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Building brand resonance with chatbots: assessing the importance of giving your bot a human personality

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**- Building brand resonance with chatbots:
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ABSTRACT

This paper aims at defining the effect that different types of personality given to chatbots may have on the brand resonance in consumer's mind. In the current context of quick development of conversational marketing solutions, and particularly chatbots, managers should precisely understand how to build these tools in order to seize consumer's attention and build positive consumer experience (Ogilvy, 2016). Using the definition of brand resonance and its four dimensions (Keller, 2003) – behavioural loyalty, attitudinal attachment, sense of community and active engagement - we tested which personality chatbots should be built with to enhance resonance in the mind of users. Furthermore, we defined the scope of personality as follows: chatbots' idiomatic as well as physical features that the bot displays and its name (mentioned later as the *face* of the chatbot). This thesis explores the main hypothesis that **a human-type personality is critical for a chatbot to boost the brand resonance**, and is divided in four sub-hypotheses to test. Each sub-hypothesis meant to test the impact of chatbot's personality on one particular dimension of brand resonance.

Our study shows the following main findings: there are significant proofs that building a chatbot with a human idiomatic nature is efficient to strengthen behavioural loyalty, attitudinal attachment as well as active engagement, and thus brand resonance itself. On the other hand, our results could not confirm if the chatbot's *face* had any effect on the brand resonance.

INTRODUCTION

Chatbots are defined as programs using artificial intelligence or algorithmic sequences to discuss with users and propose personalized answers and services to their queries formulated in a messaging application (Eltinger, 2017). Messaging applications are interfaces enabling online users to receive and send messages to other users who are using the same application. In 2007, Bayan Abu Shawar and Eric Atwell defined chatbot as a “software system, which can interact or “chat” with a human user in natural language such as English” (Abu Shawar & al., 2007). By introducing the importance of a natural language, they laid the foundations of a reflexion around chatbot personality and ability to converse as real human beings.

Many names have been used over time to talk about chatbots: software agents, virtual agents or intelligent personal agents (Rohan Kar & Rishin Haldar, 2016). When the technology started, “the aim was to see if chatbots could fool users that they were real humans” (Shawar & Atwell, 2007). The first chatbot - *Eliza* - was created in 1966 and many evolutions have been developed over the past decades: *Parry* (Colby, 1999), *CONVERSE* (Batacharia, 1999), *ALICE* (see Alicebot website). But even if the first tries to develop chatbots are long-standing, a recent study showed that 60% of the companies had never heard about chatbots before 2016 and that 54% of the web-developers never worked on that technology before 2016 too. However, chatbots have skyrocketed in 2017 as 75% of the companies have stated they were considering adopting a chatbot to deal with the one-to-one online messaging process with consumers. (MindBowser, 2017).

Chatbots are indeed a real solution for brands to communicate in a one-to-one messaging way with their consumers without having to deploy too much employees for that task and thus appeared as a solution for an improved consumer service (Xu & al, 2017). Brands can develop smart and exciting tools, providing interesting information, personalized selections or advices and time-saving solutions to consumers. Chatbots are also an opportunity to create a powerful emotional bond with the consumer (Giovanis & Athanasopoulou, 2018): by developing carefully their chatbot, brands can connect with consumers while proposing an efficient online service.

An informational agent, only able to work as a browser which is providing instantaneous information will be enough to outsource the online consumer service task. Yet, when it comes to connecting and bonding with consumers and enhancing brand resonance, building a chatbot with the appropriate personality may be the good solution for brands. To provide brand managers and chatbot designers with precious insight, we will test the following main hypothesis: a human-type personality is critical for a chatbot to boost the brand resonance. We will precise the concept of personality of a chatbot, which encapsulates the idiom of the bot as well as its *face* (appearance and name).

Researches digging the field of chatbot's personality are still limited so brands cannot take advantage from academic resources and valid experiments to build their conversational marketing strategy. In that light, we believe that testing the above hypothesis will contribute to the knowledge brand and academics have about this soaring field.

LITERATURE REVIEW

Chatbots: a rising solution at the era of digitalized relationships between brands and consumers

Relationships between brands and consumers are very diversified and can be very strong. As consumers are meeting thousands of brands a day, it is difficult for them to create a meaningful relationship with all of them (Keller, 2011). However, in 1998 and then in 2009, Fournier managed to early demonstrate the diversity, complexity, variation in intensity and other dimensions of relationships between brands and consumers. In her work, she managed to define some criteria to fulfil to qualify as a relationship, such as reciprocity, purpose and multiplexity (Fournier, 1998). These relationships can be based on several elements, such as brand knowledge, brand credibility or relationship antecedents.

Brand knowledge is defined as all the attitudes, beliefs, thoughts, images, feelings and attitudes but also past experiences that are associated with a brand or evoked when a brand is mentioned (Keller, 2003). This brand knowledge can strongly influence the relationship between a brand and its consumers. Knowing this, a one-to-one communication through an improved personalized consumer services could be a source of positive and valuable knowledge for the brand.

The brand credibility is another aspect to consider evaluating brands-consumers relationships. Indeed, the corporate credibility is defined as “*the extent to which consumers believe a firm can design and deliver products and services that satisfy consumer needs and wants*” (Brown, 1998; Brown & Dacin, 1997; Erdem, 1998). It has a huge importance concerning the reputation of a brand (Upshaw, 2007). Once again, the way a brand interacts with its consumers and its ability to provide personalized answers and services can have important consequences on the credibility and the reputation of the brand.

The consumers are often engaged in a lot of relationships with different brands while a lot of new ones are trying to initiate a contact on a daily basis (Keller, 2012). Some studies have clearly demonstrated how consumers can make a difference between brands based on the relationship they have created with them

and the need to develop a long-term strategy to maintain and reinforce these relationships (Veloutsou, 2015). Even if the competition between brands to get the attention of the consumers is intense and companies are making huge investment to get new consumers “there are few efforts for consumer retention through the development of profitable long-term brand relationships” (Giovanis & Athanasopoulou, 2018). This gap in the consumer retention strategy of many brands has inspired our research question and hypotheses. Indeed, we think that chatbots might be a strategic solution to retain consumers, but brands need to know how to build these tools efficiently.

42% of the human beings worldwide are using social networks and 39% are using mobile phones to access these social networks (We are social, 2018). This is enabled by both the highly developed functionalities of smartphones and continuous adaptation of companies to be present and efficient online. In this context of fast-spreading of digital channels, consumers can easily interact with brands and are more and more expecting instantaneous and personalized answers from the brands (Manson & Whatley, 2017). Therefore, brands have to face new challenges concerning consumers’ online journey and especially regarding online consumer services to keep consumers’ attention. Managers have constantly to ask themselves if they are still able to seize the attention of their targeted market in a durable way and satisfy all the online requests formulated by consumers. Neglecting the online consumer experience can quickly lead to disappointment and frustration. On a base of 100, the sectors causing the more frustration to online consumers are: utility (100), local authority (96.11), trades (86.93), financial services (82.69) and holiday/travel (79,15) (MyClever Agency, 2016). And if we chose to focus on the factors causing frustration, 46% of online consumers are frustrated by lack of details while 40% of online consumers are frustrated by inability to ask questions and 33% of online consumers are frustrated by poor quality or untimely responses (MyClever Agency, 2016). This frustration feeling against online experiences and the lack of tailored digital proposal can lead to strong reactions from the consumers. In this context, online consumer services through messaging application or chatbots seem to be the new viable solution to stay efficient and competitive.

In 2016, most of the consumers stated that they did not want to download several specific applications they will rarely use. Their attention was focused on social applications and particularly messaging applications. In 2015, 4 messaging applications were among the top 5 of the most downloaded applications worldwide – Messenger, Snapchat, Skype and WhatsApp (Biancato, de Maindreville, 2016). In 2016, there were 1 billion of monthly active users on Facebook Messenger with more than 10 billion of messages sent per month. There were also 1 billion of monthly active users on Whatsapp (Biancato, de Maindreville, 2016). This huge consumer trend has become an obvious option for brands to create contacts with consumers and to offer an improved digital experience notably through quicker and better personalized consumer service. According to a study from DigitasLBI (2017), 53% of people are more likely to shop with a business they can directly message. Moreover, 49.4% of the same sample said it would use a messaging application to communicate with a business rather than calling directly. Finally, 63.9% of the respondents of another study from Ubisend stated that brands should be available in messaging apps (Ubisend, 2016).

That is why the need for chatbots has emerged: due to the widespread of personal machines, the wish to communicate directly with brands and the willing of the brands to provide interfaces using natural language (Wilks, 1999). If chatbots are enabling brands to outsource the one-to-one messaging services, building these virtual assistants with a human-type personality could even participate to the development of a brand resonance.

Brand identity and personality

In 2012, Alina Wheeler defined brand identity as something tangible that is appealing to the senses. “You can see it, touch it, hold it, hear it, watch it move” (Wheeler, 2012). It is about creating meaning and differentiation for the consumers. Brand identity is involving the distinctive and the durable core attributes of the brand that managers are willing to show to the market and its consumers (Albert & Whetten, 1985). In 1996, Aaker managed to help us understand better the concept of brand identity by distinguishing the core, timeless and central identity of the

brand from an extended identity that can change over time according to the context. He ended by proposing to define brand identity as “a unique set of brand associations that the brand strategist aspires to create or maintain” (Aaker, 1996). Many other definitions and frameworks have been developed to reflect this “multidimensional construct” (Bravo, Buil, Chernatony & Martinez, 2016). Chernatony (2010) proposed to use the following dimension to understand brand identity as the central idea of a brand and the way it is communicated to all the stakeholders: presentation, vision, culture, positioning, relationship and *personality*. This brand identity is then converted into a desired brand image using visual, verbal, sensory and interactive expressions. The final goal being to influence the way the final consumer is perceiving the brand.

The concept of brand identity is particularly important in our research as we try to examine the impact of a human-type personality for chatbots on brand resonance. Personality is an important dimension of brand identity that is often at the heart of many definitions of this concept.

In this paper, the notion of personality will encapsulate two main dimensions:

- The *idiomatic dimension*: the comprehensive style of expression of the agent, including the variety of its language, vocabulary, its tone of voice, its capacity to express empathy, to be friendly and welcoming, the presence of a sense of humour.
- The *“face” dimension*: it includes the name and all the physical features of appearance of an agent.

When it comes to chatbot, verifying a human personality will mean that the bot will display an engaging and friendly idiomatic style to bond with the user. It will also mean that the chatbot will adopt a human appearance (profile picture and name). We will keep in mind this definition and these two dimensions when mentioning human personality all along the rest of this thesis.

One can draw a parallel between the personality of a brand expressed through its employees and this personality expressed through a chatbot. Chatbots can be efficient to create a bond between brands and consumers just as CRM and

salesforce employees do, but it might requires a human-type personality. Employees will act as powerful vehicles for brand identity through the development of a personality aligned with the brand's personality Burmann & Zeplin (2005). This theory that has been mainly used in the field of internal branding and employee management could be applied to chatbots. Indeed, chatbots could be used as drivers of personality and then contribute to a feeling of trust and synchronization of identities, leading to brand resonance.

Brand resonance

A large number of tools and theories have been developed to analyse the outcome of the relationship that a brand is able to build with its consumers: Brand engagement (Brodie, Hollebeek, Jurić, & Ilić, 2011; Gallup, 2011), brand attachment (Park, Macinnis, Priester, Eisingerich, & Iacobucci, 2010), brand love (Batra, Ahuvia, & Bagozzi, 2012). However, we do think that the concept of brand resonance (see "Strategic Brand Management: Building, Measuring, and Managing Brand Equity" by Kevin L. Keller) - by encapsulating many of the previous concepts - is more likely to fit our experiments and provide useful information to test our hypothesis concerning the impact of a human-type personality for chatbots.

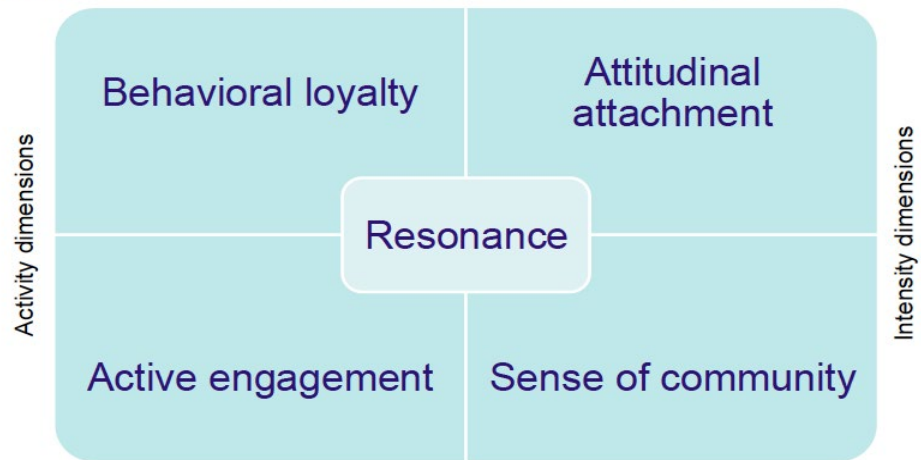
Indeed, brand resonance (Keller, 2001 & 2003) is a theory meant to characterize relationships between brands and consumers. Achieving a resonance in the mind of the consumers means that they feel "in sync" with the brand (Keller, 2001). The brand is achieving to build an intense relationship involving reciprocity, loyalty and engagement. It is the last step and the most valuable for the brand of the Consumer-Based Brand Equity Pyramid (Keller, 2003):



By achieving such a close relationship with the brand, consumers will look for various means to interact with the brand (Keller, 2012). This is why the ability to offer a one-to-one personal relationship to consumers with chatbots can be particularly interesting. Some interesting examples of brands having succeeded to achieve brand resonance in consumers' mind are Apple or Nike. We can also quote some brands with strong communities such as Harley Davidson (Schouten & McAlexander, 1995).

Brand resonance can be divided into two main dimensions that are intensity and activity. The activity explores the behavioural modifications resulting from the loyalty of the consumer. The intensity represents how strong the attitudinal attachment and the sense of community toward the brand are. We can visually map the two dimensions and the four sub-dimensions of brand dimensions as follow (Keller, 2003):

Any marketing activity can be judged by its total effect on the four dimensions of brand resonance (Keller)



We will use these four sub-dimensions of resonance (Keller, 2003) to assess if human-type personality in chatbots, even though a fictional character representative of the brand, are able to reinforce the consumer/brand relationship through a personalized one-to-one consumer service.

Brand Behavioural Loyalty

Among several constructs composing brand loyalty, two essential ones are brand trust and brand affect (Chaudhuri & Holbrook, 2001). Both are at the roots of purchase and attitudinal loyalty which determine numerous brand equity aspects such as market share. It implies considering brand loyalty as a type of indirect connector between brand trust, brand affect and brand equity market results. Knowing that, managers have good reasons to design communication strategies developing brand trust, brand affect, and thus loyalty, since it may result in better market performances on the long-term.

Building brand trust and affect necessitates to benefit from a solid consumers' satisfaction, to know what these consumers think about the brand and how they evaluate it in both manifest and latent ways (Delgado-Ballester, 2001). Management should then be looking for ways to engage directly with consumers to better meet their expectations and push them to elaborate upon their brand evaluations. Chatbots are able to provide quick and relevant answers to people's interrogations. They could help binding the brand to personal situation. Moreover,

they can allow a brand to showcase its competitive points-of-difference (Grams, 2015) Making the brand more available and easier to discuss with also provide considerably valuable feedbacks about to what extent consumers are satisfied (or not) by the brand and what steps could be taken to improve it (Chen & al, 2004). Altogether, chatbots could make consumers more satisfied and pave the way for a brand affect and trust development among them.

However, there are little or no researches on how a human-type personality given to a chatbot can facilitate the building of consumer's loyalty. Burmann & Zeplin (2005) have already shown that brands need to show through employees a consistent and continuous identity in order to be trusted. Hence the importance of the chatbot's human-type personality, which is after all part of the brand identity and a brand ambassador. Nonetheless, there are still no researches assessing if building chatbots with human personality could generate satisfaction by bringing an agreeable intimately tailored relationship between a brand and a consumer. In doing so, chatbot could be perceived as a relevant ambassador among consumers and as an efficient tool for brands to increase loyalty. We thus hypothesised that:

H1: Compared to generic chatbot, chatbot with human-type personality will create higher brand trust and loyalty among users.

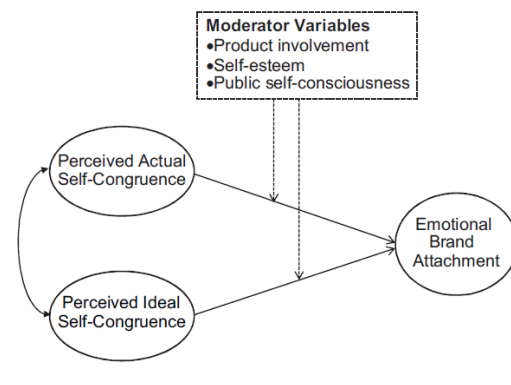
Brand Attitudinal Attachment

As demonstrated by Park & al (2013), brand attachment is the fruit of two constructs: brand self-distance and brand prominence. Combined, they establish psychological consequences of "feeling close to a brand (feeling happy (sad) when good (bad) things happened to a brand, external (vs. internal) blame attribution)". They also provide us with a better understanding of the difference between brand ambivalence and indifference.

These results help managers to justify the significance of communication actions to transform indifference into positive ambivalence (Park & al, 2013), by trying to remove negative thoughts while leveraging good thoughts at the same time. One way for instance to do so is to work on the brand consumer's self-distance notion by matching the brand's identity with the consumer's personality and

expectations (Malär & al, 2011). Here, the context and the type of self-congruence (actual versus ideal) must be taken into consideration. If brands with actual self-congruence are generally generating more attachment, aspirational branding remains successful under certain conditions (low involvement with the brand and its products/services, low self-esteem and public self-consciousness) according to Malär & al (2011).

FIGURE 1
Proposed Framework Linking
Self-Congruence to Emotional Brand Attachment



Several chatbots have been designed in the regard of building brand attachment, either via playing on actual or ideal self-congruence (Ebay’s messenger chatbot for the actual self-congruence while Burberry’s messenger chatbot is playing on ideal self-congruence for instance). The human-type personality of a chatbot might be a deciding factor for consumer’s ability to identify itself with the brand. From an actual self-congruence perspective, demonstrating during a one-to-one discussion that the brand identity is matching the user’s personality, expectations and lifestyle could depend from the bot’s human personality. Chatbots can reflect someone’s mood by being funny or solemn according to the situation. Just like employees they can have empathy and make people laugh while assisting and helping out.

They can also play on an ideal self-congruence perspective, notably by becoming a new channel of creative storytelling: giving a voice to the brand and sharing stories generating aspiration and emotion (a good example is the chatbot launched by Star Wars which is proposing to the user to become the hero of its own Star Wars universe adventure – see Medium, 2016).

If we know that chatbots can play on these two dimensions, once again we observed a lack of academic researches on the magnitude of the impact that chatbots' personality might have. In consequence, we formulated the following second hypothesis:

H2: Chatbot's human-type personality can increase brand attachment by playing both on consumers' actual and ideal-self congruence with brands, which would be impossible with a completely neutral informational agent.

Sense of Community

McAlexander, Schouten and Koenig (2002) defines a brand community as a "fabric of relationships in which the consumer is situated". Numerous relationships need here to be considered: between the consumer and the brand, the consumer and the firm, the consumer and the products/services the firm is offering and obviously between the consumers themselves.

Berry (1995) showed that community-integrated consumers can serve as brand ambassadors, spreading a brand's message to their own other communities, and that they can more easily forgive the given brand in case of failures, scandals or lapses in service quality. Brand community members are also less likely to switch brands, even if other brands display superior features concerning the quality of their products/services. Moreover, they represent extremely valuable sources of feedback for the firm as they become over the time more and more involved in the brand and genuinely want to contribute to its success (Berry, 1995).

Marketing managers rival in inventiveness to connect consumers and have them creating mutual value. In that light, chatbots emerged as a new tool to strengthen consumer-centred relationships by offering clients the possibility to envision real but latent products/services' benefits and the ability to share these experiences with other people (inside or outside the brand community). For instance, the Pigeon chatbot (Medium, 2017) is designed to grow the community by sharing information instead of being a simple personal assistant.

As brand community members are strongly attached to a certain brand identity, we might assume that having a human-type personality also plays a great

role in the chatbot's capacity to be accepted among the community. Moreover, the chatbot might represent the first encounter between a brand and people, its personality becoming decisive to give the impression to these potential new community members that the brand is a perfect fit for them. If a brand seeks to drive and animate a community via a chatbot, the ability of the bot to be engaging, reassuring and empathic might be determinant. Nevertheless, we could not find existing evidences in the current specialized literature to support this idea. We decided to try to fill this gap with our third hypothesis:

H3: To be a credible and valuable driver of a sense of community among consumers of a brand, chatbots need to have a human personality to be accepted by the community.

Active Engagement

Hollebeek (2014) explained how brand engagement represents “the degree to which a consumer is prepared to exert relevant cognitive, emotional and behavioural resources in specific interactions with a focal brand”. This concept encapsulates three main dimensions: the consumer's immersion into the brand, its passion for the brand and its activation towards the brand.

The notion of immersion refers to the degree to which a consumer is going to be “absorbed in” or “strongly focused on” a given brand. On the other hand, the notion of passion relates to the extent to which a consumer might feel a powerful and positive affect for a given brand, how it can define itself as being “mad for”, “in love with” or “adoring” the brand. Furthermore, the sentiment of passion includes a solid pride for “being associated and/or using the brand” (Hollebeek, 2014).

Finally, the notion of activation can be boiled down to the consumers' willingness to invest personal resources on the brand beyond those resources expended during purchase or consumption of the brand, such as dedicating significant time, energy or money to the brand. It can for instance takes the form of a consumer “undertaking considerable effort to obtain” a brand's item, its tendency to be “highly activated or full of energy” when interacting with this brand and/or its

products/services. It could also take the form of its disposition to “publicly sharing its affection for the brand on a social networking” platform.

When it comes to personal involvement, people could be reluctant to engage with a completely disembodied agent. The ability of the chatbot to display human-type personality might be decisive to generate at the same time these notions of immersion, passion and activation. That leads us to our last hypothesis:

H4: Chatbots with human personality will create higher levels of brand passion and engagement than generic chatbot.

METHOD

In the following methodology part, we will explain how we are planning to test and verify the hypotheses formulated above.

Sample

Respondents were people reached by mails, Facebook groups or newsletters. Our sample is composed of 49 people. Most of them are students between 18 and 35 years old with a high level of education. Most of the answer we received came from social networks and newsletter from our school inviting people to take the survey.

Among the sample, we had 24 answers from men and 25 from women. 32 of the respondents are between 18 and 25 years old, 15 of them are between 25 and 35 years old and 2 of them are between 35 and 45 years old. Finally, 33 of the respondents have a master's degree, 15 of the respondents have bachelor's degree and one of the respondents has a high school degree.

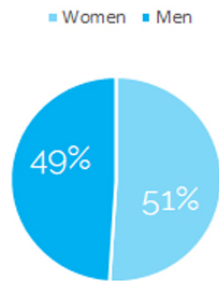


Figure X - Respondents' gender repartition

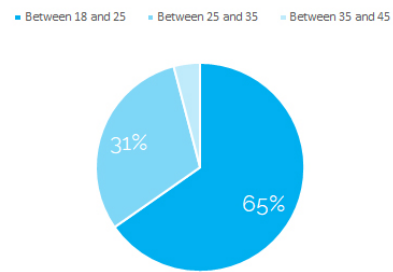


Figure X - Respondents' age repartition

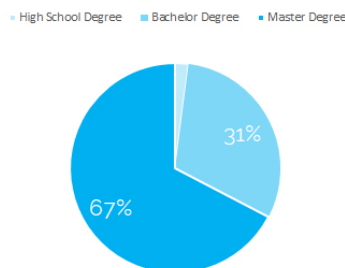


Figure X - Respondents' education repartition

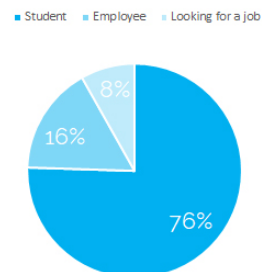


Figure X - Respondents' occupation repartition

Apparatus and materials

As said previously, questionnaires were spread via social network, i.e Facebook. We designed our survey thanks to a survey software named Qualtrics. We also use a software called SPSS to compute our data and analyse it. Finally, we laid out our results via Photoshop.

Design and procedure

Design

As we wanted to test the impact of chatbot personality on brand resonance, we needed to pick up a brand that would suit our experiment. The brand had to be widely known by most of the people since we aimed at measuring their level of commitment, attachment, loyalty and engagement towards that brand. Indeed, we assumed that a bond between the brand and the user had to already exist for us to measure a potential evolution after the exposure to our chatbot. For this reason, we have chosen Disney as the brand for our experiment. The Interbrand agency, which annually measures the popularity of global brands, ranked Disney at the 14th place in the global scale. According to Interbrand, “*Disney is the global leader in family entertainment, known for outstanding storytelling that has enchanted, inspired, and thrilled audiences everywhere*” (Interbrand, 2017). It is an extremely famous brand and most of the people already experience a bond with this brand, or at least have an opinion about it. Therefore, we were confident that people undertaking our questionnaire would be aware of Disney, its activities, universe, symbols and would have an already formed opinion about it.

As we stated previously, we wanted to test several aspects of chatbots’ personality components that could have an impact on brand resonance. These components can be summed up in two main variables: the bot’s idiom and the bot’s face. Based on the previous, we developed from scratch 4 version of the same Disney chatbot, by creating ourselves the full content, interactions and answers of the bot:

1. Youtube link: <https://www.youtube.com/watch?v=hTOIWOY8FsA>.

The first one can be considered as our reference variable. This chatbot is a purely neutral informational agent with no human characteristics. It is easy for the user to understand that he/she is talking to a machine. Regarding the bot idiom, its tone of voice and vocabulary are reduced to the minimum needed to fulfil its task. On the face dimension, the chatbot is named after the brand, Disney, and displays a very classical picture of the brand logo as its profile picture. We will further refer to this bot as the “generic chatbot”.

2. Youtube link: <https://www.youtube.com/watch?v=CodpGiq3xgk>.

The second chatbot has the exact same face than the first one. However, it differs from the previous one by its idiom. Its tone of voice is more welcoming, friendly and engaging. It shows a sense of humour, a rich vocabulary so that it would be difficult for the user to tell if he is talking to another human being or a machine based only on its verbal features. We will further refer to this bot as the “advanced generic chatbot”.

3. Youtube link: <https://www.youtube.com/watch?v=5o2I6V0erMw>.

The third chatbot varies from the previous one by a difference in the face variable. Indeed, we gave it the appearance of Mary, an imaginary human being introduced as Disney Community Manager. The user could have the impression that he or she is talking to another human being working for the brand. To be consistent with its appearance, this bot has human idiomatic expressions. Like the advanced generic chatbot, its tone of voice is engaging and close to a real human-human interaction. We will further refer to this bot as “Mary”.

4. Youtube link: <https://www.youtube.com/watch?v=I7TOYHZQMAc>.

The fourth chatbot differs from the advanced generic chatbot and Mary on the face variable. Indeed, we have chosen to test a chatbot with the appearance of Disney mascot, Mickey Mouse. The profile picture and the name of the chatbot have been modified accordingly. However, regarding the idiomatic variable, this chatbot is similar to the advanced generic chatbot and Mary in its manner to interact with the user, even if it has some expressions of its own to keep it aligned with the personality of Mickey. It is important to note that we consider the Mickey character as benefiting

from a human-type idiom as he has traditionally been able to talk, interact and express emotions like a human being. We will further refer to this bot as “Mickey”.

Procedure

Our experiment has been designed to expose each respondent to a video presenting one of the chatbot described above and then a set of questions (http://edhec.az1.qualtrics.com/jfe/form/SV_7UIgg2R7s2VDkjz). Videos are randomly distributed between the respondents. The set of question is composed of 4 subsets corresponding to the 4 dimensions of brand resonance: behavioural loyalty, attitudinal attachment, sense of community and active engagement. The respondents only have access to the set of questions after having seen the video. The apparition order of the questions has been randomly mixed in order to avoid letting the respondents understand the topic. All questions are taking the form of 5 likert-scales in order to set up a system of gradation of the answers and help us analysing the data.

After having answered all the questions about the chatbot, the respondents must answer socio-demographic questions.

RESULTS

Reactions towards bots were examined and their effects on brand resonance scrutinized thanks to specific questions. The raw results to these questions were converted into likert-scales allowing us to run several Analysis of Variance (ANOVAs), testing if there were indeed differences between the 4 versions of the bots when it comes to affect this dimension of brand resonance.

In our case, ANOVAs were used as a test comparison of the means for each questions of our questionnaire and for our 4 independent groups: those who saw the generic chatbot, those who saw the advanced generic chatbot, those who were addressed the Mary version and those who were addressed the Mickey one. Each time, the dependent variable consists in the answers to a given question while the independent variable is a categorical variable representing the four independent groups. For each question, the null hypothesis has been that all means were equal, or in other words that results were not different depending which chatbot has been presented. If the null hypothesis of equal variances is not rejected for a given question, we can then assume that the nature of the chatbot encountered does not affect the answers of respondents. Otherwise, the impact of the chatbot's personality is significant to explain the difference in the results found. We determine our significance level to be 0.1.

Loyalty

First, we noted that the personality of the bot impacts its perceived usefulness in the respondents' minds. Indeed, because our F value is equal to 4.798 with a degree of freedom of 3 resulting in a probability of 0.006 (significant at a level of 0.1) at the question "How useful do you consider this chatbot is?", we can deduct a significant impact of the bot's personality on this point. Digging deeper with Bonferroni Means Difference T-Test, we can narrow our scope to see that the advanced generic chatbot and Mickey have significant better results than the generic one.

ANOVA Analysis

	F Value	df	Probability
4 chatbots	4.789	3	0.006

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.16	.356	.013
	Mary	- 1.00	.363	.051
	Mickey	- 1.17	.363	.015
Advanced generic	Mary	.16	.356	1.00
	Mickey	-0.006	.356	1.00
Mary	Mickey	- .17	.363	1.00

Table X - How useful do you consider this chatbot is ?

In the same way, we found significant differences regarding the answers to the question “After having seen this chatbot, are you likely to recommend it to others?” where the Mickey version stood out. The answers to that question produced an F-value of 2.907 with a probability of 0.045, below the 0.1 threshold.

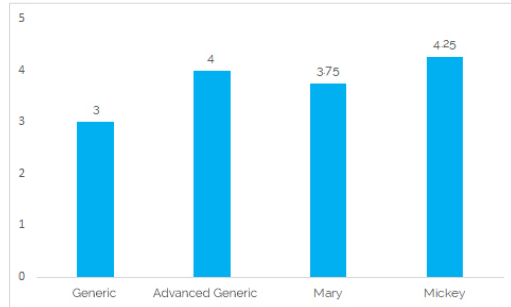


Figure X - After having seen this chatbot, how likely are you to recommend it to others ?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.907	3	0.045

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.00	.441	.168
	Mary	- .750	.449	.612
	Mickey	- 1.25	.449	.047
Advanced generic	Mary	.250	.441	1.00
	Mickey	- .250	.441	1.00
Mary	Mickey	- .500	.449	1.00

Table X - After having seen this chatbot, how likely are you to recommend it to others ?

Finally, people having seen the advanced generic chatbot are more likely to recommend the brand to others in the future ($\alpha = 0.038$).

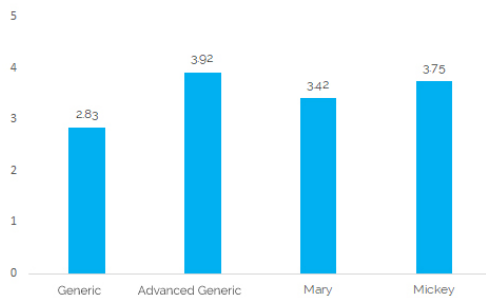


Figure X - After having seen this chatbot, are you likely to recommend the brand to others ?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.197	3	0.032

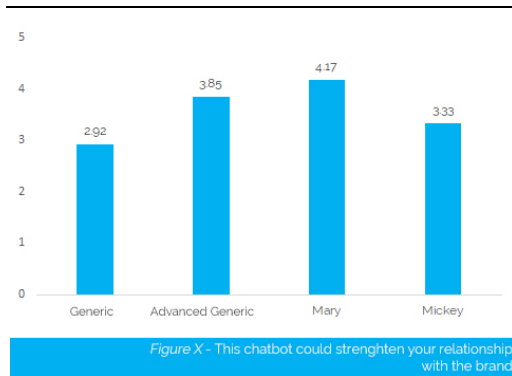
Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.08	.378	.038
	Mary	-.583	.378	.781
	Mickey	-.917	.378	.117
Advanced generic	Mary	.500	.378	1.00
	Mickey	.167	.378	1.00
Mary	Mickey	-.333	.378	1.00

Table X - After having seen this chatbot, are you likely to recommend the brand to others ?

As we can see, each time the results of an ANOVA are proved to be significant, they point towards better fallouts on brand loyalty coming from one or several of the bots displaying human idiomatic expressions.

However, we have not been able to reach significant conclusions regarding the impact of personality on the opinion towards direct messaging as good way to address a company (with an attached F-value of 1.299 leading to an α level of 0.286 exceeding the 0.1 limit). Neither have we to the question “Are you more likely to interact with the brand on a regular basis?” (F-value of 1.726, $\alpha = 1.75$). We cannot conclude neither if could make people more willing to strengthen their relationship with the brand as the level of significance α does not exceed 0.1, despite encouraging data at first sight.



Attitudinal attachment

Our results showed some level of relationship between chatbots' personality and emotional attachment to the brand.

To the question "After having seen this chatbot, your level of emotional attachment is?", it is clear that the advanced generic chatbot and Mickeys generated higher level of brand attachment than the generic chatbot. Indeed, the result of our ANOVA on that point generated a significance level of $\alpha = 0.004$ for a F-value of 5.112) and the Bonferroni mean difference t-test of these bots also displayed significant results.

ANOVA Analysis

	F Value	df	Probability
4 chatbots	5.112	3	0.004

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.25	.326	.002
	Mary	-.583	.332	.517
	Mickey	-.833	.332	.095
Advanced generic	Mary	.667	.326	.280
	Mickey	.417	.326	1.00
Mary	Mickey	-.250	.332	1.00

Table X - After seeing this chatbot, your level of emotional attachment to the brand is ?

The advanced generic chatbot has also been considered as funnier as well as friendlier than its opposite (respectively $\alpha = 0.027$ and $\alpha = 0.011$). It has also been depicted as better knowing the need of users since the question “This chatbot knows my need as a consumer” revealed a significant ANOVA followed by significant as well mean difference tests with a level of significance of $\alpha = 0.096$.

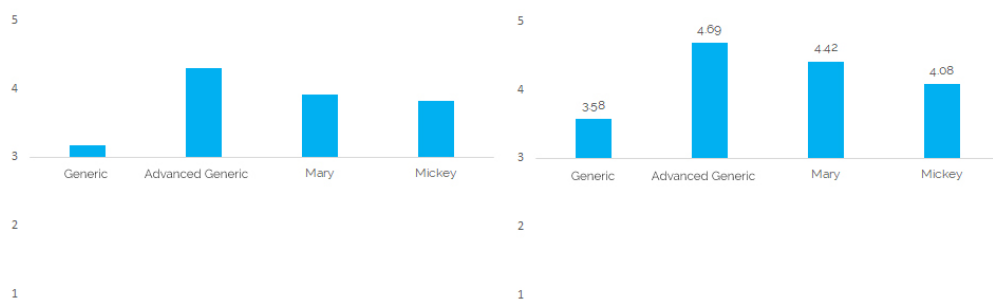
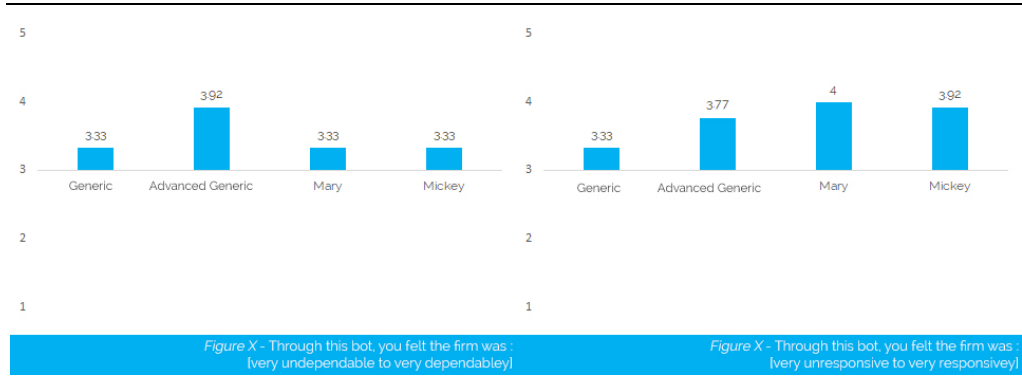


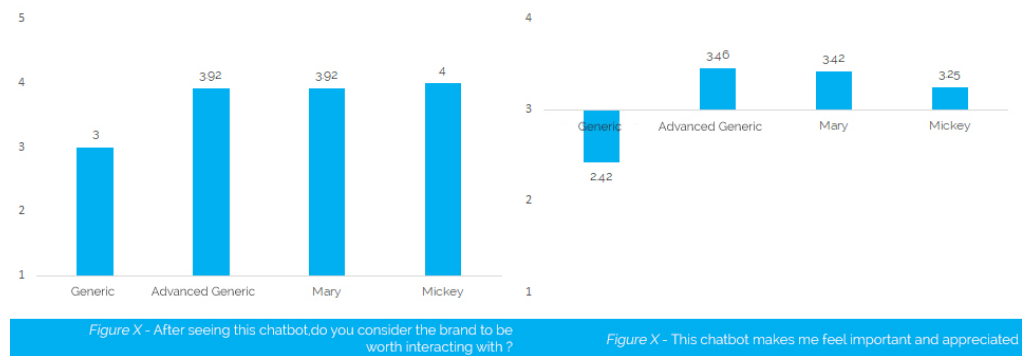
Figure X - Through this bot, you felt the firm was: [not fun at all to very fun]

Figure X - Through this bot, you felt the firm was: [not friendly at all to very friendly]

However, no bot was significantly viewed as more dependable or more responsive to consumers than one another, despite auspicious raw data.



Personality did not significantly affect the propensity of users to consider the brand more worth-interacting with after being exposed to our videos as ANOVA’s significance level to that question reached 0.121. Neither did it significantly make users feel more important and appreciated (ANOVA’s α at 0.11 slightly exceeding 0.1).

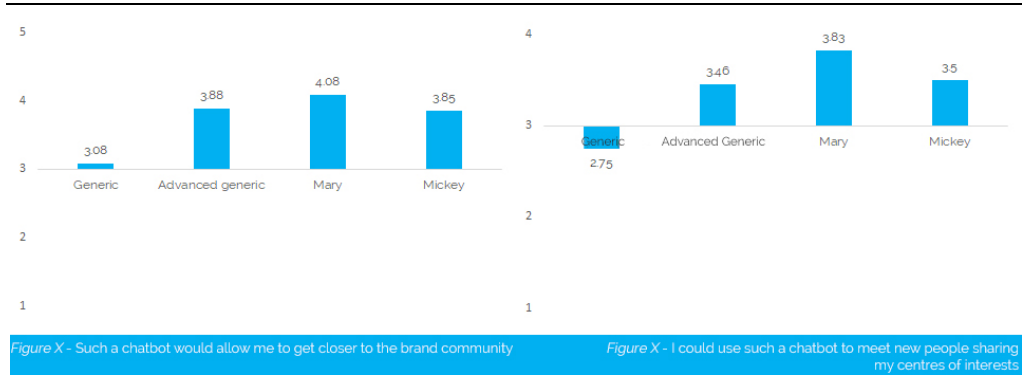


Nevertheless, the differentiating bots when significant results occurred were once again those provided with human-type idiom, with a specific mention for the advanced generic one, standing out in the results of four questions.

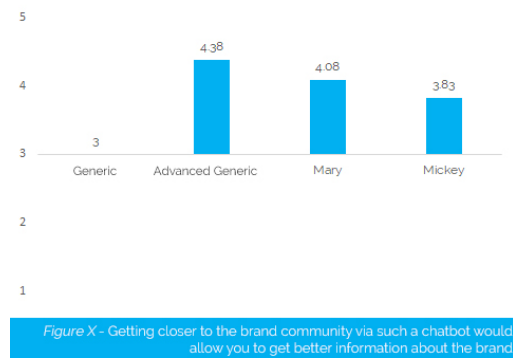
Sense of community

At the question “Such a chatbot would allow me to get closer to the brand community, the corresponding ANOVA records a F-value of 1.566 with a α level equal to 0.211.

Furthermore, bots’ personality did not significantly explain neither differences at the answers to the question “I could use such a chatbot to meet new people sharing my centre of interests”, since the corresponding ANOVA significance level exceeded 0.1 ($\alpha = 0.245$).



However, we found strong evidence that the personality variable affects the perception of users that getting closer to the brand community via such a bot would allow to get better information about the given brand. Indeed, to that question, the ANOVA was significant with $\alpha = 0.005$. Bonferroni mean difference t-tests especially showed that users of advanced generic and Mary chatbots responded more positively in average compared to the others as presented in the table below.



ANOVA Analysis

	F Value	df	Probability
4 chatbots	4.929	3	0.005

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Disney w/ perso	Disney w perso	- 1.385	.376	.004
	Mary	- 1.083	.383	.042
	Mickey	-.833	.383	.210
Disney w perso	Mary	.301	.376	1.00
	Mickey	.551	.376	.896
Mary	Mickey	.250	.383	1.00

Table X - Getting closer to the brand community via such a chatbot would allow you to get better information about the brand

Overall, we could not provide evidences that chatbots with human personality could improve the propension of the users to directly get involved in the brand community. Nevertheless, we still found evidences that chatbots with human idiomatic nature influenced the users into thinking that they could use such a bot to access relevant information about the brand and its community.

Active engagement

At the question “After seeing this chatbot, I am more likely to follow the brand on the social networks than I was before”, we observed a strong level of significance of the related ANOVA ($\alpha = 0.004$) for a F-value of 5.042. Digging deeper with Bonferroni mean difference tests revealed that advanced generic and Mickey chatbots generated significant better results compared to the generic bot (the tested mean differences were significant with respective α level of 0.007 and 0.016).

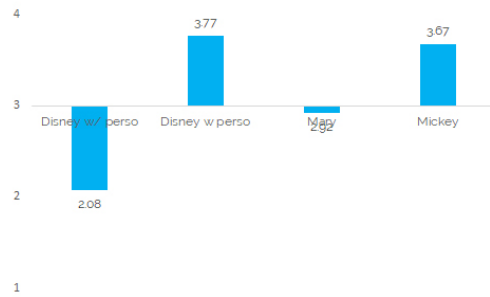


Figure X - After seeing this chatbot, I am more likely to flow the brand on social networks than I was before

ANOVA Analysis

	F Value	df	Probability
4 chatbots	5.042	3	0.004

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.686	.488	.007
	Mary	-.833	.497	.605
	Mickey	- 1.583	.497	.016
Advanced generic	Mary	.853	.488	.524
	Mickey	.103	.488	1.00
Mary	Mickey	-.750	.497	.832

Table X - After seeing this chatbot, I am more likely to flow the brand on social networks than I was before

The same logic applied to the “After seeing this chatbot, I am more likely to assist to events organized by the brand” question since advanced generic and Mickey chatbots were also proved significantly more effective (respective Bonferroni t-tests α levels of 0.063 and 0.087).

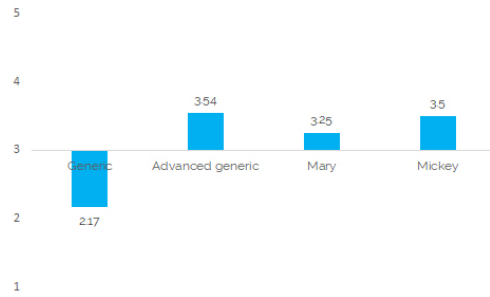


Figure X - After seeing this chatbot, I am more likely to assist to events organized by the brand

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.818	3	0.016

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	-1.372	.514	.063
	Mary	-1.083	.524	.267
	Mickey	-1.333	.524	.087
Advanced generic	Mary	.288	.514	1.00
	Mickey	.038	.514	1.00
Mary	Mickey	-.250	.524	1.00

Table X - After seeing this chatbot, I am more likely to assist to events organized by the brand

The results to the question “After seeing this chatbot, I am more likely to use it in order to find information about the brand’s value and legacy” were also significant with ANOVA α level of 0.016. Following mean difference t-tests signaled greater impacts on respondents from the advanced generic bot and Mary as displayed on the table below.

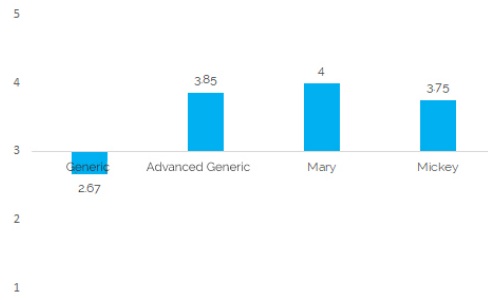


Figure X - After seeing this chatbot, I am more likely to use it in order to find information about the brand's values and legacy

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.818	3	0.016

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.179	.433	.055
	Mary	- 1.133	.441	.025
	Mickey	- 1.083	.441	.108
Advanced generic	Mary	- .154	.433	1.00
	Mickey	.096	.433	1.00
Mary	Mickey	.250	.441	1.00

Table X - After seeing this chatbot, I am more likely to use it in order to find information about the brand's values and legacy

Summing up, we noticed that chatbots displaying the idiomatic component of our definition of human personality were proven to have a significant impact on attitudinal engagement. However, there were no significant results showing that displaying a human face was an impactful criterion to influence this dimension of brand resonance.

DISCUSSION

In this thesis we aimed at testing the effect of chatbot's human personality on the four dimensions of brand resonance. Building on the analysis of the results of our experiment, we will discuss our interpretation of the results and try to bring an answer to our four sub-hypotheses related to the four dimensions of brand resonance: behavioural loyalty, attitudinal attachment, sense of community and active engagement.

Behavioural loyalty

The first hypothesis we formulated to assess the impact of chatbot's personality on brand resonance was the following one: compared to generic chatbot, chatbot with human-type personality will create higher brand trust and loyalty among users.

Three chatbots were provided with human idiom and had three different faces: a human being named Mary, the mascot of the brand Mickey, and the brand itself with the picture of the logo. The last version of the chatbot had no human personality and was purely informative, it had no specific name and no picture. What we found was a significant difference in the results between chatbots displaying a human idiomatic nature and the one acting as a neutral informational agent. Indeed, among our four versions of the chatbots, three of them (the advanced generic chatbot, Mary, Mickey) had human-type idioms and were trying to look like friendly human beings in the way they were answering consumers. Most of the respondents are showing higher results of trust and loyalty when they are exposed to engaging talks and friendly tone of voice.

However, we did not find any significant result showing that being exposed to a human face, the logo and name of the brand or the mascot of the brand allowed better results. Some of the loyalty-testing questions showed better results for the three faces in general with only negligible differences between the versions.

We can consider that being exposed to speeches that seem personalized and showcasing human welcoming, friendly and engaging verbal features being has an impact on the ability for a brand to build trust through a one-to-one conversation.

Even if we were not able to prove a pattern concerning the face of the chatbot, we were able to verify that compared to generic chatbot, chatbot with what we defined as human-type idiom will create higher brand trust and loyalty among users.

Attitudinal attachment

The second hypothesis that was tested was about the dimension of attitudinal attachment: chatbot's human-type personality can increase brand attachment by playing both on consumers' actual and ideal-self congruence with brands, which would be impossible with a completely neutral informational agent.

Once again in this case, this dimension of brand resonance was tested with specific questions during our experiment. The results showed that for most of the questions, the advanced generic chatbot (logo + brand name and friendly human-type idiom) generally performed better to increase the brand attitudinal attachment, even if the chatbot with the mascot face showed some good results on specific questions.

In that light, we can think that the nature and content of the discussion is more important than the identity of the interlocutor. Indeed, it is the idiom of the advanced generic bot which allows users to consider this bot as funnier or friendlier. Users will develop stronger emotional attachment if they can bond with the bot through an engaging interaction while they don't seem to really value talking to another human face.

It seems that we can rely on significant results to state that, once again, building a chatbot with human idiom type is an important factor to increase the brand attachment, and thus brand resonance. However, we could not prove that one face in particular will generate better results than the others: this dimension seems to be only secondary in users' minds.

Sense of community

Sense of community questions were the ones that showed the less significant results regarding the impact of human personality. It can be explained by the fact that getting involved into a brand community is a major step in the consumers' minds. It requires successive and repeated concrete acts of direct involvement. It is

understandable that a single exposure to a chatbot does not suffice to create tangible and measurable impact on users' sense of community towards the brand.

Thus, we did not find significant proofs that chatbots developed with human personality particularly stood out regarding its action on this component of brand resonance.

Active engagement

Regarding the last dimension of brand resonance, active engagement, the hypothesis tested was this one: chatbots with human faces and vernacular will create higher levels of brand passion and engagement than generic chatbot. We found significant results that human idiom was critical to enhance active engagement. Respondents were more likely to engage with the brand on social network after interacting with human-idiom chatbots. It can be explained by the fact that bots are already displayed through messaging applications, which are most of the time integrated in social networks platform. Thus, it is a natural and easy step for the user to cross if bonds are efficiently developed with the chatbot.

Same logic applies to respondents stating that they would be more likely to look for additional information about the value and legacy of the brand. This type of information is often available on brands' websites and social networks pages. Here again, the chatbot can act as a natural shortcut.

Regarding the propension of users to assist to brand events after having talked to the chatbot, it is perhaps first of all important to understand that users have been used for long time now to select and organize the events they will attend through social platforms. If the chatbot can create an efficient connection with the user, it can naturally be seen as an intuitive solution. We observe that this efficient connection was proven true for chatbots with human idiomatic nature. However, we could not find strong evidences that a given face among the several bots we designed was more efficient than one other.

Throughout our observations of the different components of brand resonance, we found a repetitive pattern: human idiom is the only identifiable and proven factor explaining better results for some versions of our bots. We can thus conclude that a purely neutral and informational chatbot is a less efficient tool compared to a bot designed with welcoming, friendly and engaging conversational skills when it comes to build brand resonance.

LIMITATIONS AND FURTHER RESEARCHES

Limitations

If this paper is presenting our main findings regarding the impact of a chatbot personality, there are still some limitations we would like to underline. Most of these limitations are important to fully understand the path we have followed and our conclusions, but also to drive further researches into valuable directions.

One of the main bias and limitation we want to express is the fact that we chose one particular definition based on our literature review about what we consider to be a “human personality”. Even if this definition was based on previous researches conducted in this field we are investigating, we could have extended the definition of what is human personality beyond the current definition that has been developed in our paper. We considered that a chatbot with a personality was able to make the user think that he wasn't talking to a device but to another human being. It means that the chatbot is able to express empathy, to be fun and express a sense of humour, but also to engage the user into a real connection and discussion. We also included in the personality the face that companies give to their chatbot. We are reaching an extended definition of personality, mixing elements of communication about the tone of voice and elements of physical appearance. We are aware that based on what we found in the literature review, we could have developed a different definition of personality.

Another limitation we want to underline about this paper is the fact that we decided to create from scratch the four versions of our chatbot. Indeed, we had to fully develop all the interactions between the user and the chatbots to test our hypotheses. It meant creating from scratch all the scripts of the interactions and answers given by the chatbots depending on the level of human personality we wanted to give to each of the four versions of the Disney bot. If it enabled us to develop precise and tailored versions of the chatbot, it nonetheless also resulted in a subjective bias in the way the chatbots and their answers have been built.

The third limitation we want to point out is the fact that we decided to pick up Disney as the brand to test in our experiment. We made this choice because we needed a brand many people were already aware of. We also needed a brand with a clearly identifiable logo, mascot, and name. We only tested one brand in one industry as we had to narrow the scope of our research for practical reasons, but this is clearly one limitation of our work. **We consider this paper as a first step in a broader and more inclusive work to be conducted to give more insight to companies from various industries and help them to build efficient chatbots to develop one-to-one discussions with their consumers.**

The last limitation we want to discuss is about our sample. Many of our respondents are students under 40 years old with a high level of education. This is mainly because we shared our study on social networks and newsletters mainly followed by students and young educated people. It implies that these respondents were more likely to be comfortable with the idea of using social networks and chatbots to have a one-to-one conversation with a brand as they are probably familiar with social networks and the way they work. It could have been more significant and realistic to have a sample that would have been more representative of demographic diversity. However, including in the experiment people who are not aware of chatbots or regular users of social networks would require a preparation work to explain the main concepts of conversational agents and make sure they understand the video they are exposed to.

Further researches

The main further researches we want to discuss are directly inspired by the limitations we found while conducting this research.

To begin with, we would like to extend this research to other fields and brands. We would like to go beyond Disney brand and its industry to verify if our findings may be extended to other brands and to other industries. We notably think that it will be useful to managers and chatbot creators to conduct such a survey using brands that are not as famous as Disney, with less powerful and widespread symbols (mascot, logo).

We also recommend extending the survey by enlarging the sample and the diversity of the demographic segments represented in the sample. It could be done by adding some one-to-one interviews before and after exposing people to the chatbots in order to make sure they have understood the topic they are talking about and they had all the necessary insight to provide valuable and significant answers. This would be especially necessary for people who are not familiar with social networks and chatbots.

Another further research to conduct will be about finding which face gives the best results when it comes to create brand resonance. Indeed, we were not able to provide significant results to show that one specific physical face (logo, name, picture) was more efficient than another. If this paper was able to prove that bringing a human-type idiom into the answers of chatbots was a critical factor to create brand resonance, we recommend digging into these physical dimensions in order to provide managers and chatbots creators with more comprehensive insight about how to create the most engaging chatbot. Indeed, it would be very useful to know which appearance to give to the chatbot: the mascot of the brand, the brand itself, a simple human being from the CRM department or something else.

Another further research we would like to propose is based on the fact that we have chosen the prism of brand resonance to measure the impact of the chatbots on the brand-consumer relationship. Even if brand resonance is a powerful tool that is well documented by previous researches, it will be interesting to assess the impact of chatbots personality through other models of brand relationship between a brand and its consumers.

Finally, the last further research proposition we want to introduce is about the notion of vocal chatbots. Indeed, as we can see with tools such as Google Assistant or Amazon Alexa that are now widespread, the future of chatbots seems to be vocal. More and more brands and artificial intelligence agencies are experiencing chatbots understanding direct vocal questions and orders and able to respond in natural vocal language. It will be necessary to extend our research and its findings by introducing these new vocal assistants. Firstly, because some physical features that are displayed with a written chatbots are no more significant when we are talking of a vocal assistant (no picture for instance) and because some new features will have

to be explored (e.g the sound of the voice). The main remaining dimension is the tone of voice, the vocabulary and the ability of the vocal assistant to display a personality and a real human interaction and way of talking. These new type of chatbots and this new way to interact with the consumer will need to be carefully monitored in order to provide managers with some useful information to build engaging vocal chatbots which are able to create a powerful relationship between the brand and the consumer, and thus brand resonance.

ACKNOWLEDGEMENT

We would like to express our acknowledgments towards all the people who guided our thoughts and research process, who supported and encouraged us in writing this thesis.

We are especially grateful to our thesis supervisor, Erik Olson, for all the guidance and support he provided during the entire research process. We appreciate all the feedback, constructive critique and fast response to our enquiries.

We are also grateful to our fellow Master student, Antoine Chabret, for constructive comments on our ideas.

APPENDIX

ANOVA Analysis

	F Value	df	Probability
4 chatbots	4.789	3	0.006

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.16	.356	.013
	Mary	- 1.00	.363	.051
	Mickey	- 1.17	.363	.015
Advanced generic	Mary	.16	.356	1.00
	Mickey	-0.006	.356	1.00
Mary	Mickey	-.17	.363	1.00

Table X - How useful do you consider this chatbot is ?

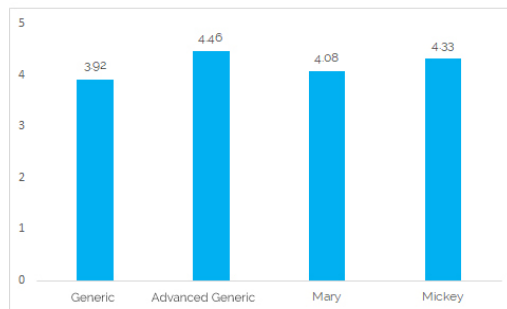


Figure X - Direct messaging is a good way to address a company

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.299	3	0.286

Table X - Direct messaging is a good way to address a company

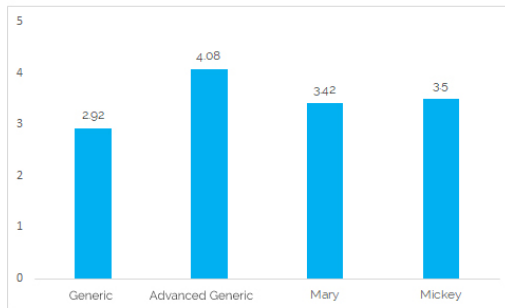


Figure X - Could this chatbot make you more likely to interact with the brand on a more regular basis?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.726	3	.175

Table X - Could this chatbot make you more likely to interact with the brand on a more regular basis?

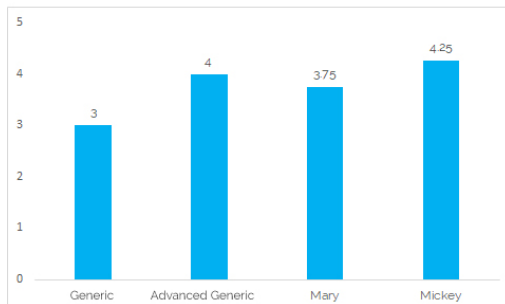


Figure X - After having seen this chatbot, how likely are you to recommend it to others?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.907	3	0.045

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.00	.441	.168
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Table X - After having seen this chatbot, how likely are you to recommend it to others ?

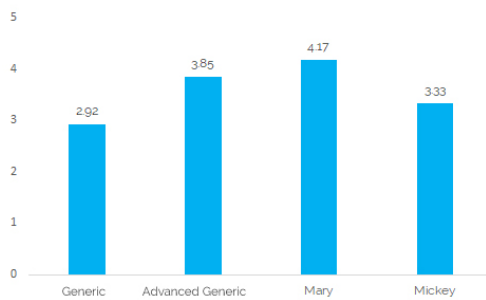


Figure X - This chatbot could strenghten your relationship with the brand

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.156	3	0.106

Table X - This chatbot could strenghten your relationship with the brand

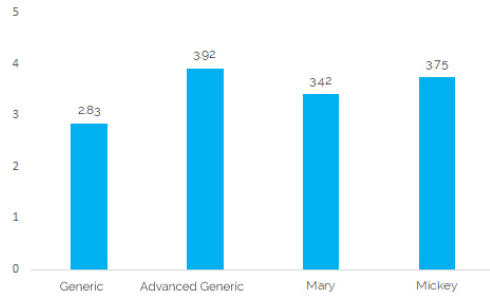


Figure X - After having seen this chatbot, are you likely to recommend the brand to others ?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.197	3	0.032

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.08	.378	.038
	Mary	-.583	.378	.781
	Mickey	-.917	.378	.117
Advanced generic	Mary	.500	.378	1.00
	Mickey	.167	.378	1.00
Mary	Mickey	-.333	.378	1.00

Table X - After having seen this chatbot, are you likely to recommend the brand to others ?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	5.112	3	0.004

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.25	.326	.002
	Mary	-.583	.332	.517
	Mickey	-.833	.332	.095
Advanced generic	Mary	.667	.326	.280
	Mickey	.417	.326	1.00
Mary	Mickey	-.250	.332	1.00

Table X - After seeing this chatbot, your level of emotional attachment to the brand is ?

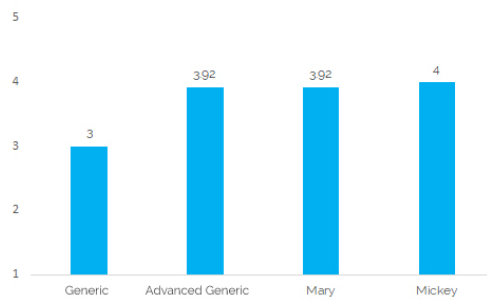


Figure X - After seeing this chatbot, do you consider the brand to be worth interacting with?

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.046	3	0.121

Table X - After seeing this chatbot, your level of emotional attachment to the brand is ?

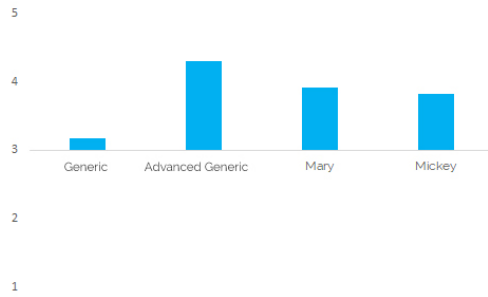


Figure X - Through this bot, you felt the firm was : [not fun at all to very fun]

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.045	3	0.038

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.141	.382	.027
	Mary	-.750	.390	.364
	Mickey	-.667	.390	.564
Advanced generic	Mary	.391	.382	1.00
	Mickey	.474	.382	1.00
Mary	Mickey	.083	.390	1.00

Table X - Through this bot, you felt the firm was : [not fun at all to very fun]

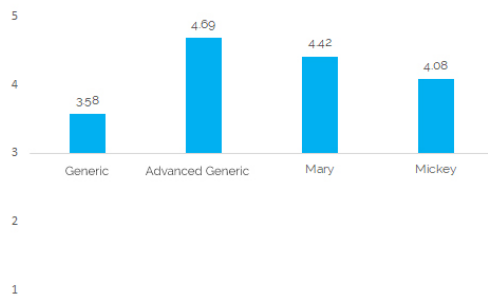


Figure X - Through this bot, you felt the firm was : [not friendly at all to very friendly]

ANOVA Analysis

	F Value	df	Probability
4 chatbots	4.017	3	0.013

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.109	.335	.011
	Mary	-.833	.342	.112
	Mickey	-.500	.342	.902
Advanced generic	Mary	.276	.335	1.00
	Mickey	.609	.335	.455
Mary	Mickey	.333	.342	1.00

Table X - Through this bot, you felt the firm was : [not friendly at all to very friendly]

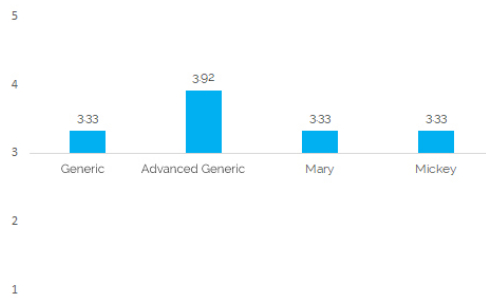


Figure X - Through this bot, you felt the firm was : [very undependable to very dependable]

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.349	3	0.270

Table X - Through this bot, you felt the firm was : [very undependable to very dependable]

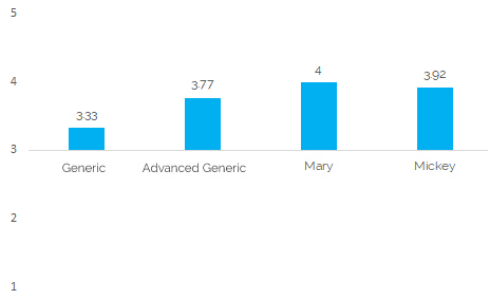


Figure X - Through this bot, you felt the firm was : [very unresponsive to very responsive]

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.057	3	0.423

Table X - Through this bot, you felt the firm was : [not friendly at all to very friendly]

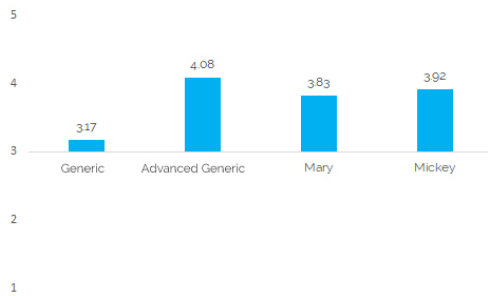


Figure X - This chatbot knows my need as a customer

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.376	3	0.083

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- .910	.364	.096
	Mary	-.667	.371	.475
	Mickey	-.750	.371	.295
Advanced generic	Mary	.244	.364	1.00
	Mickey	.160	.364	1.00
Mary	Mickey	-.083	.371	1.00

Table X - This chatbot knows my need as a consumer

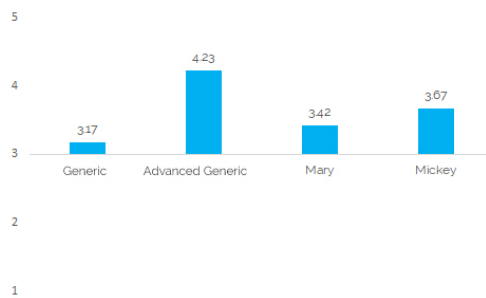


Figure X - This chatbot builds a one-to-one connection with the user

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.597	3	0.203

Table X - This chatbot builds a one-to-one connection with the user

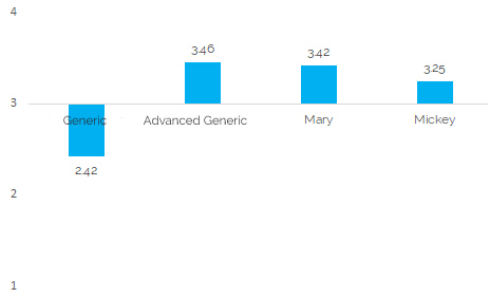


Figure X - This chatbot makes me feel important and appreciated

ANOVA Analysis

	F Value	df	Probability
4 chatbots	2.125	3	0.110

Table X - This chatbot makes me feel important and appreciated

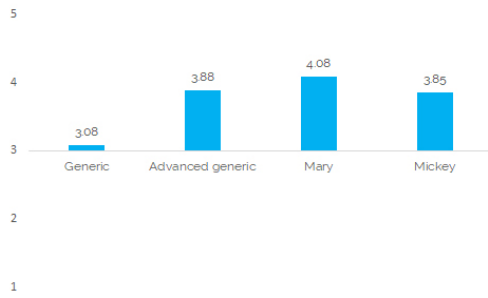


Figure X - Such a chatbot would allow me to get closer to the brand community

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.566	3	0.211

Table X - Such a chatbot would allow you to get closer to the brand's community

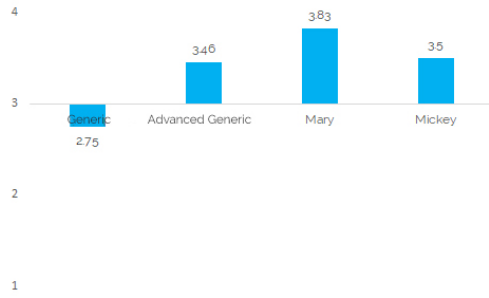


Figure X - I could use such a chatbot to meet new people sharing my centres of interests

ANOVA Analysis

	F Value	df	Probability
4 chatbots	1.437	3	0.245

Table X - Such a chatbot would allow you to get closer to the brand's community

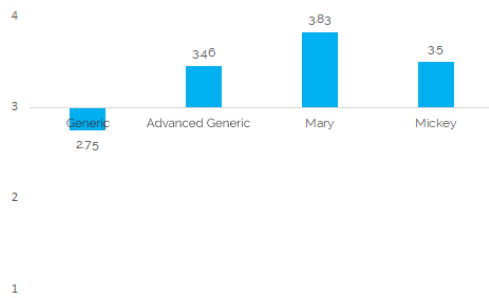


Figure X - I could use such a chatbot to meet new people sharing my centres of interests

ANOVA Analysis

	F Value	df	Probability
4 chatbots	4.929	3	0.005

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.385	.376	.004
	Mary	- 1.083	.383	.042
	Mickey	-.833	.383	.210
Advanced generic	Mary	.301	.376	1.00
	Mickey	.551	.376	.896
Mary	Mickey	.250	.383	1.00

Table X - Getting closer to the brand community via such a chatbot would allow you to get better information about the brand

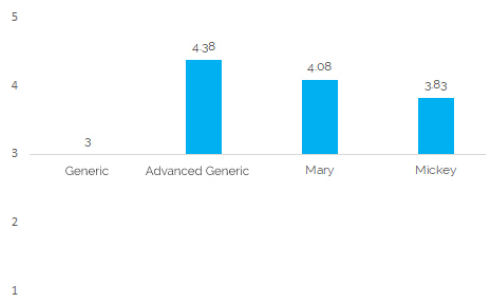


Figure X - Getting closer to the brand community via such a chatbot would allow you to get better information about the brand

ANOVA Analysis

	F Value	df	Probability
4 chatbots	5.042	3	0.004

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.686	.488	.007
	Mary	-.833	.497	.605
	Mickey	- 1.583	.497	.016
Advanced generic	Mary	.853	.488	.524
	Mickey	.103	.488	1.00
Mary	Mickey	-.750	.497	.832

Table X - After seeing this chatbot, I am more likely to follow the brand on social networks than I was before

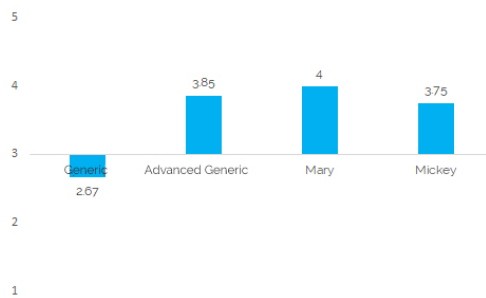


Figure X - After seeing this chatbot, I am more likely to use it in order to find information about the brand's values and legacy

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.818	3	0.016

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.179	.433	.055
	Mary	- 1.133	.441	.025
	Mickey	- 1.083	.441	.108
Advanced generic	Mary	- .154	.433	1.00
	Mickey	.096	.433	1.00
Mary	Mickey	.250	.441	1.00

Table X - After seeing this chatbot, I am more likely to use it in order to find information about the brand's values and legacy

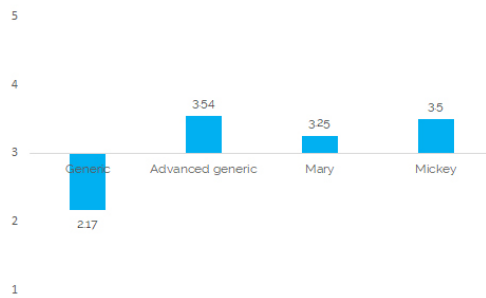


Figure X - After seeing this chatbot, I am more likely to assist to events organized by the brand

ANOVA Analysis

	F Value	df	Probability
4 chatbots	3.818	3	0.016

Bonferroni Mean Difference Analysis

		Mean Difference	Standard Error	Probability
Generic	Advanced generic	- 1.372	.514	.063
	Mary	- 1.083	.524	.267
	Mickey	- 1.333	.524	.087
Advanced generic	Mary	.288	.514	1.00
	Mickey	.038	.514	1.00
Mary	Mickey	-.250	.524	1.00

Table X - After seeing this chatbot, I am more likely to assist to events organized by the brand

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