delegates her role to Alexa, and to the stereotype of a fragile father who needs the smart assistant to take care of his son.

Thus, thanks to a primary shift in values constituting the semiotic core of new coming commercials, approaching the emotional and sensorial sphere, it was possible to operate a change in the social role attributed to Alexa. Thus, the role brands could perform in terms of transmitting cultural values, following the paradigm presented in Cultural Branding theories, becomes evident (Oswald, 2015b). Again, the narrative tools defined by the authors Greimas (1976), Bianchi (2011) and Oswald (2015c), allowing for the realization of refined discourse, are all useful for a powerful representation of innovative values in lines with the evolved societal needs.

Indeed, despite the Amazon UK maintains the same narrative path showing just a more empowered father in 2021 with respect to the one protagonist of the 2019 commercial, the biggest semiotic revolution occurs in the

US. Here, through the half male and half female embodiment of Alexa in Alexa loses her voice (2018) and later the only male one in Alexa's body (2021), it was possible to perform the role reversals asked by the society. Indeed, Amazon, in line with a growing gender fluidity and equality claimed in nowadays society, had to send strongly to the customers the message of the revolutionary identity of its device through the new idea of presenting a male Alexa. In this way the brand used its product's communication as a means for mitigating the same stereotype it reinforced in previous years.

For what concern users' reactions included in the coding activity, those were useful for understanding the key elements of the video which were able to catch the attention, generate debate and contribute to the communication of values.

In addition, comments posted are in large part positive and linked to several recurrent aspects of videos.

First of all, the effect of choosing an utopian valorization (Bianchi, 2011) and a well-constructed superficial level of the narration, rich in details, as suggested by Semprini (1996), were drivers of comments.

Secondly, explicating the phase of Alexa's role attribution, as happened in Remember baby (2019), is functional in driving the audience discussion on the topic of roles of mother and father and on the possibility of a shift towards a higher degree of equality in terms of tasks and responsibilities.

Third, linking Alexa to famous actors as in Alexa loses her voice (2018) and in Alexa's body (2021) is a strategic choice. Indeed, in correspondence of attributing a well-known face to Alexa and depicting clearly its body, a bigger number of comments signaling and appreciating the presence of anthropomorphism was found. Also, when these two characteristics are present, a higher attribution of gender of the device occurs. Thus, it could be assumed that explicit images and associations shown through the commercials' scenes were able first to make users express thoughts that they otherwise would not have expressed and secondly to make understandable their position on these issues.

The commercials opening a stronger debate on social roles and their stereotypes were mainly Remember baby (2019) and Alexa's body (2021). Indeed, previous ones only mentions the presence of these cliché without showing a positive or negative sentiment. In fact, as said before, comments are driven by what is presented in the commercial and the more it is explicated the higher the number of reactions linked to this would be. In particular, the issue of stereotypes is still controversial and rapidly evolves through years. These are some of the reasons why through users' contents it is not possible to build a general finding. Indeed, the situation depicted in the two videos pertains to two different declinations of the brand discourse. Also, being the US the country in which cultural differences have represented an issue for many years giving life to movements such as "Me Too and "Black Lives Matter" evidence how the two countries responded differently to Amazon messages.

In spite of that, the first insight coming from the commercial of 2019, UK, is that the audience was not ready to accept this kind of role reversals and still sees fixed roles in a family. Secondly, through the coding of

mentions under the YouTube video Alexa's body (2021) it becomes clear that the situation and the values in which spectators believe have changed enormously. Indeed, there is a majority of appreciation of the commercial and less resistance to the shift in roles causing a higher gender parity through the empowerment of women and disempowerment of men.

Furthermore, the second study presented in this work was able to give other valuable insights referred to gender stereotypes of smart speakers. The main cue related to the word "cliché" mentioned in the research question emerged thanks to the male embodiment of Alexa; this was possible at first thanks to the chef Gordon Ramsay and the actor Anthony Hopkins (Alexa loses her voice, 2018) and later thanks to Michael B. Jordan (Alexa's body, 2021). Also, including some ironic lines in these more recent spots was a powerful means through which presenting a strong position on a debated issue. Thus, from the comments related to the US advertisement of 2018, the novelty of interacting with a male Alexa was well perceived and appreciated by the public who likes the idea of choosing the gender of the device he prefers the most. Also, if this would be case the users would have greater intention to buy and to use the product. Nevertheless, presenting famous actors sometimes operated as a catalyst of attention putting aside the key message of a human like version of Alexa. In fact, in Alexa loses her voice (2018) more than the 30% of the comments coded were only referred to the actors.

However, the message of overcoming gender stereotypes, in particular of the female gender strongly associated to smart assistants (Schweitzer et al., 2019; West et al., 2019), is launched again by Amazon in 2021 in the advertisement Alexa's body. In this case, the spectators strongly positively react to the possibility of having a male Alexa confirming their perception of the device as a male human as previously found (Alexa loses her voice). In addition, comments perfectly reflect the cultural values spreading nowadays; given that the brand includes these last in its communication as suggested by Holt (2004), the commercial has encountered appreciation of the revolutionary message launched. A further confirmation to this is that the majority of comments referred to stereotypes sustain the role reversals and both the disruption and overcoming of cliché. Last, users' request of changing the name Alexa into "Alex" when the male voice would be given to the smart speaker is a strong evidence of aforementioned findings.

Concluding, it is important to remember that smart speakers are rapidly evolving and that their interfaces will become even more developed. This is the reason why it is reasonable to assume that the phenomenon of anthropomorphism would become ordinary; at the same time brands would produce even more personalized solutions for their customers. For all these considerations, it is possible to assume that a larger number of commercials would follow the path of gender equality and would represent an updated version of the world in which we are living aligning themselves with current cultural values.

4.3 Managerial implications.

Given the results previously resumed, it is possible to show the contributes this work could give to both marketers and companies as well. However, these need for further exploration due to the scope of the analysis that is qualitative and explorative rather than quantitative.

For what concerns the communication activity brands should be aware of the rapid spread their communication could have into the web in terms of reach and engagement of spectators. Especially on YouTube spots could be viewed by millions of spectators in few times and the same could happen on social media as well. This is the reason why an integrated approach on the several channels owned by the brand but also on other paid, allows for a faster spread of the massage and an organic grow of the awareness of their customers and a possible consequent an enlargement of followers. It is not a case if the last commercials, Alexa's body and Pompeii, which follows this approach were the most relevant in terms of popularity.

Secondly, publishing contents following an owned media approach allows for the removal of older contents which are considered not any more relevant or in line with brand values and image. Indeed, Amazon did this operation maintaining on its channels only the latest commercials. What's more sharing the video on proprietary channels allows for a higher level of monitoring of themes emerged in the discussion which in other ways could be unseen; exemplary is the case of Pompeii spot which comments were strategically deactivated. Also, taking care of customers' comments coming out on social platforms where branded advertisements are shared, could bring several advantages and indication for future development.

Also, managers should be aware of the themes developed through the narration of each spot and the strategic choice operated at the surface level of the commercial given that these are functional to generate the discussion. Indeed, building emotional narrations with little humor was a successful strategy as witnessed by the positive sentiment generated by the US commercials, in particular by Alexa loses her voice and Alexa's body. Instead, when irony prevails and make jokes of touching situation the same does not happen and negative reactions arouses (Pompeii, 2021). Last, the negative effects deriving from the spreading of negative words towards an advertisement and so towards the brand discourse as well, could be dangerous for the company given that in context of the web every message could be rapidly amplified. Given the impossibility of accessing Pompeii comments on the Amazon official channel, it could be assumed that they were deactivated for the before expressed reasons.

What's more brands should pay attention to the finding that audience engagement and curiosity were often triggered by the famous personalities involved in the spot. This choice, in fact, contributes first to the positive evaluation of the spot, could transfer the favorable sentiment to the product and could make the video more memorable. Furthermore, celebrities involved were able to generate lots of discussion meaning interest in the commercial and further popularity in the web. Also, it is important to choose actors always sustaining the same

values and that are in line with both the product and brand identity given that they become a sort of ambassador of this last. Of course, these actors need to enjoy the appreciation of the target consumer as well.

In addition, the narrative and semiotic choices before mentioned are useful to present debated themes. The case of Alexa's body is exemplary. Of course, part of spectators does not agree to the ideals communicated but despite this it is evident that the irony embedding the spot, the hyperbolic situations and the presence of Michael B Jordan functioned as catalyst of attention and also it could be that actors' appreciation and esteem acted as a filter for a positive perception of the message.

Also, presenting such debated themes referred to stereotypes, social roles and gender, could make the brand both popular and appear revolutionary. Firstly, for sure generating debate, means visibility and interactions. Secondly, this is able to enlarge the customer base including all people sustaining the same ideals and finding brand values in line with themselves. However, it is important that those messages fit with the ideals of their own customer base to avoid the perils of negative sentiment spreading the web; indeed, evidence coming from Remember Baby (2019) shows that negative reactions arise if the audience is not prepared for such changes. For all what before said, brand audits are powerful tools for understanding of the image perceived by target customers; also, these could give further help for repositioning and differentiating from competitors.

4.4 Limits and opportunities for future research.

The study presented, defines precise finding that have explorative and qualitative characteristics; this is the reason why further research are needed to reach a higher level of specificity rendering these results quantitatively significant. Thus, further works would deepen and complete these first results.

First of all, it is important to specify that the data set included six commercials coming from 2 different countries considered the most representatives in terms of skills of the Amazon Echo, market share and degree of anthropomorphism and stereotypes attributed to the device through its communication.

Thus, depending on cultural values and customer behavior of each specific geographic area in which Amazon is present with its smart speaker, the findings of this work could be confirmed or disconfirmed, and a different kind of advertising strategy could be found to be more suitable. Indeed, the fact just two countries were explored allows from a deeper analysis but also meant that some areas remain unexplored. Due to this reason, the study does not allow for a wide comparison among countries both in terms of semiotic choices building the advertisements and in terms of costumer reactions. Given this limit, further research could explore narrative choices and customers reaction in eastern cultures operating a comparison with western ones highlighting similarities and differences.

Also, a wider cross-country analysis could be useful to understand how anthropomorphism of smart speakers and stereotypes they have attached are transmitted and perceived thanks to commercials. In fact, it could be

found that depending on consumers' ideals and tradition, role reversals could be not appreciated and that a male representation of Alexa could generate negative sentiment.

Secondly, a specific limit of the coding analysis, is that given the small sample and the differences in the number of comments under each spot analyzed, findings could be considered preliminary and need for a further confirmation. Also, coding the only the comments retraced on YouTube, excluding other social media, was both a strength and a limit of the study. Indeed, it allows for a direct comparison among all the commercials in the data set given that some of them were not shard on other social media but excludes the possibility of finding other relevant users' reactions.

About future research opportunities, first of all it could be interesting to perform a listening activity embracing different social media. What's more, if traces of other aspects recalling stereotyped images would emerge among users' reactions, other codes could be worth of exploration; a suggestion could be to differentiate between the specific social role attributed to the device if those would be better explicated by consumers.

Secondly, it could be interesting to investigate the effects celebrities have towards users' acceptance of the message vehiculated. Indeed, it could happen that the critics found in UK commercials could have been mitigated by the enrollment of a famous actor in the spot. Also, following the same reasoning it could happen that once the message has been accepted by the audience the communication could shift towards a less expensive one choosing as protagonists ordinary people receiving the same appreciation.

Also, in terms of customers' segmentation it would be an opportunity to categorize Alexa's YouTube comments by the years of age of their producers allowing for the discovery of links between cultural and social ideals of different generation. Also, linking this evidence with the target customers of the Amazon Echo it would be possible to highlight more or less specific themes and develop narrations responding to their needs. Indeed, thanks to this further analysis it would be possible to produce commercials presenting an updated brand identity of the Amazon echo following precise patterns relevant for customers and users.

Furthermore, the fact that this analysis chose as case study the brand Amazon is not a limit but aims to deepen the knowledge on these specific branded communications; however, it is worth to explore also from both a diachronically and synchronically perspective the strategies followed by other technological giants. This would allow for a higher degree of competitors' knowledge and to map opportunities and threats undermining advertising strategies in the smart speaker market. Indeed, it is well known that brands need to support social causes and be responsible towards their communities; in a context very crowded of competitors acting more explicitly in this sense than others could be an element of advantage.

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KAh1Ky5nCvcwAICP7XxpdRfOybfucrH9iBiYZPNbk9zYlsqgO8hUGzas&utm_content=96454689&utm_

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The role of communication in affecting smart objects' attribution of social stereotypes: a qualitative analysis on Amazon Alexa

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Introduction

"Artificial friend".

Is this the definition of the protagonist of the last romance of Nobel Prize for Literature Kazuo Ishiguro Klara and the Sun (2021). In this very emotional novel, the author depicts robots in a domestic environment; Klara is the personal android assistant of Josie, a girl suffering from a sever disease who has not so much time left to live. Klara, even if speaks with a robotic voice and pronounces sentences apparently unemotional, is perfectly able to understand feelings of humans and to relate consequently; indeed, it becomes Josie's best friend. What's more, Kazuo Ishiguro through this book represents in a powerful way the opposition between human fragilities and fears and the rational mind of a robot which is knowledgeable from the start of its destiny (Ishiguro, 2021).

The novel introducing this work perfectly resumes present times and predicts the next future in which technologies and human like devices will further spread at an impressive rate. Indeed, in the last decade we have been assisting to an explosive development in technology field, guiding the so called digital transformation.

IoT, smart objects, anthropomorphism and consumer-smart device interaction.

Artificial Intelligence (AI) and the web, making up the wider Internet of Things (IoT), were key components of such revolution. Nowadays, thanks to advanced computing capacities and AI the digital transformation is being employed in every aspect of human life operating a revolution through an enormous number of connected and "intelligent" objects which in the period 2019-2025 are estimated to triple, reaching 75 billions. (Statista, 2016). What's more, IoT objects do not only collect and share data through sensors and all its components; the peculiarity is that they can learn from data received adapting every time their actions to circumstances (Della Mura, 2021).

In addition, the smart home market has a huge potential as well and showed a rapid growth in last years. This is true especially for smart speakers which are in the top ten of most used devices and that will soon overcome global population (Deloitte, 2018; Lavalle, 2020).

However, also literature has devoted a growing attention to the understanding of technologies and the studies pertaining to the last decade regarding computers, robots and avatars were considered a starting point for the one concerning smart objects. Several aspects of these last like taxonomy and functionalities were analyzed; however, the majority of theories focused on psychological and social aspects of devices (Pérez Hernández & Reiff-Marganiec, 2014; West et al., 2019; McLean & Osei-Frimpong, 2019; Shank et al., 2019).

In particular, research concerning social aspects builds from evidence that humans have a common tendency to anthropomorphize non-human things treating them as if they live and breathe (Airenti, 2015; Purington et al., 2017; Epley et al., 2008). Anthropomorphizing doesn't depend as much on physical appearance but to their language and, in the case of smart speakers, voice, both expressed through the interface. Indeed, the feature of the voice is strongly related to the user's attribution of a specific behavior and social role to the device; also,

the possibility to give life to a human like interplay facilitates the assumption that objects has got their own mind (Nass et al., 1995; Eyssel & Hegel, 2012; Airenti, 2015; Shank et al., 2019). Last, the degree of personification attributed to the device and the possibility of building a user to machine profound relationship allows for a higher degree of satisfaction and to a higher number of positive feelings and reactions perceived by the user.

Concluding, the enormous growth of the IoT devices market, which will reach 35 billions of smart objects connected worldwide in 2021, is raising concerns about the information collected by them and represents an obstacle for their adoption (Statista, 2016; IUS in Itinere, 2020). Indeed, several authors found that people do not trust companies and suspect that intelligent objects are able to record conversations acting as spectators of people's lives. This makes users feel not at ease given that they believe to be listened or even spied on. Also, customers' worries are about the hackering of personal and financial data and about their misuse by firms collecting or receiving them (Querci et al., n.d.; Shank et al., 2019; McLean & Osei-Frimpong, 2019; Furey & Blue, 2018).

Smart assistants: anthropomorphism and social roles and stereotypes.

Despite privacy issues, there is a growing acceptance of robotic companions. Even if nowadays the majority of smart objects does not have a physical presence, they are able to cover not just the social role of an assistant but also they could become friend, lover and fiancé. Evidence such as Charlie, the artificial intelligence chatbot of the program Replika, or the Chinese Xiaoice witness these (Grasso, 2020; Bialas, 2020).

Given the relevance of the phenomenon of the smart devices, many studies decided to focus on the relational aspect of the IoT-human interaction due to the phenomenon of anthropomorphism.

Indeed, three main types of relationships could occur; the most frequent one is the master-servant in which typically the human owner of the technology believes to be superior and uses the assistant as an obedient and useful and trusted device at his service (Novak & Hoffman, 2019; Schweitzer et al., 2019). What's more it is considered as a mechanical extension of the customer. However, despite the majority of master-servant relationships built, someone decides to interact with the object as if it is a partner. if this is the case, the user trusts the technology and wants to improve its capacities. Last, when the relationship becomes stronger and the level of trust between the parts becomes higher, it is more probable that people treat in a human like way their robotic assistant (Epley et al., 2008; Schweitzer et al., 2019; Novak & Hoffman, 2019).

Going on, starting from considering it inferior, equal or superior to themselves, framing a certain kind of relationship accordingly with the assemblage theory, the subsequent step for users to make it embody an assistant or a companion. What's more, in the second case it may become a friend, a relative and even a girlfriend (Purington et al., 2017; Sundar et al., 2017).

Purington and others (2017) found that Alexa when used simply as a source of information for questions about news and weather usually is still called with the personal pronoun "it", meaning the least degree of

personification (Purington et al., 2017). However, some users consider the conversation with Alexa engaging and interesting also when it is focused just on current news; in fact those customers feel stimulated and consider "more interesting talking to Alexa than friends and family" (McLean et al, 2021).

Coherently with what aforesaid, lots of studies agree on the fact that people do love Alexa and frequently tell the device "I love you". Also, findings incredibly confirm that even the role of a wife could be covered by Alexa. Indeed, users affirmed that the device or better "she", is able to react in the same way a wife would do in a marriage; in addition, keeping a good relationship with Alexa is easier than doing the same with a person in flesh. Also, if the user is jet married to a real woman, research evidence that Alexa may also become a lover (McLean et al., 2021; Gao et al., 2018).

Despite the natural tendency of people to anthropomorphize objects, marketers play an important role too in the mechanism of smart objects' role attribution. Indeed, yet the study carried over by Nass and others (1997) recognized that users treat the AI device assigning them the mainstream roles relying on superficial cues such as name or tone of voice. Furthermore, it was found that the feminine gender was more proper for the assistant that in this way would have been considered more pleasant and caring and more adapt to furnish counseling and companionship and to perform household roles (Nass et al., 1997; Eyssel & Hegel, 2012).

For these reasons, smart assistants were created reflecting female stereotypes; users' reactions further confirmed previous findings showing that they feel more at ease when buying a female device (Specia, 2019; Abbany, 2020). Following, even if this could please some users also it could be unpleasant for some social groups which could feel misrepresented and even underrepresented. This is the reason why the debated social issue regarding equality, inclusion and diversity hit the smart object market and in particular the smart assistants one (Puntoni et al., 2021; Adam 1998; Haraway 1985; Suchman et al., 2011).

Further evidence of what said before is witnessed by the accuses Unesco launched in 2019 towards technological firms. In details, the organization charged smart objects' creators of stereotyping vocal assistants and posed a bigger focus to gendering. Last year during women's day, the general director of Unesco, declared that technology and AI could become enemies of gender equality given that the interface is programmed to answer to insults appearing inferior (Puntoni et al., 2021). To conclude, recent news is that the Osservatorio of Artificial Intelligence during its kick-off webinar planned the hot themes of 2021 among which a huge relevance will be taken by gender issues and algorithms' biases (Osservatorio Artificial Intelligence, 2021).

Thus, the effort companies are doing to improve their devices such as adding male or ungendered voices to vocal assistants or reducing their degree of anthropomorphism are not enough (West et al., 2019; La Repubblica, 2019). In fact, there is the need for brands' profound actions transmitting updated social values fighting these issues.

Brand advertising: the role of semiotics in communicating cultural values.

In literature it was recognized that brands are active entities which wind through changes as time passes modifying themselves together with the surrounding culture. In addition, there is a reciprocal interaction

between the two entities which makes the brand assume a meaning depending on the cultural context but also it contributes to the external environment generating value in its turn through strategic actions; for this it is a product of consumers' environment (Oswald, 2015b).

The author Geertz (1973) sustain that culture is a web of signs and meanings shared and codified in a society. Moreover, Umberto Eco in 1979 described the code as a "social product" which consist in an association between a signifier and a signified which is formed based on the current culture and which could further evolve (Eco, 1979). Based on what said before, the consumption phenomenon assumes a symbolic meaning for consumers. in fact, if brands are able to transmit values to people and if those values are close to cultural ones, it follows that humans attribute specific meanings to products. What's more, when buying a product, consumers choose the one which symbolically reflects the values they want to convey to the community. This mechanism is called symbolic consumption and it consists precisely in "the interplay of psychological, material and conventional dimensions of meaning of the product" (Oswald, 2015b).

Due to the phenomenon of symbolic consumption marketers could influence consumer's behavior shaping a brand's dialectic and those meanings could be conveyed by strategists through the powerful tool of commercials. Indeed, serving of semiotics frameworks, enabling for a correct structuring of the story, and thanks to rhetorical operations marketers can use the stories strategically. Thus, accordingly to Semprini (2003), defining advertising "as a producer and reproducer of society from which it draws its energy" this last is a dynamic textual product which is subjected to changes triggered by market and consumers' transformations (Semprini, 2003; Peverini, 2012; Bianchi, 2011).

Concluding, nowadays the main challenge for brands is to enunciate themselves through advertisements becoming visible in the narrative discourse and interacting with consumers' representation. This allows them to build a strong relation with the desired target, to facilitate the spread of trending messages through their commercials consequently shaping the perception of social causes and scandals (Peverini, 2012; Collantes & Oliva, 2015; Bianchi, 2011).

Research question

As aforesaid, one of the biggest characteristics of smart objects, especially of smart assistants, is that people introduce those in their everyday life as if they were an entity in the flesh which has of course a social role assigned. This happens through the mechanism of anthropomorphizing technologies facilitated by the human like features brands attach to their products and thanks to the developed interface vocal assistants have got.

Given that these objects are spreading at an impressive rate and inhabit the majority the houses (Business wire, 2019) the values they embody and communicate has become a crucial point.

Indeed, nowadays brands are able not only to reflect customers' ideals but also to influence the behavior of these last (Oswald, 2015b; Holt, 2004). In addition, brand narrations are the means through which communicating consumers powerful messages; these are developed thanks to the means of semiotic tools

which find their best expression in audio-visual advertisements (Mangano & Marrone, 2015; Peverini, 2012; Bianchi, 2011).

Following, given that brands often are a vehicle for the communication of strong meanings, the recent explosion of social causes regarding racial and gender equality lead international organizations to include in the public debate branded products. Among those there were smart speakers receiving accuses related to issues of gender equality and female empowerment driven by the issue of social stereotypes transmitted to technologies. Thus, smart assistants' producers need to renew their image following societal changes taking into account cultural aspects and reconsidering the roles and stereotypes these vocal assistants have attached.

Consequently, not just international authorities, but also researchers and marketers have increased their attention towards the phenomenon IoT and AI and towards all its implications.

However, the question which still remains unexplored is how brand narrations of smart speakers, developed in commercials, would support the spread new cultural and social needs demanded by their target customers. Thus, the present exploratory study, building on theories about anthropomorphism, social roles and relationship styles embodied by smart speakers, aims to cover a literature gap understanding if and how advertising plays a role in communicating a cliché and which are the reactions among the audience. More in detail, this analysis would research the role that brand messages, encoded in commercials, cover in reinforcing and mitigating stereotypes. Last, through the means of semiotic analysis it would be possible to understand how a brand can adapt its message to current cultural values becoming committed to social changes.

Case study: Amazon Alexa.

The brand chosen as the case study of this work is Amazon; in particular the exploration would focus on the analysis of Amazon Echo commercials. This finds its deep motivations first in the popularity of the brand, that is the biggest seller of smart speakers present nowadays in almost 80 countries worldwide (Wikipedia, n.d. a, b; Markets and Markets, 2020a). Alexa is the most preferred vocal assistant in the world; in 2020 it covers more than the 70% of the market and it has been estimated that it will reach in 2025 more than 100 million units sold (Statista, 2021b; Statista, 2020). Also, the 2 most relevant countries in terms of Alexa market penetration are US and UK; it is impressive that both in 2021 counts more houses with an Alexa than without. Secondly, the attention and amount of spending the brand dedicates to spots, in particular to the ones in an audio-visual format, is the other motivation driving the choice of having Amazon as case study. Indeed, 11 billions were spent in advertising in 2019; also, it is important to highlight that the brand wants to be present with its commercials in key events such as the American Superbowl which the firm has been attending from 2016 till 2021 (Stellone, 2020).

Last, the reason why for analyzing this brand relies in the fact that it is a high-tech giant that wants to give to its customers a strong image coherent with current times, committing in lots of causes and repositioning

together with societal changes. In particular, Amazon has demonstrated to be active also in racial and gender parity, human rights and feminine empowerment (Amazon, 2020; Il Messaggero, 2021).

Research method

The present research pertains to explorative and qualitative analysis about the most relevant commercials of the Amazon Echo vocal assistant, named Alexa, from its launch till nowadays in different countries. In addition, in order to have a complete vision on the situation of both the brand and costumer sides, a semiotic and a YouTube comments' analyses would be conducted.

After a primary analysis of Amazon Echo commercials available on social media, pertaining to several countries and time periods, it was possible to find a data set made of US and UK commercials pertaining to 3 time ranges (figure 1). Amazon Echo Alexa commercial[7] (UK) and Amazon Superbowl Ad[8] (US) pertain to 2016, Alexa loses her voice[9] (US) was launched in 2018 and Amazon Echo – Remember Baby[10] (UK) in 2019; last, in February of this year, 2021, came out Alexa's body[11] (US) and Pompeii[12] (UK).

The choice was based on country market share, skills of the Amazon Echo developed for that country and popularity of the spot. Also, degrees of representation of cultural diversity, of Alexa's anthropomorphism and on the gender and social roles attached to the device were taken into consideration.

Fig. 1: Final data set of Amazon Echo commercials.

Study 1: Semiotic analysis.

The first study conducted is the semiotic analysis which aims as Laura Oswald (2015) affirmed to "identify the normative dimensions of advertising meaning, beginning with aesthetic codes structuring the organization of texts and stretching codes structuring meaning in the competitive set and cultural context" (Oswald, 2015d).

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[7] https://www.youtube.com/watch?v=sulDcHJzcB4
[8] https://www.youtube.com/watch?v=7iKD0BQp2uc
[9] https://www.youtube.com/watch?v=iNxvsxU2rJE
[10] https://www.youtube.com/watch?v=k6ulyhvPHUQ
[11] https://www.youtube.com/watch?v=xxNxqveseyI
[12] https://www.youtube.com/watch?v=Kwhr1U-Ncv4

Thus, the commercials would be analyzed sequence by sequence segmenting it following frameworks proposed by Peverini (2012), Bianchi (2011) and Semprini (1992). The spot decomposition would start from the discursive level, the more superficial one, and would pay attention to frames, audio, enunciation, product or brand and rhetoric to identify the key elements able to produce the desired meaning. Later on, the semio-narrative level would be explored; here the Actantial roles and the Canonical Narrative Scheme by Greimas would be analyzed. Thus, sender, subject, object, receiver, helper and opponent would be identified, and their actions would be fixed into the four basic phases of the narration which are manipulation, competence, performance and sanction. Last, the values building each spot and the promotional strategy would be reviewed. Analyzing the six spots it becomes clear that even if they present several structural differences, they all make evident the mechanism of anthropomorphizing technologies and highlight a new way of living that the user can have buying the vocal assistant. What's more, the device ranges from being depicted as an assistant till being a companion or even a partner. Despite the social role covered by the assistant the key message which links all the communications analyzed puts its basis on the same concept: Alexa is the best assistant the user could have, and it helps in making everyday life easier and more comfortable. In spite of that, all commercials give to the canonical narrative phase of performance, a higher importance in terms of seconds dedicated to it in the audiovisual narration. However, the image of Alexa evolves and changes leaving in part utilitarian information to reach a more emotional and empathic narration.

Starting from the analysis of the US commercials, all developed for the event of the Superbowl, the evolutionary path firstly needs to be distinguished in terms of values communicated, valorization strategy and tone of voice of the discourse.

In the 2016 commercial the main opposition of values identified is innovativeness versus traditionalism. The product advertised is a revolutionary one and the idea laying at the axiological level is basic but at same time very powerful. The strategy the brand adopted is to valorize the device through marketing it as something luxurious and technologically advanced, but also able to allow users for a different and better way of living. What's more the narration is very straight; nevertheless, the exaggeration present in the entire spot is functional in making the commercial impactful and memorable. Also, the famous actors involved in the video, such as Baldwin and Marino, are strategic means; this is a way to depict an aspirational lifestyle making the actors ambassadors of the device giving it more credibility and consensus among the audience. Going on, the following commercial identified, Alexa lost her voice, was launched 2 years later in 2018. The main idea structuring the spot evolves and the opposition becomes in terms of comfort versus discomfort. What's more, if the spot of 2016 aims to communicate first a message of innovativeness, two years later the ideal described at the axiological level becomes in a sense narrowed and more concrete. The valorization strategy completely shifts toward the utopian one leaving out the elements pertaining to luxury and elite, thorough the depiction of an ideal lifestyle which is accessible by every target customer. In addition, the narrative style changes, becoming more dynamic, ironic and inclusive presenting different routines and a wider range of Alexa's

functionalities; in this way a higher number of customers could feel represented. Moreover, the choice of both announcing Alexa lost her voice on the tv news and of hiring famous actors of different ethnicities, Gordon Ramsay, Rebel Wilson, Cardi B. and Anthony Hopkins, contributes to attach the value of the universality, proper of Amazon, to its branded smart assistant. However, even if this spot has got lots of elements of break with traditions it could never approach the newest one, Alexa's body, which was launched in 2021. Here Amazon reaches its highest point in being revolutionary; first of all, it is the first time that Amazon depicts his characters intimate thoughts. In addition, the main opposition of values includes the one of pleasure reaching ideals pertaining to the emotional and sensorial sphere. For what concerns the valorization of objects, this last stays utopian; what changes is the narration that leaves out a part of humor whit the scope of realizing a more empathic and emotional story.

For what concerns values, valorization of objects and tone of voice, a different discourse about needs to be done for United Kingdom commercials. The first thing to notice is that they were not realized for a specific event; secondly, all of them shares the peculiarity of having a father as subject dealing with his son or daughter. If these characteristics contributes in giving continuity to the general discourse of the Amazon Echo, on the other side they fix the routine in which the device could intervene and depict its typical user in a peculiar character. The first commercial pertaining to the stream of this specific narration and ideals was launched in 2016. It focuses on the reasons why people should appreciate the smart speaker; also, being the first UK Alexa's commercial, it represents the characters while overcoming the skepticism towards innovative technologies. After that, it depicts the ideal lifestyle and the benefits the device could bring to a family and in particular to a father in the interaction with his little daughter. Because of this, its valorization is utopian even if a large part of the commercial is functional in order to show Alexa's abilities. Years later, in 2019, the new Amazon Echo advertisements recalls the 2016 one and adds empathy to the previous narration. The main change occurs in the representation of the father; if in 2016 it was autonomous enough, here he is fragile and without Alexa it would have been impossible for him to take care of his baby correctly. For this reason, the key message the story wants to highlight consist in criticism of everyone's lives due to human limits; indeed, the main opposite values guiding the spot are possibility versus impossibility to carry over a certain task. All these elements are functional in making the narration emotional and powerful; what's more the target customer could easily impersonate in the subject and subsequently reflect on his needs and on the possibility of buying the smart speaker. To conclude, in the UK panorama, as well, 2021 represent a year of breakage. Despite some elements of continuity with the past could be found, like the father and son interaction and the main values and their valorization, the Alexa's narration focuses on irony leaving out its emotional side consequently including a larger number of ludic elements. Here, the theme of Pompeii's disruption is exploited mainly in three ways. First of all, it serves as a link with the past idea, accompanying older commercials, that highlights that humans are imperfect; indeed, the subject of the spot "Pompeii" doesn't know very famous historical details. Secondly, talking about this famous episode allows for a father-son interaction; last, is serves to build an ironic, humorous and lighthearted story which is an absolute novelty for the Alexa's UK spots.

Despite the aforementioned considerations, it is important to explore the evolutionary path occurring as well in terms of social roles and stereotypes the image of Alexa has got attached. Starting from 2016, in both US and UK the device performs assistive tasks and serves to complete utilitarian and entertaining functions. Furthermore, in 2018 and in the following year, the device is still depicted as a reliable assistant which in addition becomes omnipresent to assist the user in every kind of task like a superhero does. Nevertheless, the two countries used different representations for Alexa. In the US the brand added to the product the idea of being a faithful companion and it is embodied by several famous people that adds relevance and memorability to the spot. In the UK indeed, Alexa takes the place of an ordinary stereotyped mother. In this last case of 2019, as it was aforementioned, the narrative path of Alexa being a helper, substituting the figure of a wife or mother, becomes further evident because the important part of the story in which the mom goes out is added to the commercial's initial situation. Also, Alexa when switched on, always reminds to the user the fact that it is acting substituting his wife. Last, in 2021 the two countries completely innovate the narration even if again this happens through completely different ways. In the UK Alexa's social role shifts towards embodying the innovative role of a male assistant, or female given its voice, leaving in part the traditional one of the missing wife. For what concern the US instead the situation is completely different; Alexa is not just represented by a famous male actor but also becomes the partner the subject would have every day on his side.

Resuming in all the commercials analyzed the roles covered by Alexa are always framed in a master servant relationship style and it is considered an extension of the self. What's more, as time passes by the relationship evolves reaching the highest degree of balance in 2021 in the "Alexa's body" video. What's more the anthropomorphism of Alexa is faced differently in the two countries analyzed. In the first two UK spot the anthropomorphizing mechanism happens only in the imagination of the audience. Instead, the last advertisement, Pompeii (2021) is closer to the narration style of the US in which protagonists' thoughts about a human like Alexa have been explicitly depicted from 2018 onwards in every spot.

Last, it is important to examine how Amazon vehiculates and faces through its commercials the themes of gender and racial equality. First of all, not surprisingly, this theme is mainly addressed in the United States which population is very sensible to these issues given the scandals going on in that country and the subsequent movements such as the "Me too" and the "Black Lives Matter". For this reason, the brand Amazon from 2018 onwards decided to adapt its communication to these societal and cultural issues. Indeed, the cultural message behind the commercial "Alexa lost her voice" aims to depict Alexa itself in a multicultural way. Also, for what concern the representation of women in this spot, both the singer and the actress embodying the smart speaker have got very strong personalities and represent a radical break with the traditional stereotype. What's more, Alexa, through the association with several actors of both genders overcomes the association with typical women who has supportive tasks and takes care of the house. In spite of that, in the following years Amazon reinforces this strategy aiming to detach Alexa from the female gender shifting towards a neutral one. 2021 represents a crucial year; indeed, Alexa is represented by a male actor, Michael B. Jordan, and consequently in all the spot it talks through a male voice. In addition, in the commercial "Alexa's body" for the first time

the brand uses afro American actors as key characters of its spot; this is the clear evidence of how much the brand is concerned towards inclusion and in fighting stereotypes. Concluding, Amazon decided to communicate this last message strongly and with a revolutionary commercial able to reach the widest audience as possible given that it's launch took place during the Superbowl.

Study 2: Content analysis of Amazon Alexa spots' comments.

The second study completes the first one posing a focus on commercials' costumers' reactions. It pertains to the field of content analysis performed making use of Nvivo coding platform. The codes defining the most important categories of discussion for the research were identified among the most relevant YouTube comments, in terms of likes and answers, posted under each advertisement of the data set. What's more, through this means, it would be possible to understand if and how the changes occurring in the narration of the commercial, in terms of values communicated and narrativity, was perceived. Last, this analysis it would show the evolutive path of the brand and the impact this last has on consumers.

The analysis was organized in a hierarchical way summarized in figure 2. At first three top level categories were identified: commercial's narrativity, product and brand's representation of stereotypes. Following, other 9 subcategories were identified. Music, actors and sentiment pertains to the first top level code, anthropomorphism, evaluation and privacy concern to the product category. Last, the stereotype section is divided into gender and social roles sub codes. Concluding, three of these have got a dichotomic value allowing for a further division of comments.
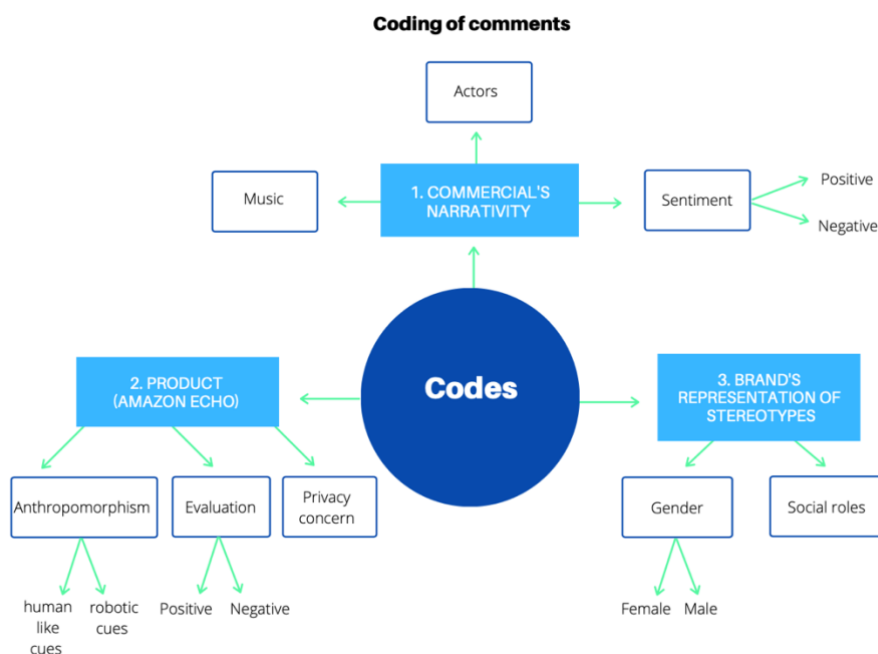

Fig. 2: Hierarchical structure of codes.

The first category, commercial's narrativity, is represented by the necessity of understanding if the narrative discourse of the commercial was relevant for the audience and the impact the several subcategories, identified basing on Semprini (1996) and Greimas (1966) theories about the components of the narration, have on

spectators (Semprini, 1996; Collantes & Oliva, 2015). Users' contents pertaining to narrativity were differentiated distinguishing comments related to actors, such as "Marino the greatest", music like "the music suits so well" and sentiment. The sentiment code has binary value defining both positive and negative sentiment; examples range from "best commercial I've ever seen" to "annoying" and "bad taste".

The product category finds its motivations on the literary works of the authors Airenti (2015), Shank (2019) and Purington (2017). In particular, this field comprehends the themes of anthropomorphism, evaluation of technology and the privacy concern. What's more the subcategories anthropomorphism and appreciation of technology were organized in a dichotomic way separating human like from robotic cues, customers referring to Alexa with "she" or "device", and positive or negative affirmations such as "I need this" or "stupid device". Last, the subcode *privacy concern* contains the fear of losing privacy and of being controlled such as "privacy bugs invading our homes" in line with the study of Furey and Blue (2018).

The third category refers to *brand's representation of stereotypes* and is based on several findings of McLean (2021), Schweitzer (2019), Gao (2018) and Purington (2017). Given the scope of this work, this category it is functional to see how much the advertisement generates gender concern and in which social roles the audience believe. However, comments evidence that users recognize the *female stereotyp*ed image of Alexa, "Alexa is already feminized", and recognize the possibility of having a *male* device "Gordon Ramsay version of Alexa". Last, "role reversal" and "Parents do not read stories to their kids getting Alexa do it" are examples of comments coded *social roles* subcategory.

Now that the coding schema has been explained, findings show that comments posted are in large part positive and evidence the presence of several recurrent links among categories. Among narrativity codes, actors and music were often matched with positive sentiment; for what concern product characteristics, anthropomorphism is supported by an appreciation of the device in the majority of cases. The precise percentage references coded in each commercial are visible in table 1.

		Commercials comments' percentage references pertaining to each code					
		US 2016	US 2018	US 2021	UK 2016	UK 2019	UK 2021
product	antropomorphism - human like cues	0%	13%	14%	25%	0%	18%
	antropomorphism - robotic cues	0%	2%	3%	12%	0%	0%
	evalution - positive	0%	8%	6%	4%	0%	0%
	evaluation - negative	0%	2%	2%	3%	0%	0%
	privacy concern	0%	0%	1%	7%	0%	0%
commercial's narrativity	actors	25%	34%	9%	3%	0%	9%
	music	0%	1%	2%	6%	0%	0%
	sentiment - positive	75%	30%	30%	7%	12,5%	9%
	sentiment - negative	0%	4%	2%	16%	25%	45%
stereotypes	gender - female	0%	2%	10%	0%	0%	9%
	gender - male	0%	4%	9%	0%	0%	0%
	social roles	0%	0%	12%	17%	62,5%	10%

Tab. 1: Percentage references coded in each category for each commercial.

The main scopes of the coding activity were the understanding of elements of the video able to catch the attention, generate debate and contribute to the communication of values. In addition, it was possible to give an overview of users' responses to narrative choices and to debated themes of gender and social stereotypes.

First of all, the effect of choosing an utopian valorization (Bianchi, 2011) and a well-constructed superficial level of the narration, rich in details, as suggested by Semprini (1996), were drivers of comments.

Secondly, explicating the phase of Alexa's role attribution, as happened in Remember baby (2019), is functional in driving the audience discussion on the topic of roles of mother and father and on the possibility of a shift towards a higher degree of equality in terms of tasks and responsibilities.

Third, linking Alexa to famous actors as in Alexa loses her voice (2018) and in Alexa's body (2021) is a strategic choice. Indeed, in correspondence of attributing a well-known face to Alexa and depicting clearly its body, a bigger number of comments signaling and appreciating the presence of anthropomorphism was found. Given that, it could be assumed that explicit images and associations shown through the commercials' scenes were able to make users express thoughts that they otherwise would not have expressed and to clarify their position on these issues. Thus, when these two characteristics are present, a higher attribution of gender of the device occurs. In addition, customers consider the possibility of having a famous actor substituting the device which becomes a friend and helper of both sexes. Last, thanks to the imagination of the afro American woman in Alexa's body (2021), lots of users and non-users would like to have an Alexa even in the role of a partner. On the contrary, the percentage of robotic cues linked to Alexa decrease with time. When robotic cues are linked to Alexa, this last is considered as a mere servant (in 2016) and has not a defined sentiment attached. Instead, going on with time, the affirmations of echo or robot are often linked to negative sentiment such as "stupid" or reinforcing the fact that people look dumb when considering their device as a human.

The commercials opening a stronger debate on social roles and stereotypes were mainly Remember baby (2019) and Alexa's body (2021). Indeed, previous ones only mentions the presence of these cliché without showing a positive or negative sentiment. In fact, as said before, comments are driven by what is presented in the commercial and the more it is explicated the higher the number of reactions linked to this would be. In particular, the issue of stereotypes is still controversial and rapidly evolves through years. These are some of the reasons why through users' contents it is not possible to build a general finding. Indeed, as visible thanks to the semiotic analysis the situation depicted in the two videos pertains to two different declinations of the brand discourse. Also, being the US the country in which cultural differences have represented an issue for many years giving life to movements such as "Me Too and "Black Lives Matter" evidence how the two countries responded differently to Amazon messages.

In spite of that, the first insight coming from the commercial of 2019, UK, is that the audience was not ready to accept this kind of role reversals and still sees fixed roles in a family. Secondly, through the coding of mentions under the YouTube video Alexa's body (2021) it becomes clear that the situation and the values in which spectators believe have changed enormously. Indeed, there is appreciation of a male human like smart speaker and less resistance to the shift in roles depicted in the commercial sustaining a higher gender parity through the empowerment of women and disempowerment of men. So, both assumptions of assuming that a

male embodiment of Alexa leads to the anthropomorphizing of the smart speaker and that a consistent number of users that would appreciate to possess a male version of the device exists are verified.

Furthermore, from the coding analysis it emerges that the male embodiment of Alexa, through a famous personality, plus an ironic tone of voice are the main means through which Amazon succeeded in presenting its idea of breaking down cliché. Indeed, from the comments related to the US advertisement of 2018 and 2021, the novelty of interacting with a male Alexa was well perceived and appreciated by the public who likes the idea of choosing the gender of the device he prefers the most. Also, if this would be the case the users would have greater intention to buy and to use the product.

In addition, comments perfectly reflect the cultural values spreading nowadays; given that the brand includes these last in its communication as suggested by Holt (2004), Amazon has encountered appreciation of the revolutionary message launched. A further confirmation to this is that the majority of comments in particular of Alexa's body (2021) referred to stereotypes sustain the role reversals and both the disruption and overcoming of cliché. Last, a users' request of changing the name Alexa into "Alex" when the male voice would be given to the smart speaker is a strong evidence of aforementioned findings.

Conclusive discussion, implications, limits and opportunities for future research.

Given the qualitative results of this work, it could give a first contribute to marketers and companies.

First of all, evidence coming from the popularity of Amazon spots of 2021, witnesses that brands should be aware of the rapid spread their communication could have into the web in terms of reach and engagement of spectators. This is the reason why an integrated approach on the several channels owned by the brand but also on other paid, allows for a faster spread of the massage and for a growth in awareness of their customers.

Secondly, publishing contents following an owned media approach allows for the removal of older contents which are considered not any more relevant or in line with brand values and image. What's more sharing the video on proprietary channels allows for a higher level of monitoring of themes emerged in the discussion which in other ways could be unseen.

Also, brands should pay attention to the finding that audience engagement and curiosity were often triggered by the famous personalities involved in the spot. This choice, in fact, contributes first to the positive evaluation of the spot, and secondly could transfer the favorable sentiment to the product and could make the video more memorable. Furthermore, celebrities involved were able to generate lots of discussion meaning interest in the commercial and further popularity in the web. Also, it is important to choose actors always sustaining the same values and that are in line with both the product and brand identity given that they become a sort of ambassador of this last. Of course, these actors need to enjoy the appreciation of the target consumer as well.

Also, the themes developed through the narration of each spot and the strategic choice operated at the surface level of the commercial are functional to generate the discussion and are useful to present debated themes.

The case of Alexa's body is exemplary. Of course, part of spectators does not agree to the ideals communicated but despite this it is evident that the irony embedding the spot, the hyperbolic situations and the presence of

Michael B Jordan functioned as catalyst of attention and also it could be that actors' appreciation and esteem acted as a filter for a positive perception of the message.

Also, presenting such debated themes referred to stereotypes, social roles and gender, could make the brand both popular and appear revolutionary. Firstly, for sure generating debate, means visibility and interactions. Secondly, this is able to enlarge the customer base including all people sustaining the same ideals and finding brand values in line with themselves. However, it is important that those messages fit with the ideals of their own customer base to avoid the perils of negative sentiment spreading the web. For all what before said, brand audits are powerful tools for understanding of the image perceived by target customers; also, these could give further help for repositioning and differentiating from competitors.

The study presented has explorative and qualitative nature; this is the reason why further research are needed to reach a higher level of specificity rendering these results quantitatively significant. Also, the number of commercials included in the data set chosen is both the strength and the limit of this work.

First of all, the spots analyzed were all coming from US and UK. Thus, depending on cultural values and customer behavior of each specific geographic area in which Amazon is present with its smart speaker, the findings of this work could be confirmed or disconfirmed, and a different kind of advertising strategy could be found to be more suitable. Also, a wider cross-country analysis could be useful to understand how anthropomorphism of smart speakers and stereotypes they have attached are transmitted and perceived thanks to commercials. In fact, it could be found that depending on consumers' ideals and tradition, role reversals could be not appreciated and that a male representation of Alexa could generate negative sentiment. It could be interesting to explore narrative choices and customers reaction in eastern cultures operating a comparison with western ones highlighting similarities and differences.

Secondly, a specific limit of the coding analysis, is that focusing on YouTube platform leaves other social media unexplored. A future research opportunity could be to perform a listening activity embracing different social media segmenting comments by the years of age of their producers to explore ideals of different generations. What's more, if traces of other aspects recalling stereotyped images would emerge among users' reactions, other codes could be worth of exploration; a suggestion could be to differentiate between the specific social role attributed to the device if those would be better explicated by consumers.

Also, starting from the findings of this work, it could be interesting to further investigate the effects celebrities have towards users' acceptance of the message vehiculated. Indeed, it may happen that once the message has been accepted by the audience the communication could shift towards a less expensive one choosing as protagonists ordinary people receiving the same appreciation.

Last, evidence is that the smart speakers' market is increasing at an impressive rate and that devices' interfaces are becoming every day more developed. For these reasons, it may be worth to explore from both a diachronically and synchronically perspective the strategies followed by other technological giants. This

would allow for a higher degree of competitors' knowledge and to map opportunities and threats undermining advertising strategies in the smart speaker market.

Concluding, it is important to remember that smart speakers are rapidly evolving and that their interfaces will become even more developed. For this, it is reasonable to assume that the phenomenon of anthropomorphism would become ordinary and at the same time brands would produce even more personalized solutions for their customers. Also, brands would become always more aware of the importance of supporting social causes and of being responsible towards their communities; in a context very crowded of competitors acting more explicitly in this sense than others could be an element of advantage. Given that, previsions are that a larger number of commercials would follow the path of gender equality and would represent an updated version of the world in which we are living aligning themselves with current cultural values.

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