Anthropomorphisation and Brand Complexities

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Abstract

This paper examines the effects of anthropomorphisation on three consumer response outcomes: Liking, Purchase Intention, and Perceived Value. Results from a quantitative survey show evidence of a direct effect of anthropomorphisation on Liking. Moreover, complexities of brands were tested as a moderating factor. The findings reveal a strong indication that less complex brands are more favourable when they are *not* humanised and complex brands are more favourable when they *are* humanised. This identifies opportunities, but also underlines the threat of potentially detrimental effects of anthropomorphisation, depending on the brand and type of product.

The brands' Facebook presence was manipulated in order to test the effects in a social media context. It has been concluded that using social media is a cost-efficient and effective means to anthropomorphise a brand. The authors encourage future researchers to further these findings.

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1. INTRODUCTION

The phenomenon of ascribing human characteristics to nonhuman agents - *Anthropomorphisation* - has been studied extensively. The origins of this concept date back as far as human history (e.g. imagery in religious studies or ancient cave drawings), which indicates that the tendency to anthropomorphise may lie in human nature. Even so, it can be used and is relevant in business applications as well. Indeed, it has been argued that the importance of understanding this humanisation in a marketing context and how it can affect consumer responses is more important today than ever - as we live in an increasingly digitised world. (Fournier et al., 2015). A consequence of this is a reduction in direct human interaction and an increased intangibility. What this in turn results in, is a lack of personal contact, hence higher perceived uncertainty of processing a brand's stimuli.

In such technology-focused time, it can be assumed that consumers seek more social interaction with brands that appear more humanlike, as a consequence of widely digitised, intangible environments. Fournier et al. (2015) stress the potential competitive advantage a company can gain through anthropomorphising through the continually growing social media.

It is further necessary to consider the importance of anthropomorphism when studying brand personalities and their effects (Stinnett et al., 2013). In the context of a company's marketing activities, a brand personality is argued to be the outcome of a firm's anthropomorphic presentation (Aaker, 1997).

This paper will examine how this humanisation of brands on social media can communicate personalities that ultimately causes different types of consumer responses. Furthermore, we will test how these effects are influenced by complexities of brands. Specifically, we aim to find an interaction effect of anthropomorphisation and the ease of processing, and ultimately how this affects the consumer responses towards a brand.

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2. LITERATURE REVIEW

The below *Figure 1* depicts the conceptual model, visualising the elements of this study's research. The following literature review explains these elements and their hypothesised relationships.

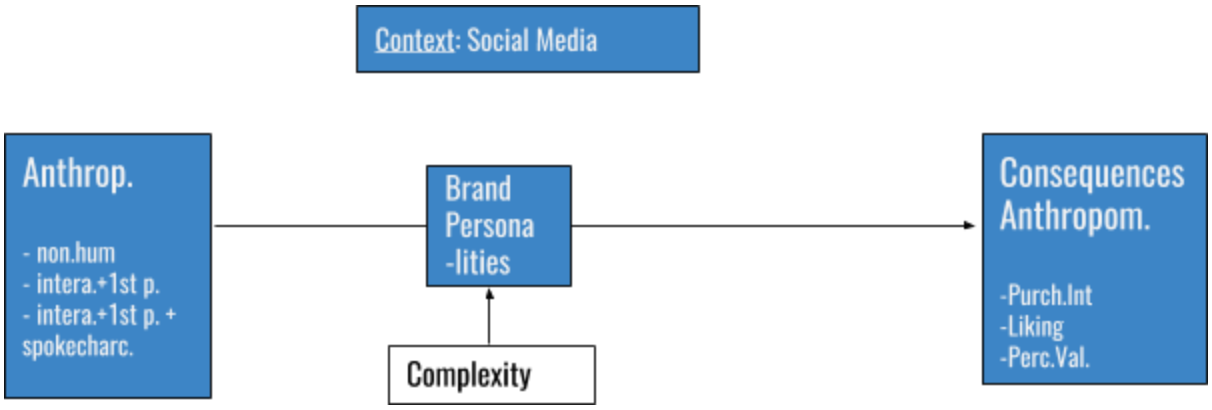

Figure 1. Illustration of the conceptual model.

2.1. Anthropomorphism

Origin - The term anthropomorphism stems from the two Greek words *ánthrōpos* ('human being') and *morphē* ('form') (Oxford University Press, 2016). According to the literature, anthropomorphism "*means attributing human characteristics to non-human phenomena*" (Guthrie, 1993, p. 6). It is reported that the world we live in, is uncertain, somewhat mysterious, and "*in need of interpretation*" (Guthrie, 1993, p. 3). The human tendency of ascribing known characteristics and attributes to objects, animals and higher powers such as gods, is therefore natural if not even necessary for human information processing (Epley et al., 2007).

Since anthropomorphisation appears to be a process that is innate to all humans, the origins of the theory concerning this concept also date back more than 2000 years, to the ancient Greek philosophers. The human tendency to anthropomorphise may be as old as humans themselves, as it is a natural process to make meaning of any uncertainties in people's surroundings. Hence, cave paintings or the development of languages (with female and male articles for different

nouns) are early manifestations of this natural humanisation. However, the first documentation of actually formulating this knowledge as a theoretical principle is recorded only during the times of said Greek philosophers. Xenophanes (ca. 570 - ca 475 BC), is documented to have said that if animals were able to draw, they would draw their gods according to their own appearance, just like people do (Guthrie, 1993). This suggests that anthropomorphic processing is natural to humans. Thus, one of the first cases of anthropomorphism might be the fact that "*man makes God in his own image*" (Guthrie, 1993, p. 3).

Other examples of humanising the outside world are to see human faces or specific shapes in the clouds, or to characterise different types of weather such as 'laughing sun' and 'angry wind' perceivably also to avoid types of uncertainty or unclarity. Similarly, humans seem to have a tendency of giving names to objects that are particularly dear to them - more specifically, it is common to give female names to boats (Guthrie, 1993).

Business Application - Since over the years psychological theories have begun to be implemented into marketing and business practises (e.g. Hoyer et al., 2013), it has been argued that also companies and brands fall into the natural anthropomorphising processes of consumers. Freling and Forbes (2005) argue that "*everything people observe can be interpreted only in terms of their own experiences and conceptions*" (p. 152), which would mean that humanising brand stimuli is natural and inevitable. On the other hand, it is apparent that not all brands are perceived as human-like (e.g. highly simplistic brands [Hart et al., 2013]), which challenges this suggested implication.

Individuals are not the only ones accountable for observed effects of anthropomorphism. Anthropomorphic primes in the marketplace entice consumers to perceive brands or products as human-like, which facilitates the consumers' anthropomorphic processing (Fournier et al., 2015; Hart et al., 2013). Practical examples include the use of spokescharacters such as the 'Michelin Man' and 'Tony the Tiger' (Aggarwal & McGill, 2007; Calabro, 2014), or naming a brand after spokescharacters altogether, such as 'Mr. Clean' or 'Captain Morgan.' Product design and communication strategies can be anthropomorphised too. For instance, car manufacturers may express desired characteristics of the product by showing emotions through the looks of the front

of the car, and beverage producers might shape their bottles in different sizes, so that they resemble a 'family' of products (see Aggarwal & McGill, 2007).

There is evidence, that the implications and opportunities of anthropomorphisation are beneficial for businesses. Hart et al. (2013) indicate that humanisation as a business application is more likely to create increased perceived customer value, as compared to other marketing dimensions such as pricing, usage and distribution. The research further states that this superiority over other marketing tools is significant for different types of brands.

Drivers - Anthropological studies have concerned themselves with the question of why humans anthropomorphise - *what are these drivers or motivations*? In these researches (e.g. Boyer, 1996; Guthrie, 1993), the consensus is that one of the greatest, most overt historic evidences of anthropomorphising is indeed of a religious domain - the generic need to understand the complexity of the world around us. The more complex an external stimulus or phenomenon, the higher the need of an individual to explain or make sense of it by humanising it. Thus, individuals' responsiveness to anthropomorphisation is expected to be higher when the humanised cue is more complex (Hart et al., 2013).

The literature further reports that the tendency to ascribe human characteristics to non-human phenomena or agents is more distinct for children. In early ages, humans do categorise objects into *animate* and *inanimate*, yet deliberately ascribe and generally assume that things have characteristics, just like they do (Boyer, 1996). This assumption only changes as people learn over time that objects are not alive, which is another indication that this type of psychological processing is innate, i.e. adapted early in life (Freling & Forbes, 2005). Regardless of the diverging findings and opinions on whether humans anthropomorphise intentionally or unconsciously, it is explained that humanising objects, animals and gods is most likely not something people are born with, however, *natural* to humans, due to what is learnt early on in life (Boyer, 1996).

On top of that, it is important to understand how the individual process of anthropomorphisation works, which is important when designing a study. People adapt anthropomorphic processing to different degrees. Epley et al. (2007) introduce a three-factor theory that explains how

individuals differ in their tendency to anthropomorphise. Firstly, people may have different *anthropocentric knowledge*, which is defined as the extent of how much knowledge we have about a domain. Secondly, the *effectance motivation*, which is the motivation to explain and understand the behaviour of another agent, determines how likely we are to anthropomorphise. Thirdly, some people might be more likely to humanise, when they have a high *sociality motivation*, which is the individual desire for social contact and affiliation.

Outcomess - The outcome of anthropomorphising a brand is that the brand is perceived as more human-like. This can be measured across several mental-state ratings, as e.g. the brand appears "*conscious*" (Waytz et al., 2010) and the brand appears "*sympathetic*" (Epley et al., 2008). Therefore, such human-like dimensions are a proxy of anthropomorphisation. Moreover, the outcomes of the anthropomorphic processing are making up for lacking knowledge (avoid uncertainty), trying to understand outside domains, and engaging socially. This is particularly important for brand managers, as it can be used in marketing strategies. Aggarwal and McGill (2012) find that anthropomorphising of brands leads to a larger degree of satisfying the need for social interaction. Additionally,, they find that humanising a brand can actually prime a behaviour, meaning that if the favourability of the brand is high, the behavioural response would go in line with the brand image (i.e. healthy product causing more health-aware behaviour). Consequently, brand managers can use anthropomorphisation as a means to improve the degree to which consumers act in correspondence with the brand strategy and actually trust the brand (Güse & Haelg, 2009).

The use of anthropomorphisation can amplify a consumer response to a brand. In light of the potentially detrimental effects of anthropomorphisation, unfavourable brands are perceived even less favourably when they are humanised as opposed to non-humanised brands (Puzakova et al., 2013). Conversely, the potential advantages for brands to gain competitive edge through anthropomorphisation are significant. It would mean that anthropomorphisation can be used to enhance or form a brand personality that is part of the brand strategy and image, and intended to match the consumer's self-concept (Puzakova et al., 2009).

2.2. Brand Personality

Aaker (1997) defines brand personalities as "*the set of human characteristics associated with the brand*" (p. 347). The research establishes that brand personalities can be expressed through five generic dimensions - *Sincerity*, *Excitement*, *Competence*, *Sophistication* and *Ruggedness*. All these dimensions are indirect associations towards the brand, based on brand-specific elements, or the sum of several (Aaker, 1997). Therefore all types of personalities have in common that they are considered communicated effectively if they create associations that are strong, favourable and unique (Keller, 2001). This paper will look at just the *strength* of associations, as this element is most unbiased between individuals. In this way, unwanted influences of individual taste differences and personal responses to different types of personalities can be avoided.

Putting personality into a company's brand can be a useful tool in differentiating a brand from others (Aaker, 1997). If a brand personality is communicated properly and established, it can have a big impact. It is reported in the literature (Fournier, 1998; Neeley & Schumann, 2004; Eisend & Stokburger-Sauer, 2013) that humanising a brand through personalities can increase awareness, ascribe meanings or create consumer responses, such as positive attitudes and purchase intentions.

In the context of brand management, anthropomorphisation is closely linked to the concept of different brand personalities. Puzakova et al. (2009) study the effect of brand personalities, as well as their congruence with the individual's self-concept, as an antecedent of anthropomorphised brands. In an exploratory design, they further find support that marketers will make increasing use of brand personality strategies in the future in order to humanise a brand. However, we argue that personalities are not an antecedent of the humanisation of a brand, as Puzakova et al. (2009) suggest. In contrast, we want to test whether brand personalities are an outcome of it. As anthropomorphisation is indicated to be natural and innate to humans (Boyer, 1996; Epley et al., 2007), it does not appear as a reasonable assumption that humanisation of brands only occurs after a brand personality has been created.

Freling and Forbes (2005) suggest that consumers humanise brands and give them personalities in order to avoid uncertainty and risk. This would mean that anthropomorphisation is not looked at as a consequence, but as an antecedent. Humanisation would be more of a motivation to creating brand personalities. Fournier et al. (2015) argue that brand personalities moderate the relation of anthropomorphisation on brand relationships, meaning that the tendency to engage in loyalty behaviour is dependent on different interpretations of an anthropomorphised brand.

2.3. Consequences of Anthropomorphisation

As previously stated, the main outcome of anthropomorphisation is that the brand appears more human-like. In terms of consumer behavioural consequences of marketing activities, the literature refers to the concept of consumer responses. Customers can respond to brands and their marketing activities, i.e. to anthropomorphisation stimuli, to different extents. Keller (2003) argues that consumer responses are the effects of different dimensions of brand knowledge (such as awareness, image, or experience). Following the customer-based brand equity (CBBE) model by Keller (1993), the highest and desired type of consumer response is the *resonance*, where consumers actively and intensely interact with a brand. However, reaching this is a gradual process. As a first step, a brand needs to get the consumers' *awareness* and communicate its identity. Once this is accomplished, the consumers can ascribe meaning to a brand, either through *performance* or *imagery*. Based on this, the consumers can start reacting to the brands' communication - through cognitive *judgments* or affective *feeling* responses. Only if this is reached can consumers build the aforementioned *resonance* (see *Appendix 1*).

Purchase Intention (PI) - We can gather from the literature that the generic consumer response of awareness is more likely to take place when a brand is anthropomorphised. This is due to people's heightened attention to humanised stimuli (Waytz et al., 2010), which is a support for the notion that anthropomorphisation increases consumer responses. This increase in consumer responses of anthropomorphised brands and products leads to the assumption that other higher order responses are more likely to increase as well. It has been reported by Landwehr et al. (2011) that anthropomorphisation, e.g. products giving the impression as smiling to the

consumer, leads to a higher purchase intention. Similarly, Kwak et al. (2015) find a causation of humanisation on purchase intention, with price fairness as a mediator. This supports the assumption that purchase intention is an outcome of anthropomorphisation. In this study, we define purchase intention as the willingness of a customer to purchase a brand in the future.

Liking (LI) - Brand responses are partly a result of establishing a strong brand personality, which in turn is a result of consumers' anthropomorphic processing. Aggarwal and McGill (2012) mention an example that users show loyalty towards a brand in e.g. giving a name to their car, or other valuable personal belongings. This is an extreme manifestation of humanising a brand and it appears that anthropomorphised brands are more likely to evoke such strong brand responses. It is reported in the literature that there are several factors of anthropomorphisation that may cause particularly strong loyalty responses ("*Brand love*", Rauschnabel & Ahuvia, 2014). However, such responses can only be built and ultimately tested over a longer period of time (Fournier et al., 2015). Therefore, we consider some antecedents of this, in order to observe the short-term, immediate effects of brand exposure. One example that Rauschnabel and Ahuvia (2014) state, is brand liking, which we in this study define as a customer's feeling of appreciating a brand. It has been reported (e.g. Landwehr et al., 2011) that anthropomorphisation enhances liking of a brand. However, consumers do not need to like a brand in order to have positive attitudes towards it. Sometimes consumers perceived functional value is enough.

Perceived Value (PV) - Perceived value can according to Sweeney and Soutar (2001) be divided into four dimension; emotional value, social value, functional value (price) and functional value (performance/quality). In this study, we define the latter dimension of functional value as the utility resulting from the expected performance and perceived quality of the brand. Sweeney and Soutar (2001) find support for that consumers often assess products and brands in terms of functional quality, which further strengthens the assumption that consumers do not need to like a brand to have positive attitudes towards it.

Cognitive Fluency (CF) - Another outcome of anthropomorphic processing is cognitive fluency, which according to Rauschnabel and Ahuvia (2014) is defined as "*the ease or difficulty of a cognitive process*" (p. 378) when being exposed to a stimulus. When an individual is thinking

about a product- or brand-related issue, anthropomorphism can lead to easier answers, which translates into an increased cognitive fluency. This makes consumers feel more positive when thinking about the brand and motivates them to use products or brands more intensively (Delbaere et al., 2011). Anthropomorphisation has been found (e.g. Rauschnabel & Ahuvia, 2014) to be positively related to cognitive fluency. As the literature suggests a close relation of the ease of processing and anthropomorphisation, it was deemed relevant to consider complexities and uncertainties of a brand accordingly.

2.4. Brand Complexities

As previously cited, Guthrie (1993) and other researchers define anthropomorphisation as the human tendency to make sense of uncertain outside factors, by ascribing them human characteristics, i.e. associations they know and are familiar with. To put this in a marketing context, it means that consumers either engage in more anthropomorphic processing or have a higher need for anthropomorphising stimuli if a brand and/or its products are somewhat unclear and more difficult to understand.

In line with Breivik (1995) it can be argued that the need and tendency to anthropomorphise increases, as the "*difficulty in evaluating a stimulus*" (p. 33) - i.e. a brand - increases, too. This difficulty to process is influenced by three main aspects: novelty, ambiguity, and complexity. All of these can increase the likelihood that anthropomorphisation leads to a stronger consumer response. Hence, anthropomorphisation would become more effective and important to the consumer when a brand is new, when it is complex (e.g. many associations), and when it sends somewhat mixed messages in their communication.

In this study, the factors novelty and ambiguity are disregarded due to the fact that fictitious brands are created and the manipulation should be as valid and unambiguous as possible (see Methodology chapter). Therefore, this study will only concern itself with complexity of brands and their influence on the effect of anthropomorphisation.

Breivik (1995) further gathers various factors that can increase the complexity of a stimulus. For

this study, one of these factors were considered. Information load was identified as a function of quality and quantity of information. A high quality paired with a low quantity of information is likely to reduce the brand's complexity (Keller & Staelin, 1987).

2.5. Brand Contexts

The literature suggests that anthropomorphisation can vary "*in strength depending on different...contexts*" (Puzakova et al., 2011, p. 618). Regarding the effect of anthropomorphisation on consumer responses, one of these contexts that can moderate the effect of anthropomorphisation are the different brand concepts.

2.5.1. Brand Concept

According to Park et al. (1986) a brand concept (also referred to as brand belief) is "*…a firm-selected brand meaning derived from basic consumer needs*" (p. 136). It aids to position brands in the minds of the consumers and distinguishes them from other brands in the same product category. In the brand concept literature, it is argued that brands can be distinguished based on three brand concepts; *functional*, *symbolic* or *experiential*.

The experiential concept is intended to satisfy internal needs of stimulation (Orth & De Marchi, 2007). A symbolic concept focusses more on the consumers' needs for social recognition and self-image (Nandan, 2005). These two were to be disregarded for the purpose of this study, as these concepts are already expected to be somewhat complex and strong in terms of their associations and consumer responses (Hart et al., 2013; Monga & John, 2010). This means that these were more likely to taint and invalidate the effects of anthropomorphisation.

A functional brand on the other hand is designed to solve rather rational consumption-related needs. The associations mainly revolve around the ability to satisfy hygienic needs. It has been reported that, as opposed to symbolic and experiential brands, functional brands can be equally valued also when they are not anthropomorphised (Rauschnabel & Ahuvia, 2014). Hence, "*people might value the functional quality of the brand, but not anthropomorphize it*" (Rauschnabel & Ahuvia, 2014, p. 388). We deemed it important to find a product category that is

rather functional and could be both more complex and simplistic.

2.5.2. Anthropomorphisation Contexts

Another context that can moderate the effect of anthropomorphisation on consumer responses are the different strategies of anthropomorphising on social media. Rauschnabel and Ahuvia (2014) identify that communicating in the first person (e.g. I, my, our, us and we) is likely to enable individuals to deem the information given as personal belief rather than plain fact. To use stimuli that imitate human characteristics, such as the use of a spokescharacter, is another strategy used by marketers. By using a real person or an animated human character with a name (e.g Mr. Clean), brands have been successful in associating the spokescharacter's personality with the brand as well as increasing the perceived level of anthropomorphism (Chen et al., 2015). Lastly, it has been identified (e.g. Rauschnabel & Ahuvia, 2014) that interaction through social media such as posting and discussing with consumers as a brand, rather than as a sales representative, is likely to increase anthropomorphism.

2.6. Social Media Context

The digital environment has gone through a significant transformation over the past two decades. Social media is progressively replacing traditional channels, which has created multiple new marketing opportunities for brand managers (Bruhn et al., 2012).

Fournier et al. (2015) explain that the tendency to anthropomorphise will increase as a consequence of that consumers aspire to make sense of an increasingly digitally-focused world. In relation to Epley et al. (2007), this can be linked to the generic human need to interact socially and to therefore ascribe human characteristics to intangible, or non-human objects. Due to the continuous rise of social media as a form of digital communication and interaction, it was considered particularly relevant to study these effects. While many researchers have looked at various issues in an offline context, such as consumer-brand relationships (Fournier, 1998), brand personality (Aaker, 1997) and brand identity (Ramaseshan & Tsao, 2007), there is a lack

of research studying the effects of anthropomorphisation in an online context.

As a recent example, Hudson et al. (2016) indicate that brand responses are more intense, when the brand is anthropomorphised on social media. Furthermore, the humanisation of a brand can easily be facilitated through the use of social media accounts and the social interaction. This is why it was considered relevant and topical to take this particular context as a basis for this research. In an attempt to try to fill the gap in the literature, it is further expected to be particularly interesting given the digital, seemingly impersonal, yet growing channel.

2.7. Hypotheses

The literature suggests that anthropomorphisation helps people to make sense of the world around them and to reduce uncertainties (Guthrie, 1993). In a marketing and branding context, this means that consumers actively (cognitively and affectively) try to make sense of the marketing stimuli they are exposed to (Freling & Forbes, 2005; Burger & Cooper, 1979). Hence, an anthropomorphised brand (vis-a-vis a non-humanised brand) is more likely to cause basic consumer responses as an outcome; or dependent variable. In this study, we test in what way anthropomorphisation impacts short-term, immediate consumer responses. We argue that the use of humanisation increases the level of consumer responses. It has been reported that brands can stand out through the use of anthropomorphisation, which indicates a support for this (Fournier, 1998; Fournier et al., 2015).

One way of measuring the degree of consumer responses when being exposed to brand stimuli is purchase intention (Kwak et al., 2015). We test whether the use of anthropomorphisation strategies on social media positively influences the degree to which consumers are willing to purchase a brand.

***H1a**: Anthropomorphisation increases the purchase intention (PI) of a brand.*

Another dependent variable to measure the effect of anthropomorphisation on short-term

consumer responses, is the consumers' liking of a brand (Aggarwal & McGill, 2012). We argue that when humanising strategies are used to present a brand on social media, the consumers' favourable attitudes in form of liking will increase.

***H1b**: Anthropomorphisation increases the liking (LI) of a brand.*

Thirdly, we argue that the perceived value of a brand increases when brands are anthropomorphised. This is another way of measuring the effects of anthropomorphisation on immediate consumer responses. As this study is concerned only with functional water brands, the perceived value is measured merely in terms of its perceived functional quality (Sweeney & Soutar, 2001).

***H1c**: Anthropomorphisation increases the perceived value (PV) of a brand.*

The literature provides varying views on the relation of anthropomorphisation and brand personalities. Against the notion that brand personalities may be a prerequisite for the anthropomorphisation of a brand (Puzakova et al., 2009), there is support that this is in fact the other way around - i.e. brand personality creation is a consequence of humanising a brand (Freling & Forbes, 2005). Similarly to Fournier et al. (2015), we argue that brand personalities are a consequence of brand anthropomorphisation and further a mediator in the effect on brand responses. It has been supported in the literature that consumer responses are a manifestation of brand knowledge dimensions (Keller, 2003). Conclusively, consumer responses are associations towards a brand that facilitate the interaction with a brand (Aaker, 1997; Keller, 2001). Thus, in accordance with Fournier (1998), we argue that the establishment of brand personalities influences the consumer responses based on anthropomorphising of brands.

***H2**: Brand Personalities mediate the causation of anthropomorphisation on PI, LI, and PV.*

It has been reported that the higher the complexities of a stimulus, the more difficult it is for the consumers to evaluate it (Breivik, 1995). Since anthropomorphisation aids individuals to understand and to explain uncertainties, we argue that the effects of humanising brands are stronger when a brand is perceived as being complex. Moreover, it is to be noted that studying the effects of brand complexities on consumer responses is more relevant for functional brands. With increasing complexity of a functional brand, it is expected that consumer responses are stronger as well. This is due to the evaluation process of complex brands relying more heavily on anthropomorphic cues.

***H3**: Brand complexities moderate the effect of anthropomorphisation on PI, LI, and PV.*

The literature reports that anthropomorphisation helps the consumers to make sense of more uncertain and unclear brand stimuli (Guthrie, 1993). Following that argumentation, we presume that the consumer responses will be stronger when a complex brand is anthropomorphised. This is because consumers are more likely to make sense of a stimuli when it is humanised, and will show stronger responses due to the higher-elaboration cognitive processing.

***H3a**: PI, LI, and PV of an anthropomorphised brand will be stronger when the brand is complex.*

Supplementarily to the previous hypothesis, we argue that a higher complexity of stimuli weakens the consumer responses when the brands are not humanised. Having the uncertainty-reducing effect of anthropomorphisation out of the equation in this case, it is assumed that complexities will simply make it too difficult for the consumer to make sense of the brand and thus show weaker responses in terms of liking, purchase intention and perceived value.

***H3b**: PI, LI, and PV of an anthropomorphised brand will be weaker when the brand is simplistic.*

As argued in e.g. Fournier et al. (2015), there is a close relation between brand personalities and anthropomorphisation. Hence, we not only want to test brand personalities as a mediator of humanisation on consumer responses, but further want to examine how brand personality perceptions behave when being subject to complexity variations. In addition to testing the hypothesised main causation, this could facilitate further indications as to how complexities influence anthropomorphic processing, with brand personalities as a proxy of humanisation.

H4: *The brand personality perception, as a proxy of humanisation, is higher if a brand is complex.*

Another proxy of anthropomorphisation of brands are certain indicators of human-like perceptions of a brand (Epley et al., 2008; Waytz et al., 2010). Furthermore, we test how these perceptions stand in relation to the complexity of a brand. If there is a significant relation, we would be able to deduct that even though there is not a direct causation, to some degree the effect of anthropomorphisation on human-like perception of a brand is significant when mediated by complexity.

H5: *The human-like perception of a brand is higher, if a brand is complex.*

In line with the notion that the propensity to anthropomorphise, and to respond to it, can vary with regards to different contexts (Epley et al., 2007), we test how different brand conditions influence the hypothesised relation.

In this study, different ways of stimulating anthropomorphisation are tested. Aside of one brand context that lacks anthropomorphisation cues, two anthropomorphised brand contexts test different anthropomorphisation strategies. We assume that the differences of those three brand contexts have a significant effect on the consequences of anthropomorphisation.

***H6**: Brand conditions moderate the effect of anthropomorphisation on PI, LI, and PV.*

Regarding the different anthropomorphisation strategies, we specifically want to tests in what way the humanisation of a brand name itself influences the effect on the dependent variables. We argue that the use of fictional spokescharacters as an overt form of brand anthropomorphisation will increase the consumers' tendency to show stronger responses (purchase intention, liking, perceived value).

***H6a**: The use of spokescharacters increases the effect of anthropomorphisation on PI, LI, and PV.*

It has been reported that marketers need to consider the opportunities of anthropomorphising through social media channels, in light of the ongoing digitisation of communication and social interaction (Fournier et al., 2015; Hudson et al., 2016). Given the lack of research in this particular context, we consider the growing medium and its implementation of brand anthropomorphisation in an increasingly technology-focussed world. We investigate if a brand can be humanised through social media. Therefore, a control variable of the effectiveness was included.

***H7**: Brands can effectively anthropomorphise through social media channels.*

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3. METHODOLOGY

3.1. Research Design

We decided to make use of a mixed research design, consisting of both between- and within-subject elements, in order to reduce the potential downsides of either of the two approaches.

A between-subject design provides the opportunity to create an experimental group and a control group (Charness et al., 2012), i.e. anthropomorphised vis-a-vis non-humanised. Hence, we argue that it becomes less obvious what the study intends to test and becomes more respondent-friendly, as individuals do not each need to be exposed to several different conditions. This minimises the likelihood that respondents lose their focus. Besides, their interest is expected to be higher, thus the chance of boredom is reduced. Moreover, a between-subject design helps to avoid order effects, since individual respondents can be exposed to different orders. A major downside of the between-subject approach according to Charness et al. (2012), is the fact that it does not establish a realistic evaluation situation. If a consumer assesses a brand, e.g. in-store, s/he is likely to do this in comparison to a variety of other brands. If the study exposes a respondent to only one condition, this can reduce the validity of the approach.

A within-subject approach on the other hand, reduces the influence of individual taste differences across various conditions and respondents. One disadvantage is, however, that a study can become too complex in terms of the multiple contexts an individual respondent would be exposed to. Another downside of using only this approach is the lack of an actual control group. We decided to include a within-subject element, in order to create a more realistic and more contrasted evaluation situation.

Based on this discussion, we chose a mix of a between- and a within-subject research design. This means that the between-subject element consisted of the respondents being randomly divided into three groups. The first group was exposed to the two brands when they were not

humanised, and the second group to the same brands when they were humanised through the use of first person pronouns, as well as interaction. Lastly, the third group was exposed to the brands when they were humanised through the use of first person pronouns, interaction as well as the use of spokescharacters. At the same time, the study included a within-subject element, in that each respondent was exposed to both types of brands - the simplistic Gamma and the complex Delta. Having complexities as a within-subject variation, enabled a more contrasted evaluation situation.

Therefore, this study provided the comparison to a control group, it allowed to test different anthropomorphisation strategies, and through the comparison of two brands, it created a more realistic evaluation situation.

3.1.1. The Research Model

Figure 2 illustrates this study's research model and the relations of its various components. The basic model hypothesises an effect of the anthropomorphisation condition as an independent variable on the three dependent variables. This is explained as an experimental design. Aside of this direct effect , the model comprises a potentially mediating effect of brand personalities and a potentially moderating effect of complexities on both the direct and the mediated relation. Furthermore, it involves the testing of whether human-like perceptions are subject to variance of complexities.

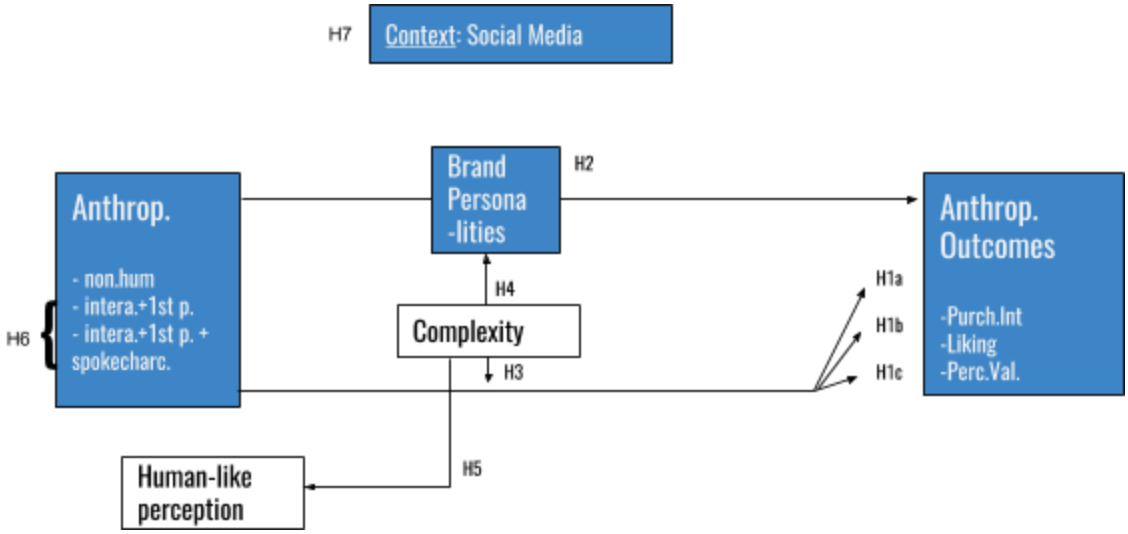


Figure 2. Illustration of the research model and the hypotheses.

3.2. Selection of the Stimuli

3.2.1. Anthropomorphisation on Social Media

Firstly, we selected the setting for this study to be social media. The literature reports that this market communication channel is gaining in importance due to the increased implementation and use of digitalisation (Bruhn et al., 2012; Fournier et al., 2015). As it has been argued that the effects of humanising a brand on social media are particularly strong, we claim it to be relevant to study anthropomorphisation in this context (Chen et al. 2015; Hudson et al., 2016).

We decided to only choose one social media channel, i.e. Facebook. This was because it is the largest of the different networks in terms of the number of users, meaning that respondents are most likely to be familiar with it. Additionally, we expected to provide all necessary opportunities to establish the particular anthropomorphisation stimuli for this study (i.e. first person pronouns, interaction, spokescharacters). Conclusively, we deemed it unnecessary to create a possibly too complex social media presence for brands through using several channels.

In the study, we created the Facebook accounts of the two fictional brands by exposing the respondents of an online questionnaire to screenshots of the brands' introductory 'About' texts, as well as screenshots of exemplary posts on their timeline/wall. This created an overall image of the respective brand on Facebook, especially to illustrate the use of the stimuli, such as the potential interaction of a brand, or the lack thereof. These social media appearances were adjusted according to the three different conditions that were stimulated. A pre-test confirmed that all three conditions were successfully stimulated and could be clearly differentiated from each other.

3.2.2. Choice of Product Category

When choosing a type of product to test the effects of anthropomorphisation on, we wanted to find a category where marketing and branding cause a significant difference in perception, even though the generic products are more or less the same. Further, we aimed to find a category that is expected to be relevant to respondents, and is purchased on a frequent basis. Although e.g. cars

or beers could have fulfilled some of these criteria (Ramaseshan & Tsao, 2007), eventually 'water' was chosen. This was mainly because all water brands essentially sell the same product with the same basic quality (Wilk, 2006), and only perceptional differences create brand concepts and various associations. Moreover, water, as opposed to e.g. beer or cars, is a good that is consumed more frequently and by every consumer.

3.2.3. Selection of Conditions

For clarification, we defined conditions as those variables that differ either within or between the respondents, i.e. complexities and anthropomorphisation. Contexts, on the other hand, only refer to the condition that varies between the different respondents, i.e. the non-humanised and the two anthropomorphised contexts.

Type of Brands - This study examined the differences between functional brands with low complexity vis-a-vis functional brands with high complexity in their effects of anthropomorphisation. We deemed this relevant, as it has been proposed (Epley et al., 2007) that anthropomorphisation effects are stronger when knowledge about e.g. a brand is low and the uncertainty is high. Having one simplistic and one more complex brand, resulted in a total of two functional brands that were subject to this study - Brand Gamma and Brand Delta.

As argued by Pentina et al. (2013), symbolic brands are naturally more likely to be anthropomorphised by the consumer. Furthermore, it is reported that symbolic brands by nature are perceived to be more complex compared to functional brands. The latter can be manipulated to vary significantly more in their complexity. Therefore, we disregarded the symbolic type of brands for this study, which means that we made the decision to only focus on functional brands. This concept permits communicating a more simplistic brand, as well as manipulating complexities more clearly. We considered the effects of anthropomorphisation on functional brands that communicate consumption-related needs more interesting and relevant to examine.

This study's pre-test confirmed the successful stimulation of the two types of brands. To avoid biases, both brands were fictional with similar, neutral names. We chose letters from the Greek alphabet, however, excluding 'Alpha' as it could have indicated being 'the first' or 'the best' among other brands.

Brand Gamma - The first brand was the simplistic brand, purely serving consumption-related needs. We kept its complexity to a minimum, i.e. providing low quantity, but high quality of information. We named this brand Gamma and manipulated it to communicate merely that it quenches thirst, has all necessary nutrients, a trained staff, and has a market leading position.

Brand Delta - The second brand - the more complex functional brand - had the same characteristics as brand Gamma, however, communicating through a higher quantity and more details of information. We named this brand Delta and manipulated to communicate the specific levels of nutrients, exactly how the staff is certified, what the hygiene standards are, as well as when the brand was founded.

Type of Contexts - In light of the between-subject design in this study, both brands were tested in three different contexts. The first one was the control variable, where none of the brands were humanised. The second context was humanisation of the brands through using first person pronouns and interaction. The third context was humanisation through using first person pronouns, interaction and spokescharacters. The method of using spokescharacters as a single additional way to anthropomorphise was specifically chosen to isolate the effect that spokescharacters may have on various consumer responses. All contexts were confirmed to be successfully stimulated by the pre-test. Moreover, the three brand types were confirmed across all three contexts.

3.2.4. Stimulating the Conditions

Complexities - We stimulated the study's within-subject element - complexities - through the use of Brand Gamma and Brand Delta. Hence, we manipulated the complexity variable by creating the following differences between the two brands. Brand Gamma's appearance on the Facebook page contained of providing only the most basic information through the "about text" and its posts. The texts communicated that the brand is among the market leaders and has all necessary certifications. Brand Delta, on the other hand, provided a much larger quantity of information, such as which specific certifications they hold or what the exact nutritional values of their products are; without necessarily using a higher quality of information. This stimulated the complexity condition following the characteristic of larger information load.

Contexts - In order to keep a brand non-humanised, we kept the Facebook appearance of the respective brand passive through the use of third person pronouns, the lack of interaction and no human-like appeal. We manipulated the interaction through commenting and/or liking/reacting to posts and comments from Facebook users. We stimulated the spokescharacters by giving the brands rather neutral and similar names - i.e. Steve Gamma and John Delta. The neutrality of these names was confirmed by all participants of the pre-test. *Figures 3* and *4* depict exemplary screenshots of the questionnaire that manipulated this Facebook presence.

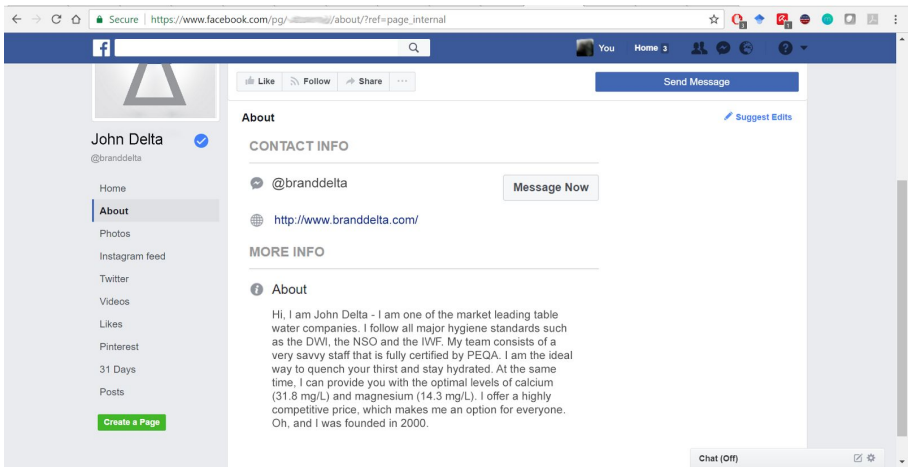


Figure 3. Exemplary screenshot of Facebook About texts for Brand Delta.

To manipulate the three contexts, respondents were exposed to introductory 'About' texts from the two fictional brands' Facebook pages (*Figure 3*). In these texts the respondents perceived the types of the brands, their possible use of first person pronouns, as well as the use of spokescharacters in the third context.

Afterwards, the respondents saw screenshots of the brands' Facebook wall/timeline to establish their social media appearance (*Figure 4*). Especially the interaction of the brand with its users or the lack thereof could be manipulated effectively this way. The pre-test confirmed that respondents could recognise the differences between the three contexts. Please find all screenshots of about texts and timelines in *Appendix 2*.

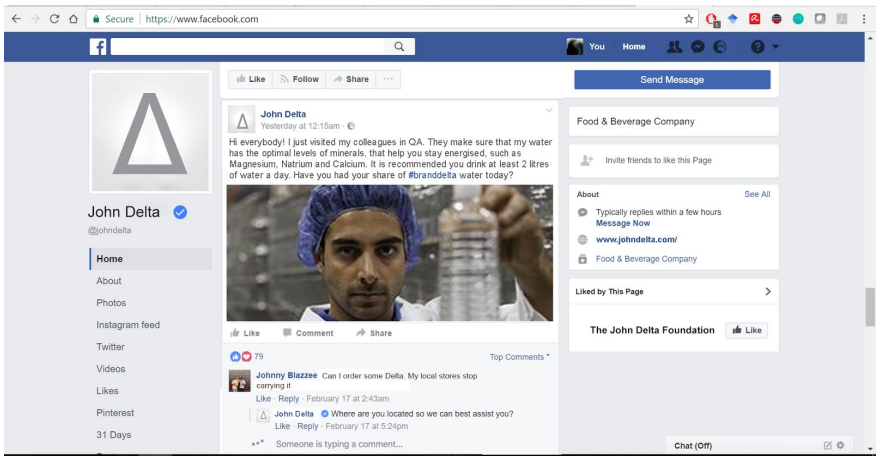


Figure 4. Exemplary screenshot of Facebook timeline of Brand Delta.

3.3. Outline of the experiment

3.3.1. Pre-tests

The pre-test phase of the research was two-fold. The first part we carried out with six students - three males and three females - to validate the stimuli. The respondents were divided so that they were equally distributed across brands. All participants were exposed to the various contexts (i.e. non-humanised, and two anthropomorphisation strategies), in order to be able to compare them.

First Pre-test - The main purpose of this first part of the pre-test was to validate that respondents understood the stimuli properly and perceived them as we intended to. The design of this first pre-test was interactive and open in nature. We asked questions and allowed for participants to raise concerns and point out unclarities. Firstly, we asked them to read the 'About' texts of the different brands, in order to confirm that the texts had stimulated the respective brand type successfully. Afterwards, we asked the respondents to compare the different contexts for only one of the brands. Participants were further shown exemplary screenshots of a brand's Facebook timeline, after which they stated how the brand differed across the various contexts. All participants observed the intended differences created by using first person pronouns, the change into a name (spokescharacter) of the brand, as well as the interaction. This confirmed the stimulation of these conditions. Regarding the third context of using spokescharacters (humanising the brand name), we asked respondents if they had perceived a difference in value

between the different brand names (Steve Gamma, John Delta). This reduced the threat of any possible biases and preferences in the subsequent study. No respondent observed any difference in value between the brand names.

Second Pre-test - The second part of the pre-test, was to test the validity of the questionnaire. Thus, a rough draft of the questionnaire was handed out to six different respondents. This aimed at uncovering all issues related to the actual process of taking the questionnaire. We asked the respondents to take the questionnaire, while we sat at the same table listening to the feedback given.

At this stage, we were able to quantify the results of this pre-test, simply in order to get potential indications. *Table 1* depicts a simple comparison of the mean averages on all dependent variable items. It shows the apparent different effects of complexities (expressed through Gamma and Delta) on consumer responses. Moreover, we could observe a slight tendency of the respondents being more likely to show a higher degree of consumer responses for the anthropomorphised brands. Granted that this was certainly not a reliable indication, it still provided a tendency and a sufficient confirmation that anthropomorphisation contexts and complexities had been manipulated effectively in the questionnaire.

	Brand Gamma	Brand Delta
Condition 1: Non-Humanised	3.755 (1,683)	4.955 (1.343)
Condition 2: Humanised	5.633 (0,613)	6.167 (0.707)
Condition 3: Humanised + Spokescharact.	3.867 (1.226)	4.367 (1.555)

Table 1. Mean averages (and standard deviations) of all dependent variables combined in the second pre-test.

On the basis of this, we changed the phrasing of a few ambiguous questions and unclear descriptive texts, so that it became more precise what they were related to. Moreover, we amended the form of interaction of the two anthropomorphised conditions, so that no brand received potentially preferential treatment based on their way of interaction, e.g. a more personal or emotional response. Again, the previous conditions and stimuli were found to be manipulated effectively.

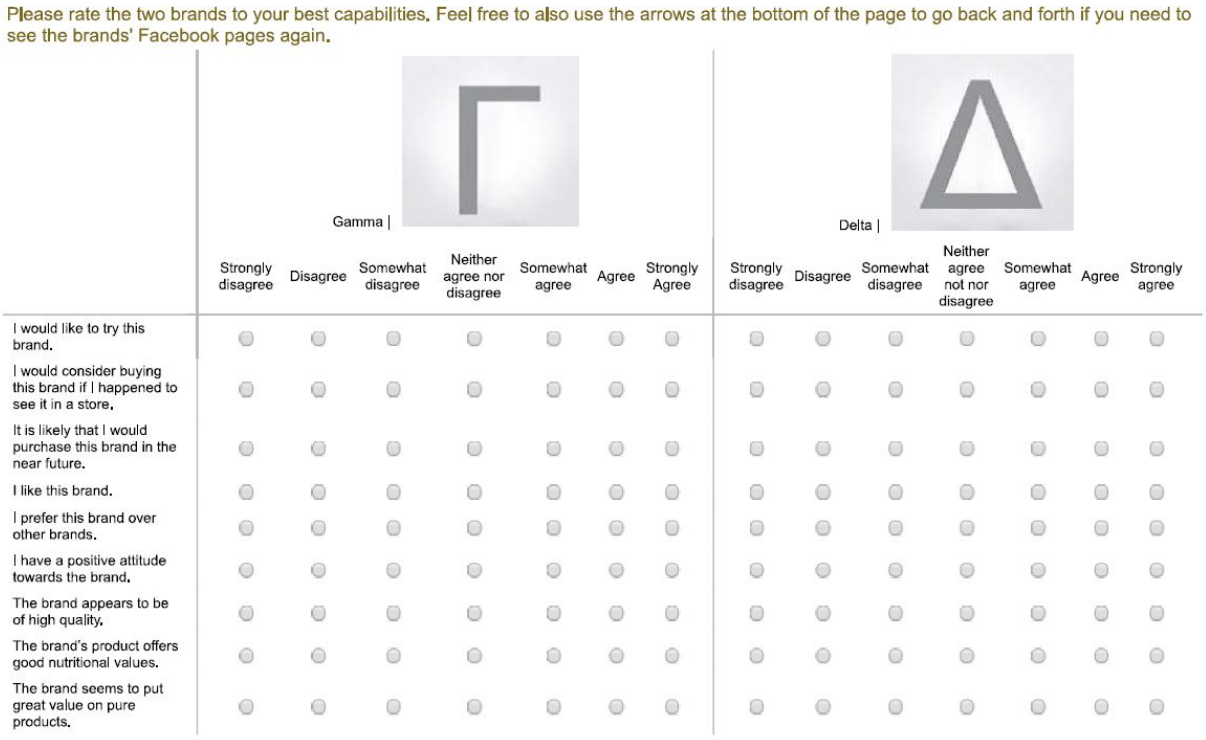
In this rough draft of the questionnaire, we tested four dependent variables. One major decision following the second part of the pre-test, was to exclude the dependent variable of Cognitive Fluency. Originally, this variable was designed to measure to what degree anthropomorphisation helps respondents/consumers to process complex stimuli. However, based on the pre-test, we found that questions related to this variable tended to cause confusion and unclarities. The respondents were not able to answer the questions as they did not understand what was actually meant by them. One explanation for this is that cognitive fluency is not always a conscious process, but lies within the automated processing of a stimuli. Therefore, it is difficult to measure this dimension by simply asking questions regarding the ease of understanding a brand. Moreover, we argue that the dimension of cognitive fluency is possibly included within the other variables already. This means that the relation between complexities and consumer responses, especially in the interaction with anthropomorphisation, is likely to be an expression of this cognitive fluency or ease of understanding. We therefore disregarded this variable from this study. Therefore, we tested the three remaining dependent variables - Purchase Intention (PI), Liking (LI), and Perceived Value (PV).

3.3.2. Questionnaire

After we tested and validated the stimuli and research method of the study, the main questionnaire was sent out. The following explains the questionnaire flow, i.e. how the respondents were 'guided' through the experiment.

Firstly, respondents were randomly assigned to one of six respondent groups. The first group consisted of respondents that were first exposed to the brand Gamma, and then Delta when they were non-humanised. The second group saw Gamma, and then Delta, when they were humanised through interaction and use of first person pronouns, and the third group answered questions regarding Gamma and then Delta being humanised through interaction, first person pronouns and spokescharacters. The groups four, five and six were almost identical to groups one, two and three respectively, only that the respondents here were exposed to the more complex brand Delta first, and to Gamma afterwards. This was to rule out unwanted effects that may come from the order of which brand they would be exposed to first.

After introductory texts, the respondents were exposed to the two brands (Gamma and Delta) and then answered nine questions related to the three dependent variables (PI, LI, and PV), for both of these brands. For better comparison, both brands were displayed in one table, with the questions on the left-hand column (*Figure 5*). Following that, they were exposed to a similar table, containing another ten questions, aiming at rating the extent to which the brands were perceived to have a personality and to be human-like.


Please rate the two brands to your best capabilities. Feel free to also use the arrows at the bottom of the page to go back and forth if you need to see the brands' Facebook pages again.

	Gamma							Delta						
	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree	Strongly disagree	Disagree	Somewhat disagree	Neither agree not nor disagree	Somewhat agree	Agree	Strongly agree
I would like to try this brand.														
I would consider buying this brand if I happened to see it in a store.														
It is likely that I would purchase this brand in the near future.														
I like this brand.														
I prefer this brand over other brands.														
I have a positive attitude towards the brand.														
The brand appears to be of high quality.														
The brand's product offers good nutritional values.														
The brand seems to put great value on pure products.														

Figure 5. Screenshot of questions in online questionnaire.

After these questions, the respondents answered control questions regarding whether the manipulation of humanisation and complexity succeeded. Additionally, we asked respondents to give information regarding their water purchasing behaviour, as well as their demographics.

3.4. Data Collection Methods

3.4.1. Sampling

We actively targeted potential participants of our study. In order to increase the control of the sample, we distributed the online questionnaire in five selected business student groups on

Facebook. Moreover, questions regarding the respondents' age and gender were included in the questionnaire to get a better understanding of the sample.

In order to create the online questionnaire, *Qualtrics* was used. This is a research software tool to create questionnaires to be easily distributed over the Internet. The reason for choosing this tool was because the gathered data in Qualtrics could easily be imported into SPSS, which is a tool used for statistical analysis (Bryman & Bell, 2011).

At the time that the electronic questionnaire was closed for responses, 117 individuals had received and opened the according link. Out of this sample, 87 respondents had completed the questionnaire and given answers to all mandatory questions. This resulted in a response rate of 74.36%. A preliminary examination for abnormalities of the data set uncovered a straightliner - a respondent that had deliberately ticked the same value on all questionnaire items. We removed this respondent from the data. The final data set consisted of n = 86 respondents.

3.4.2. Manipulation

In addition to the two pre-tests, the questionnaire included control questions to test whether or not the stimuli had been manipulated successfully. For instance, we asked respondents whether they perceived "*one brand to be more complex*" and whether the brands they observed "*appeared human-like*" to them. These control questions, as well as other questions regarding respondents' demographics and behaviour were nominal. This functions as merely labeling different items of a variable without ascribing quantitative values. These manipulation check questions also included dichotomous, i.e. yes or no, questions e.g. regarding whether or not respondents purchase bottled water.

3.4.3. Questions

The exact formulation of the questions or statements, as well as which work they are inspired by can be found in *Table 2*.

The questions of the first table of the questionnaire measured the three dependent variables (PI, LI, and PV). As these variables measured different types of consumer responses, it was important to allow for measurement of varying degrees or intensities of these responses. We used

7-point Likert scales on all items, in order to capture a ranked comparison of the responses in terms of varying conditions the respondents were exposed to. The scales ranged from 'Strongly Disagree' to 'Strongly Agree'.

The items measuring the dependent variable purchase intention, e.g by means of the statement "*I would like to try this brand*" were influenced by the works of Baker and Churchill (1977) as well as Grewal et al. (1998). Those statements related to the measurement of liking of a brand, such as "*I like this brand*" were based on Landewehr et al., (2011) and Waytz et al., (2014). Lastly, items regarding the perceived value, like "*The brand appears to be of high quality*", were inspired by Rauschnabel and Ahuvia's (2014) work on brand love.

The subsequent table consisted of five items measuring the personality perceptions towards the brands and five items measuring the perceived human-likeness of the brands. We applied 7-point Likert scales throughout for the same reason as above. Particularly for the brand personality perceptions, which was hypothesised to have a mediating effect, we wanted to capture ranked levels of the intensity of perceptions. Moreover, the extent to which a brand appeared human-like was measured on a scale.

The items regarding the brand personality perceptions were largely influenced by Aaker (1997) and the five big personality traits developed in that research. For instance, we asked respondents to state to what extent they agree to the statement "*The brand appears competent.*" Similarly, we posed statements regarding the other four personality traits. We measured the human-like perception of the brands through statements such as "*The brand appears sympathetic*" or "*The brand appears conscious.*" All these according five items were not directly adapted from, but inspired by the works of Epley et al. (2008), Waytz et al. (2010), and Aaker (1997).

Statement	Inspired by
PI1: I would like to try this brand. *(Q1)* **PI2: I would consider buying this brand if I happened to see it in a store.** *(Q2)* **PI3: It is likely that I would purchase this brand in the near future.** *(Q3)*	Baker & Churchill (1977); Grewal et al., (1998)

LI1: I like this brand. *(Q4)* **LI2: I prefer this brand over other brands.** *(Q5)* **LI3: I have a positive attitude towards the brand.** *(Q6)*	Landewehr et al., (2011); Waytz et al., (2014)
PV1: The brand appears to be of high quality. *(Q7)* **PV2: The brand's product offers good nutritional values.** *(Q8)* **PV3: The brand seems to put great value on pure products.** *(Q9)*	Rauschnabel & Ahuvia, (2014)
HL1: The brand appears happy. **HL2: The brand appears proud.** **HL3: The brand appears sympathetic.** **HL4: The brand appears conscious.** **HL5: The brand appears to make statements.**	Aaker (1997) Epley et al. (2008) Waytz et al. (2010)
BP1: The brand appears competent. **BP2: The brand appears sincere.** **BP3: The brand appears excited.** **BP4: The brand appears sophisticated.** **BP5: The brand appears rugged.**	Aaker (1997)

Table 2. Questions used in the questionnaire and the article they were inspired by.

3.5. Grouping the Data

After all responses had been collected, the data set needed to be structured and grouped. We did this by creating new variables. Firstly, we grouped all the answers for the individual questions across the six respondent groups - while creating separate variables for the simplistic Gamma and the complex Delta. Additionally, we grouped questions in terms of the dependent variables they were measuring. Subsequently, we created new variables to group the respondents in terms of the three contexts they were exposed to. To check the validity of reversing the order of which brand the respondents were exposed to first, we created one variable, grouping the respondents into two.

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4. ANALYSIS

4.1. Manipulation Checks

4.1.1. Cronbach Alpha

Reliability checks of the variables were carried out to test for internal consistency and stability of all the items. Cronbach's Alpha is one of the most commonly used method to test this (Bryman & Bell, 2011). As reported in the literature, to draw significant reliability conclusions from the data, the value should be over 0.7 (Cortina, 1993; Field, 2009). As can be seen in *Appendix 3* several Cronbach Alpha tests were carried out, where the items were grouped into the three variables - once only for Gamma responses, once only for Delta responses and another time with both Gamma and Delta combined (reducing the potential influence of complexity). All of the reliability tests were above the critical value of 0.7. Further, we checked the Cronbach Alpha value of each variable if an item was deleted. If this adjusted value had been much higher than the overall Cronbach Alpha value, it would have been a possibility to consider removing an item. However, this was not the case, as all items had significant Cronbach Alpha scores, hence a higher internal reliability.

4.1.2. Skewness and Kurtosis

Another indication of reliability that was used in this study, is the skewness of an item. This is described as a method to measure the distribution of data points around the means (Field, 2009). A normal distribution would consequently have a skewness value of 0. The larger the value, the more the data is not normally distributed, but has a tendency to 'lean' to the left (negative values) or right (positive values). As described in Field (2009), the skewness values should range from maximum -1 to 1. All items had a skewness value within this range, with the exception of Q7 Delta.

As a last reliability check, we tested the items' kurtosis, as a measure of how 'flat' the data points are distributed across the scale, meaning that no major peaks or valleys should occur.

Similarly to skewness, a normal distribution would have a value of 0 and it should only range from -1 to 1 (Field, 2009). As argued by other scholars, kurtosis values outside of this recommended range can be acceptable, allowing for a more liberal interpretation of these values. As with skewness, all items were within the given range, with the mere exception of Q7 Delta. In light of the previously established reliability of this item we decided to mark Q7 Delta with a 'red flag', meaning that it should be taken under special scrutiny. The reason for marking this question was not to remove the item, but to pay further close attention to it in the subsequent tests in order to be aware of potentially differing results.

4.2. Descriptives

There were in total 81 respondents in this study that answered the questions related to the demographics. Out of these respondents, 91.4 % were in the age group 20-26, 6.2 % in the age group over 26 and 2.5 % in the age group under 20 (*Figure 6*).

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 20	2	2.3	2.5	2.5
	20-26	74	86.0	91.4	93.8
	Over 26	5	5.8	6.2	100.0
	Total	81	94.2	100.0	
Missing	System	5	5.8		
Total		86	100.0		

Figure 6. Age distribution in sample.

50.6 % of the respondents were males and 48.1 % were females. 1.2 % did not want to say. Even though this dimension was not subject to the further analysis, it emphasised a good representativeness of the sample (*Figure 7*).

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	47.7	50.6	50.6
	Female	39	45.3	48.1	98.8
	Do not want to say	1	1.2	1.2	100.0
	Total	81	94.2	100.0	
Missing	System	5	5.8		
Total		86	100.0		

Figure 7. Gender distribution in sample.

92.6 % of the respondents were students. Moreover, the sample had a wide spread in terms of nationality. In total 27 nationalities, covering all continents, were represented in the sample and only few countries were represented more often than others.

If yes, how often do you purchase bottled water?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Daily	3	3.5	4.5	4.5
	3-5 times a week	15	17.4	22.4	26.9
	Once a week	18	20.9	26.9	53.7
	Less than once a week	31	36.0	46.3	100.0
	Total	67	77.9	100.0	
Missing	System	19	22.1		
Total		86	100.0		

Figure 8. Purchase frequency of sample.

46.3 % of the respondents purchased bottled water less than once a week, 26.9 % purchased bottled water once a week, 22.4 % purchased bottled water 3-5 times a week and 4.5 % purchased bottled water on a daily basis (*Figure 8*).

In terms of the between-subject element of this study, i.e. three different conditions that the respondents were exposed to, 24 respondents were in the non-humanised group and 31 each in the respective two anthropomorphisation conditions (*Figure 9*). This showed an even allocation.

AnthropCond

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non Humanised	24	27.9	27.9	27.9
	Anthrop. 1st person¨, interaction	31	36.0	36.0	64.0
	Anthriop. 1st person, interaction, spokescharacter	31	36.0	36.0	100.0
	Total	86	100.0	100.0	

Figure 9. Condition allocation of sample.

Also regarding the order in which the respondents were exposed to the two brands, there was an even distribution, which increased the validity (*Figure 10*).

ReverseOrNot

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gamma then Delta	43	50.0	50.0	50.0
	Delta then Gamma	43	50.0	50.0	100.0
	Total	86	100.0	100.0	

Figure 10. Order exposure of sample.

4.3. Measurement

4.3.1. Factor Analysis

Construct validity is defined as the investigation of whether a test measures the concept it is intended to measure (Cronbach & Meehl, 1955; Bagozzi et al., 1991). This method can identify that different items measure the same broader construct. It is argued by Atkinson et al. (2011) that one tool to evaluate construct validity investigations is to carry out a factor analysis.

According to Bryman and Bell (2011), factor analysis is known as determining whether groups of indicators have a tendency to bunch together to create distinct clusters. In order to test whether the nine items of the first 'table' of the questionnaire had measured the respective three dependent variables, we carried out a simple rotational test using VariMax. The initial test showed an abnormal loading on the item Q9 for the simple Gamma brand and on the Q1 for the complex Delta brand.

We took these two items under closer inspection by running a frequency analysis to calculate the z-values. Since a z-value indicates how far a data point is from the mean (how many standard deviations) (Hodge & Austin, 2004), it was possible to identify extreme values - or outliers and remove them from the respective items. In accordance with Hodge and Austin (2004), we considered z-values to be extreme, when they were just below a value of 3 and higher.

With the outliers removed, the factor analysis showed a clear loading of the nine items on three different factors, which supported that Q1, Q2, and Q3 all measured Purchase Intention; Q4, Q5, and Q6 measured Linking; and Q7, Q8, and Q9 measured Perceived Value, as can be seen in *Figure 11*. Moreover, *Appendix 4* displays how the factor analysis changed after removing

outliers on the critical items.

Figure 11 shows that the first three items (Q1-3) of Brand Gamma load on the third factor, the middle three items (Q4-6) load on the first factor and the last three items (Q7-9) load on the second factor. For Brand Delta, however, we can observe that the first three items load on the second factor and the last three items load on the third. This could already be an indication that the anthropomorphisation outcomes differ for the two types of brands.

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Gamma	.549	.340	.564
Q2Gamma	.168	.420	.810
Q3Gamma	.289	-.062	.892
Q4Gamma	.805	.366	.262
Q5Gamma	.811	.212	.293
Q6Gamma	.818	.410	.195
Q7Gamma	.413	.797	.122
Q8Gamma	.197	.893	.094
Q9Gamma	.369	.619	.223

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Delta	.548	.663	.231
Q2Delta	.299	.839	.224
Q3Delta	.256	.807	.264
Q4Delta	.746	.466	.274
Q5Delta	.836	.252	.239
Q6Delta	.808	.281	.273
Q7Delta	.273	.412	.769
Q8Delta	.145	.159	.889
Q9Delta	.398	.187	.677

Figure 11. Factor analysis after outlier removal.

4.3.2. Face-Validity

Firstly, with a simple comparison of means, we tested if there was a significant difference between the respondents that were exposed to brand Gamma first, and those that had the reverse order (Delta first). This resulted in an insignificant difference, indicating a high similarity of the two respondent groups.

Pearson r is a correlation coefficient, thus, a method to measure the relationship between variables. Therefore, it can be used to test the validity of the different dependent variables. This is to confirm that all items measure what they are supposed to measure. A Pearson r value close to 0 indicates a weak relation, and the closer the value comes to 1, the stronger the relation. However, if the value is over 0.9 it indicates that the item is measuring the same concept (Dancey & Reidy, 2004). To isolate the effects of complexity, we once again measured Gamma and Delta separately. As seen in *Appendix 5*, all three variables had a very significant correlation

(on a .01 significance level) - both for Gamma and Delta. This means that the three dependent variables of the study were considered valid in terms of them measuring what they were supposed to.

4.4. Hypotheses Testing

Having a good overview of the sample and having prepared the data in a sense that items were grouped, as well as tested for validity and reliability, we could now analyse the data specifically for the study's hypotheses.

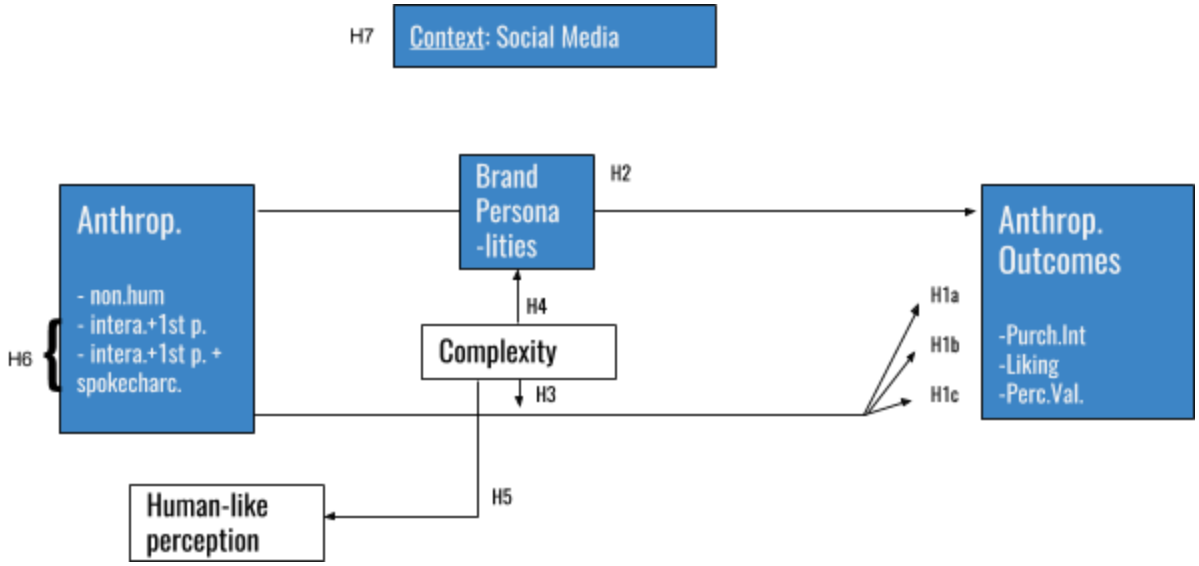

Figure 2. Illustration of the research model and the hypotheses.

The first three hypotheses revolved around the assumption of an effect of anthropomorphisation (and the lack thereof) on the outcomes, i.e. the degrees to which respondents indicated consumer responses. It was presumed that those respondents that were exposed to the brands when they were anthropomorphised, would indicate higher scores on the three consumer response variables (Purchase Intention, Liking, Perceived Value). For this, the between-subject element (anthropomorphisation), was computed into a dummy variable, indicating the presence or absence of anthropomorphisation, regardless of the different anthropomorphisation methods. Essentially, the two respondent groups of the two different anthropomorphisation strategies were grouped into one. We carried out an independent t-test to test for the effect of humanisation on

three consumer response variables combined (however, for Gamma and Delta separate). The result of this was that this relationship is statistically insignificant (p = 0.333 for Gamma; p = 0.494 for Delta). This does not satisfy the common criteria of the significance or p-value to be below 0.05. A level below that would have indicated that there is an effect, with a probability of 95 percent (Nolan & Heinzen, 2008). This criteria will be applied for all following significance tests.

Even though this effect was not significant, we observed tendential differences in the means. While consumer responses towards the simplistic Gamma brand were higher when it was non-humanised, the responses towards the complex Delta brand were higher when it was anthropomorphised, as shown in *Figure 12*. The differences are marginal, but we can see a trend, which was taken as a reason to pursue further tests on this relation.

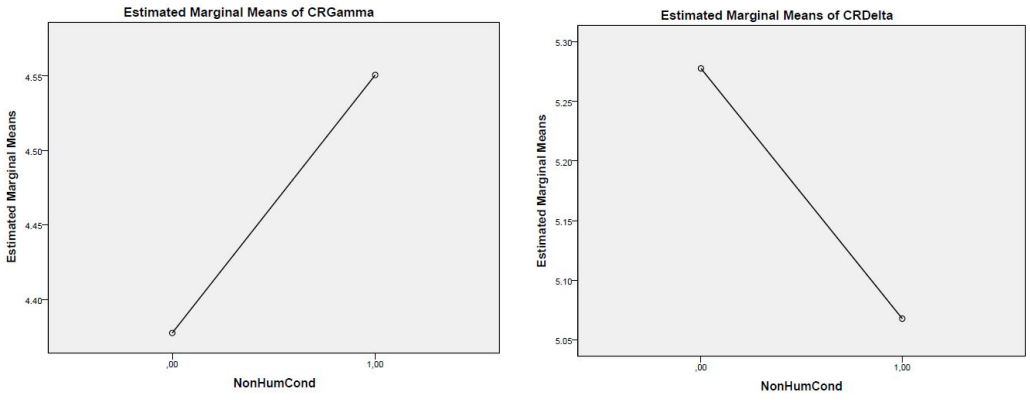

Figure 12. Visualisation of tendency regarding anthropomorphisation and consumer responses.

H1a-c: Anthropomorphisation increases the PI, LI, and PV of a brand.

Following the test of an effect on the three outcome variables combined, we undertook further tests, for each of the three dependent variables separately. Still Gamma and Delta responses were tested in separation, in order to isolate potential effects of complexities - the within-subject element - at this point of this study.

To test the effect of the anthropomorphisation dummy variable as the between-subject element, independent t-tests of the relation of on the six different dependent variables resulted in one significant finding. The direct effect of anthropomorphisation on Liking of the Gamma brand

was found to be significant with equal variances not assumed (*Figure 13;* p = 0.038; M Anthrop. = 4.04 [SD = 1.302]; M NotAnthrop. = 4.56 [SD = 0.877]). Specifically, this indicates that the favourability of a simplistic brand that offers comparably little information, is higher when it is *not* anthropomorphised. However, the effect on Liking of Brand Delta was not significant, which lead to a merely partial support of H1b. Apart from that, the independent t-tests did not show significant results, which lead to not supporting H1a and H1c

Independent Samples Test

		t-test for Equality of Means		
		Sig. (2-tailed)	Mean Difference	Std. Error Difference
LikingGammaN	Equal variances assumed	.076	-.51792	.28861
	Equal variances not assumed	.038	-.51792	.24372

	NonHumCond		Statistic
LikingGammaN	.00	N	62
		Mean	4.0376
		Std. Deviation	1.30168
		Std. Error Mean	.16531
	1.00	N	24
		Mean	4.5556
		Std. Deviation	.87734
		Std. Error Mean	.17909

Figure 13. Mean comparison of Liking of Brand Gamma.

In addition to that, other relations had the tendency towards being significant, which encouraged to keep looking in detail for mediating and moderating effects that may influence the significance of the direct relation.

H2: Brand Personalities mediate the causation of anthropomorphisation on PI, LI, and PV.

The first mediation test was to analyse whether brand personalities may be a prerequisite for the overall relation to be significant. As a starting point, we carried out a Pearson r test to check for the validity of all five items (sincere, competent, sophisticated, rugged, excited) on this brand personality variable. All items were significantly related on either a 0.05 or a 0.01 level (*Appendix 6*).

Based on the assumption that brand personalities influence the hypothesised main effect, a simple mediation test was carried out following the Preacher and Hayes Process (2014). This was done six times, ergo for three different dependent variables and the two types of brands. On none of the tests did we find a significant indirect effect of brand personalities on the main effect. For instance, the total effect of anthropomorphisation on Perceived Value of the Gamma brand through the mediator brand personalities had a coefficient of close to 0 at a significance level of p = 0.627. On another note, the effect that we found to be significant in H1b (i.e.

Anthropomorphisation on Liking of Gamma) was not significant anymore after including the mediator of brand personalities. This lead us to not supporting the hypothesis H2 that is related to this brand personality mediator.

Furthermore, the bootstrap confidence intervals, using 5,000 bootstrap samples, all included the value 0 in their range, which does not meet the requirement, meaning that there was no evidence of an indirect effect.

Subsequently, we wanted to test if there was a significant effect of the other proposed third variable. This was the potentially moderating effect of complexities.

H3: Brand complexities moderate the effect of anthropomorphisation on PI, LI, and PV.

Testing the moderating effect of complexities had to be carried out in a slightly different way, since the variation between simple or complex, as represented by brand Gamma and Delta, is the within-subject element of this study.

Firstly, in order to test if complexities had an effect on consumer responses, a paired sample t-test was carried out, in which both Gamma and Delta responses were compared in terms of their scores on the three different dependent variables; purchase intention, liking and perceived value. By just looking at and comparing the means (*Figure 14*), we could see a clear tendency that complexities (e.g. Delta brand) increased the consumer responses on all items. Indeed, all paired sample t-tests were significant, indicating a strong influence of complexities on the consumer responses, further supporting a moderating effect.

Paired Samples Test

		Paired ...			
		95% Confidence Interval of the ...			
		Upper	t	df	Sig. (2-tailed)
Pair 1	LikingGammaN - LikingDeltaN	-.28486	-3.487	85	.001
Pair 2	PurchIntGamma - PurchIntDelta	-.37405	-4.432	83	.000
Pair 3	PercValGamma - PercValDelta	-.74709	-7.278	82	.000

Figure 14. Mean differences of complex vis-a-vis simplistic brand on all three DVs.

In order to bring anthropomorphisation into the equation, a repeated measures test was carried out. This was to capture both between-subject (anthropomorphisation), as well as within-subject (complexity) effects. Firstly, the repeated measures analysis was carried out for the three outcome variables combined, i.e. all three variables combined. Even though this effect was not significant (0.239), it was more significant than the previous tests of a direct effect, which encouraged further elaboration.

While carrying out the repeated measure analysis for the three dependent variables separately, we made a noteworthy observation on the Liking variable. The effect of anthropomorphisation on Liking as a dependent variable, with complexities as a moderating effect was found to be significant (p = 0.052). This supports the assumption that complexities affect the anthropomorphic processing of consumers and consequently their responses towards a brand.

H3a-b: PI, LI, and PV will be stronger when the brand is complex and weaker when it is simplistic.

Specifically, this finding indicates that while Liking responses are more or less equal for non-humanised brands, the differences between Gamma and Delta are significant when they are humanised. The differences lie in the fact that Liking increases for complex brands (Delta) when being anthropomorphised; and in turn, Liking decreases for simple brands (Gamma) when being anthropomorphised (*Figure 15*). The implications of this are addressed in this study's discussion chapter.

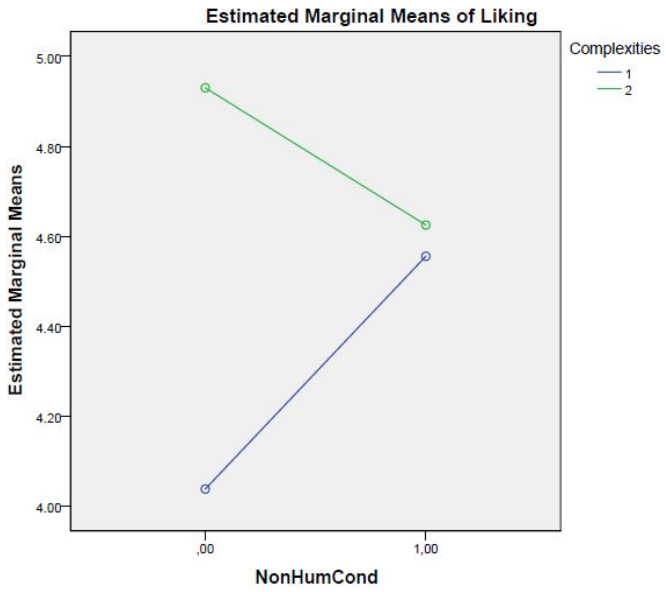

Figure 15. Interaction Anthrop., Complexities, and Liking

While Liking was significant, the other dependent variables Purchase Intention (0.331) and Perceived Value (0.454) were not significant.

H4: The brand personality perception, as a proxy of humanisation, is higher if a brand is complex.

We examined effects of complexity on other variables that were subject to this study. Firstly, the effect of complexity on personality perceptions was tested. As brand personality has been found to be a proxy of humanisation (e.g. Fournier et al., 2015; Freling & Forbes, 2005), we wanted to find out whether complexity had an effect on any of the five personality dimensions.

We carried out another paired sample t-test, in this case treating personality perceptions as a dependent variable, regardless of the previously examined consumer response dimensions.

Paired Samples Test

		Paired ... 95% Confidence Interval of the ... Upper	t	df	Sig. (2-tailed)
Pair 1	Appears Sincere - Appears Sincere	-.18658	-3.031	80	.003
Pair 2	Appears Competent - Appears Competent	-.58285	-5.254	80	.000
Pair 3	Appears Excited - Appears Excited	.27854	-.826	80	.411
Pair 4	Appears Sophisticated - Appears Sophisticated	-.54304	-4.642	80	.000
Pair 5	Appears Rugged - Appears Rugged	.04307	-1.707	80	.092

Figure 16. Mean differences complex vis-a-vis simplistic brand on all BP dimensions.

The result showed that complexity had a clearly significant effect on the brand's perception to be sincere (p = 0.003), competent (p = 0.000) and sophisticated (p = 0.000) (*Figure 16*). More specifically, this means that the more complex a brand is, the higher the personality perception, as a proxy of anthropomorphisation. This generally supported this hypothesis. The personality traits excited and rugged, however, were not found to be significant, leading to a partial dismissal of the hypothesis.

H5: The brand personality perception, as a proxy of humanisation, is higher if a brand is complex.

As another variable that was subject to this study, we tested how human-like outcomes are affected by complexity. These outcomes are attributes that can make a brand potentially more human-like, and thus function as another proxy of anthropomorphisation. We found that three of these five outcome dimensions were significant. This means that the perception of a brand to "appear to make a statement" (p = 0.000), to "appear to be conscious" (p = 0.000), and to

"appear to be proud" (p = 0.001) all are significantly higher for the complex brand Delta (*Figure 17*). On the other hand, the perceptions to appear sympathetic and happy were not significant.

Paired Samples Test

		Paired ...			
		95% Confidence Interval of the ...			
		Upper	t	df	Sig. (2-tailed)
Pair 1	Appears Happy - Appears Happy	.69262	1.284	80	.203
Pair 2	Appears Proud - Appears Proud	-.28528	-3.479	80	.001
Pair 3	Appears Sympathetic - Appears Sympathetic	.51462	.335	80	.739
Pair 4	Appears Conscious - Appears Conscious	-.44628	-4.400	80	.000
Pair 5	Appears to make Satement - Appears to make Satement	-.50756	-4.728	80	.000

Figure 17. Mean differences complex vis-a-vis simplistic brand on all Human-like outcome dimensions.

To further this finding, all human-like outcome dimension put together into one variable were found to be significantly influenced by complexities (p = 0.005). Based on this, the hypothesis was supported. This is a clear indication that complexities influence the perception of a brand to be humanised, i.e. the more information a brand gives/the more complex it is, the higher the likelihood that this brand appears human.

H6: Brand conditions moderate the effect of anthropomorphisation on PI, LI, and PV.

Ultimately, we created a two-dimensional variable consisting of the two different anthropomorphisation conditions. We carried out several tests, e.g. the overall effect of the anthropomorphisation conditions on the various consumer responses, as well as the effects of complexity, personalities and the degree of perceived human-like outcomes. On none of the tests that were previously carried out with the dummy variable (humanised or not), did this two-fold anthropomorphisation condition variable show significant results.

The following *Table 3* summarises the significance levels of the various hypotheses.

Hypotheses	Significance Level	Supported or Not
H1a	PI: Gamma: p = .127; Delta: p = .875	n.s.
H1b	LI: Gamma: p = .038; Delta: p = .341	Partially Supported
H1c	PV: Gamma: p = .684; Delta: p = .233	n.s.

H2	PI: Gamma p = .170; Delta: p = .961 LI: Gamma p = .119; Delta: p = .370 PV: Gamma p = .627; Delta: p = .419	n.s. n.s. n.s.
H3	PI: p = .331 LI: p = .052 PV: p = .454	n.s. Supported n.s.
H4	Sincere: p = .003 Competent: p = .000 Excited: p = .411 Sophisticated: p = .000 Rugged: p = .092	Supported Supported n.s. Supported n.s.
H5	Appears Happy: p = .203 Appears Proud: p = .001 Appears Sympathetic: p = .739 Appears Conscious: p = .000 Appears to make statements : p = .000	n.s. Supported n.s. Supported Supported
H6	Several tests without significance	n.s.

Table 3. Summary of hypotheses being supported or not (n.s. = not supported)

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5. DISCUSSION

5.1. Results

5.1.1. Anthropomorphisation Affects Liking

One major finding of this study was the moderating effect of complexities on the relation of anthropomorphisation on Liking (LI). Specifically, we found a significant indication that complex brands are more favourable when they are humanised, and simplistic brands are more favourable when they are not humanised. However, we could not identify such significant effects on the other two dependent variables (PI and PV). We argue that this is because a consumer response like Liking can be created much quicker and more easily than the other two consumer responses, Purchase Intention and Perceived Value, Therefore, we are able to see effects and variances after only the first exposure to the brands. In other words, a consumer can like a brand without purchasing it. A consumer can also purchase a brand without liking it, however, we argue that the intention to purchase a product regardless of favourability, is created much more slowly and over time. Since in this study we only talk about the first time exposure, it is more likely that consumers can immediately start to like the brand, but decide not to purchase it.

Hence, liking is not as strong as purchase intention in this regard. The same conclusion applies for perceived value, as during the first time exposure, consumers arguably do not have enough time to consider and examine the perceived value.

The finding that anthropomorphisation affects Liking of a brand is supported by the researches of Aggarwal and McGill (2012), and Landewehr et al. (2011). However, our study exposed some constraints, when considering different levels of complexities. Our analysis did reveal a direct effect of anthropomorphisation on the consumers' liking (LI), however, only for the Gamma brand. This relation indicated that simple brands are less likeable when they are anthropomorphised, pointing out a potentially detrimental effect of using anthropomorphisation strategies. Here, both brand Gamma and brand Delta were analysed separately, in order to rule

out the influences of the variance in complexity. One reason for the fact that only the simplistic brand showed a direct effect, may be that consumers can more easily build attitudes towards a brand with little information. In that sense, the anthropomorphisation can become too present and apparent in the processing of an otherwise simple and easy-to-understand brand. Hence, humanising a brand can under certain circumstances be regarded as unnecessary and redundant and thus cause the consumers to think less positively of the brand.

Marketers need to be aware that anthropomorphisation as a marketing strategy can also have its downsides and that the effectiveness depends on the type of brand and specifically its complexity. If a brand is otherwise straightforward and simple, humanising it may only distort such clear communication and create uncertainties, which in turn may deteriorate the favourable attitudes towards the brand.

5.1.2. The Role of Complexities in Anthropomorphic Processing

As previously mentioned, a major finding from our study was the moderating role of complexities on the main effect of anthropomorphisation on the dependent variable Liking. As presumed, complex brands are more favourable when they are anthropomorphised. This goes in line with the notion that anthropomorphisation helps to reduce unclarities or uncertainties (e.g. Epley et al., 2007; Freling & Forbes, 2005) and further supports Hart et al.'s (2013) finding that individuals' responsiveness to anthropomorphisation is higher when the humanised cue is more complex. In this study's case, this was represented by the higher information load of brand Delta. The indication that consumers will like a complex brand more when it is humanised is a significant implication for marketers and brand managers. It emphasises the great opportunity that lies in humanising a brand, specifically when a brand in its core is potentially complex and rich in information. Companies can in this sense relate more closely to the customers through anthropomorphisation and reduce any additional perceived risk that might stem from the increased unclarity.

In turn, we found a significant indication that simplistic brands are more favourable when they are not humanised. One explanation for this is the deduction that simplistic brands are not perceived as human-like, hence, anthropomorphisation strategies of simplistic brands appear as a

mismatch or as not natural so that they are not processed in a positive, favourable way. Moreover, it could be that anthropomorphic cues add perceivably redundant information to an otherwise easy to understand and simple brand. This implies that marketers need to be aware of the potentially detrimental effects of using anthropomorphisation when their brand itself is rather simplistic.

Another finding related to the brand complexities were the significant effects of complexities on several items of the human-like perceptions variable, as a proxy of anthropomorphisation. This indication can be interpreted in a way that complexities are likely to increase the degree to which a brand appears human-like. This would mean that if a brand is more complex, e.g. by offering more information, it is perceived to possess more human characteristics. This is applicable to Hart et al.'s (2013) notion of simplistic brands not being perceived as human-like. This is arguably because having more information to offer can be perceived as being knowledgeable, well-informed or educated, which is a starting point for building more human-like associations.

5.1.3. Some Interesting Tendencies

Even though we did not find statistically significant effects on all hypothesised relations, we still found some interesting tendencies that are worth discussing. Especially, when considering that these tendencies were only marginally insignificant, which might have been different with a larger sample size.

Firstly, we want to draw attention to the hypothesised main effect of anthropomorphisation on the combination of all three consumer response variables. Granted that the difference in means is marginal, the below *Figure 12* illustrates that anthropomorphisation does increase the consumer responses towards complex brands and decreases the consumer responses towards simplistic brands.

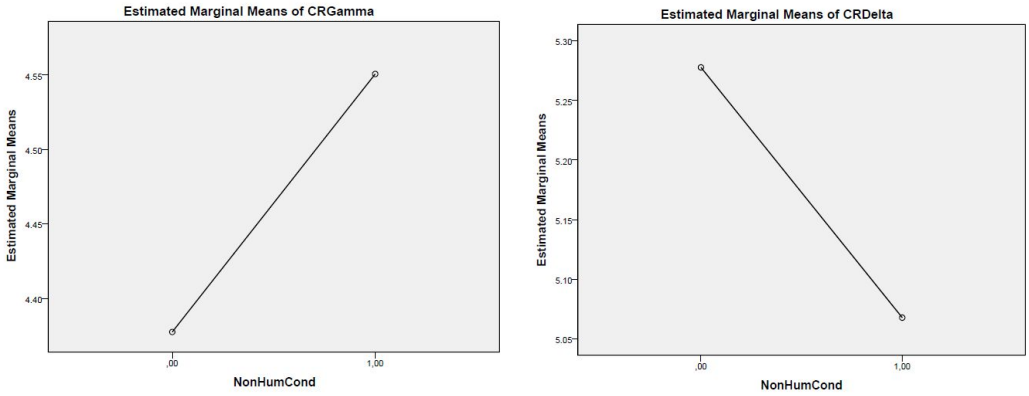

Figure 12. Tendential indication of effect of anthropomorphisation on consumer responses.

Moreover, we found tendencies that brand personalities could mediate the relation between anthropomorphisation and consumer responses. Our analysis resulted in only marginally insignificant p-values for the simplistic brand Gamma on the variables Purchase Intention and Liking. This could indicate that brand personalities, and the degree to which a brand is perceived to possess such characteristics, can influence and increase the consumer responses towards a brand.

5.1.4. Brand Personality Discussion

Despite the tendential findings on some items, we could generally not find support for the hypothesis that brand personalities are an outcome of anthropomorphisation and then further an antecedent of consumer responses. The relation of brand personalities might be a different one, meaning that it may be part of anthropomorphisation as such, be a moderator as Fournier et al. (2015) argue, or be an antecedent as e.g. Puzakova et al. (2009) state.

Looking at the personality perception outcomes in more detail, we can observe significant effects of variance in complexities, on the characteristics ‘sophisticated’, ‘sincere’, and ‘competent.’ No significant effects were found for ‘rugged’ and ‘exciting.’ In light of the product category that we selected for this study - bottled water - this finding is understandable. Considering which attributes water brands are likely to possess, *clean* and *clear come to mind,* and not necessarily dirty or rugged. Moreover, water is still and clinical, and not exactly something that appears excited. This reasoning may explain why significant effects were only found on three out of the

five personality traits.

The brand personality perceptions were significantly affected by complexities, supporting the notion that the higher the information load, i.e. the more complex a brand is, the higher the probability that the brand is perceived as human-like. This same indication was found for the human-like outcomes of a brand being affected by complexities. For marketers this means that there is a great potential in making their brand appear more complex and thereby more human. Marketers should not refrain from e.g. offering much information, as it was found previously that the attitudes towards a complex brand tends to be higher when it is anthropomorphised. This underlines the potential of anthropomorphisation specifically for complex brands.

5.1.5. Cognitive Fluency Discussion

As elaborated in our methodology chapter, we removed Cognitive Fluency as an originally fourth dependent variable. The reason for doing so was the fact that the pre-test showed that respondents did not fully understand the according questions measuring this variable. This is arguably due to the fact that people struggle stating specific answers that are related to the measurement of their subconscious processing. However, during the thorough examination of our study, we noticed that the concept of brand complexities is closely linked to the cognitive fluency. This link lies is the fact that both variables are concerned with the processing of stimuli and the ease of understanding certain information. We therefore argue that cognitive fluency might not be an outcome of anthropomorphisation as we originally hypothesised, but, just like brand complexities, be more of a moderator or mediator of this basic causation. Furthermore, cognitive fluency may even be a part of or a prerequisite of other dimensions that were subject to this study. For instance, cognitive fluency may be an antecedent to consumers' perception and understanding of complexity levels of a brand.

Potentially, the variable was manipulated in our study, e.g. through the stimulation of brand complexities. Linking this to the role of complexities in our study, we can report a strong indication of the fact that an increase in complexities lead to a stronger consumer response on all three variables that were subject to this study (PI, LI, PV). This may be because consumers spend more time elaborating the heavier information load and try to make sense of the stimuli

(Hoyer et al., 2013). Devoting more effort and cognitive resources to trying to explain the complex brand may result in a higher cognitive fluency and may thus increase the consumer responses.

5.1.6. Gender and nationality does not matter

The sample of this study had an almost equal distribution of gender, where 50.6% of the respondents were males and 48.1% were females (1.2% did not want to say). However, we did not find any gender differences when analysing the results. A potential explanation for this can be found in Guthrie (1993), who argues that anthropomorphisation is not a gender-specific process, but instead a process that is innate to all human beings. Hence, the actual tendency to apply anthropomorphic processing should be fairly equal across gender. Moreover, we did not find any differences in results connected to nationality either, even though 27 nationalities, covering all continents, were represented in the sample. In accordance with Guthrie's (1993) argumentation, this would mean that all individuals, no matter the nationality, have a natural tendency to anthropomorphise.

This is a relevant implication for brand managers and marketers, knowing that anthropomorphisation strategies could be effective in targeting virtually all demographic groups. This is another reason for why anthropomorphisation is a potentially very attractive marketing strategy.

5.1.7. Does Not Matter How To Anthropomorphise

Early on during the analysis of our results, we found that there were no significant differences between the two different anthropomorphisation strategies that were manipulated in our study, on several items. After combining the two groups of respondents that were exposed to the two respective conditions, however, we were able to find some significant indications. This supports the notion that it does not necessarily matter *how* a brand is anthropomorphised, but much rather *that* it is anthropomorphised. This is an important implication for marketers considering which specific strategy might be most successful, while what matter the most is the presence of effective anthropomorphisation strategies as such.

5.1.8. Social Media as an Anthropomorphisation Tool

In this study we investigated different strategies to anthropomorphise in a social media context. While many studies before have researched the relations of anthropomorphisation, complexities and brand personalities only in an offline context, we contribute to the research by offering an analysis of an online context. We stimulated anthropomorphisation on social media by using the strategies to communicate in first person, to use spokescharacters as well as to interact by posting and discussing as a brand on social media. As some hypothesised relations did not show significant differences, a conclusion can also be that social media in itself is a tool to anthropomorphise. The implication of this for marketers would be that social media is a very effective way to create a human-like appearance of the brand, and that at no to minimal expense. Social media can be regarded as a cost-efficient marketing channel to anthropomorphise a brand.

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6. CONCLUSION

The goal of this study was to contribute to the research of anthropomorphisation - the phenomenon of ascribing human characteristics to nonhuman agents. Specifically, we tested the implications for brand managers and marketers of using humanising strategies on social media. The basic causation to be tested was the effect of anthropomorphisation on three different consumer responses.

We extensively studied literature related to this phenomenon in various fields of application, and conducted an experimental study consisting of a quantitative analysis of 86 questionnaires. In this study, we simulated the Facebook presence of two fictional brands, one complex and one simplistic. Moreover, the respondents were randomly divided into three groups, according to which they were exposed to both brands either when they were non-humanised or when they were humanised by means of two different approaches.

The most noteworthy finding of this study was related to the consumer response *Liking*. Firstly, we have been able to find a direct effect of anthropomorphisation on Liking, however, only for the simplistic Gamma brand. When adding complexities as a moderating variable to this relation, a significant interaction of these three variables was found (Anthropomorphisation * Liking * Complexities). Specifically, we found a strong indication that less complex brands are more favourable when they are *not* humanised and complex brands are more favourable when they *are* humanised.

While brand personalities were not found to have a mediating effect on the main causation, and thus were not found to be an outcome of anthropomorphisation, we did find that brand personalities were significantly affected by the change in complexities. As brand personalities can be described as a proxy of anthropomorphisation of a brand, we can conclude that the more complex a brand is, the higher the humanisation of it. The same conclusion applies for the variable of human-like outcomes, as it functions as another proxy of anthropomorphisation. We found a strong indication that complex brands generally hold more human-like perceptions.

Moreover, the concept of cognitive fluency was found to be closely linked to the research of this study. However, it was disregarded as an outcome variable. We found strong support for the effects of complexities on consumer responses, particularly in interaction with anthropomorphisation. Therefore, we argue that cognitive fluency may have been included in the stimulation of complexities, because we found support that anthropomorphisation affects the ease of processing brand stimuli.

Ultimately, we conclude that it is likely that it does not matter *how* exactly marketers anthropomorphise a brand, but that it is more important *that* they do. This is because no significant differences were found between this study's two anthropomorphisation conditions. Our results can further be interpreted in a way that social media in itself is a way of anthropomorphisation. Therefore, we recommend marketers to consider using social media channels as an effective and cost-efficient tool to anthropomorphise a brand, e.g. when aiming to reduce uncertainties and complexities.

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7. LIMITATIONS AND FUTURE RESEARCH

7.1. Limitations

As previously stated, aside of the important findings from our study, there are several relevant tendencies that can be analysed and considered by future researches. One limitation to our study, regarding why we might only have found tendencies on some relations, is the limited sample size. We analysed the results based on 86 valid responses. This is arguably not enough people to give a valid representation of the population and to find clearer, more significant, indications of some hypothesised relations.

Moreover, for accessibility-related, time- and costs-saving reasons, we only involved students in our study. There are two different sampling methods in survey research; probability sampling and non-probability sampling. In a probability sample all individuals of a population have an equal chance to be selected, while in a non-probability sample specific individuals of a population have a higher likelihood to be picked out than others (Bryman & Bell, 2011). The results from a probability sample can to a larger extent be generalisable to the whole population, however, the method is difficult to conduct as it is more time-consuming in comparison to a non-probability sample (Saunders et al., 2011). In our study, we used a non-probability sampling approach, which is described as convenience sampling and has to be noted as a limitation to the validity of our study. Even though we found indications that the general findings are not dependent on gender or nationality, this fact may deteriorate the representativeness of our sample. It certainly limits the ability to offer recommendations that are valid for an entire market.

We made the decision not to include the dimensions of individual tendencies to anthropomorphise (Epley et al., 2007) in the actual experiment nor in the analysis of it. However, the theory was important when designing the study and being aware that individuals may

respondent differently. This dimension could have been included, also to analyse a perceived match between e.g. a brand's personality and an individual. Due to an otherwise too complex study and because we wanted to exclude individual taste differences, it was not included.

Another major limitation to this study is the fact that fictional brands were created and used for the stimulation of social media presences. This might explain why many respondents rated both brands more or less equally, also across conditions, resulting is some insignificant differences in means. If consumers had associations towards brands beforehand, their reaction to exposure on social media channels might have been more differentiated.

Bottled water was chosen as a product category, because it is a good that everybody needs to consume and usually purchases, too. However, bottled water brands tend to be more functional, and were deliberately kept solely functional in this study. Therefore, it can be assumed that respondents spent less time and effort elaborating on these brands. This is another limitation to the validity of the findings. Due to potentially low-elaboration levels, the responses may not have been as carefully considered and as well-distinguished as they might have been, had the elaboration been high. It is to be noted that we could have made the choice to include several brand concepts (functional, symbolic and experiential) as an additional variable, however, we decided not to do so, as it would have made the design of the study too complex and unclear. We could have also decided to choose another product category that can contain brands of all different brand concepts equally (such as cars or beer [Ramaseshan & Tsao, 2007]), however, having decided not to stimulate different brand concepts, we chose one that is very basic and neutral in its associations - bottled water.

Regarding the findings related to the brand personality variable, we need to be aware that the individual responses may have been biased, which can limit the validity and representativeness of the results. This is in accordance with Ramaseshan and Tsao (2007) who claim that if "*there is congruity between brand personality and the consumer's personality, the consumer may be biased in favour of the brand*" (p. 464).

7.2. Future Research

The fact that there were some relations in the study that were not significant, may be influenced by the fact that social media in itself is a tool to anthropomorphise. This is supported by the work of e.g. Rauschnabel and Ahuvia (2014). This would mean that different respondent groups perceived the conditions to be more or less similar, namely because social media made the brands more human-like in the first place. As this study did not include social media as an actual experimental variable, with a control group, this may be something to address in future researches.

Since this study only covers the product category of bottled water, we recommend other researchers to conduct research within additional product categories, e.g. those that include central persuasion routes and high-elaboration decision-making. This could help to draw more accurate conclusions regarding the effect of anthropomorphisation in a social media context. Moreover, future research could conduct a similar experiment as the one in this study, but with a longer time-frame. This would not only lead to single exposures and immediate responses, but instead open the possibility to lead to more high-tier responses, such as loyalty behaviour.

As the concept of cognitive fluency is highly linked to the overall study of consumer responses, anthropomorphic processing and particularly complexities, we recommend future studies to look further into the role of cognitive fluency, apart from studying it as a dependent variable Therefore, it could be taking under more precise examination in the future.

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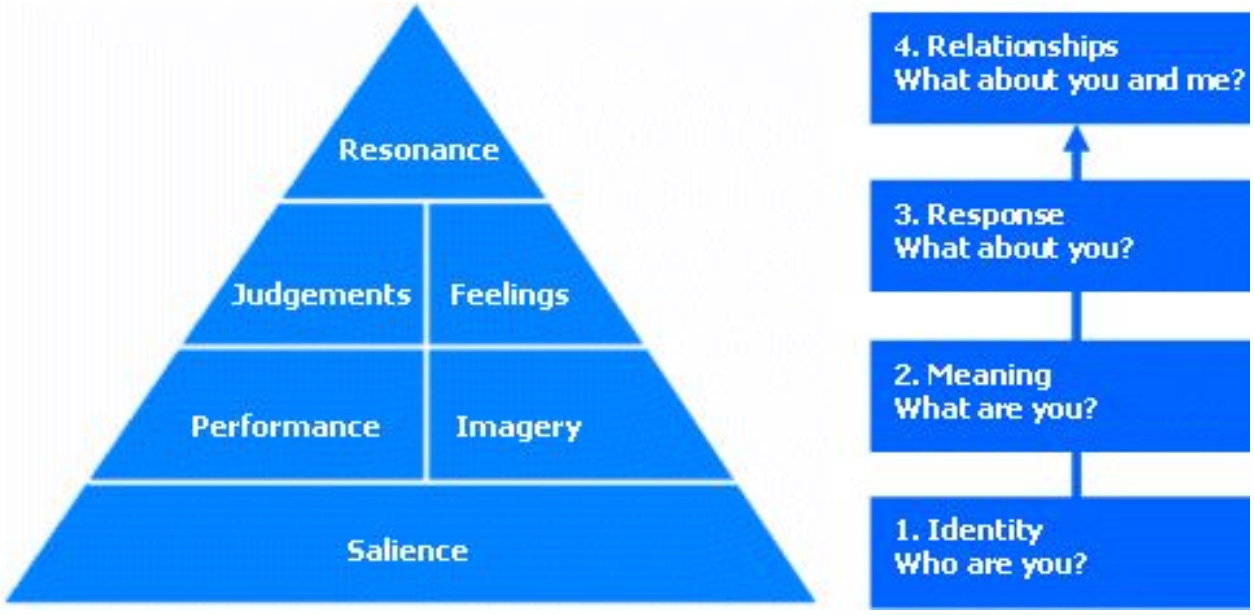
9. APPENDICES

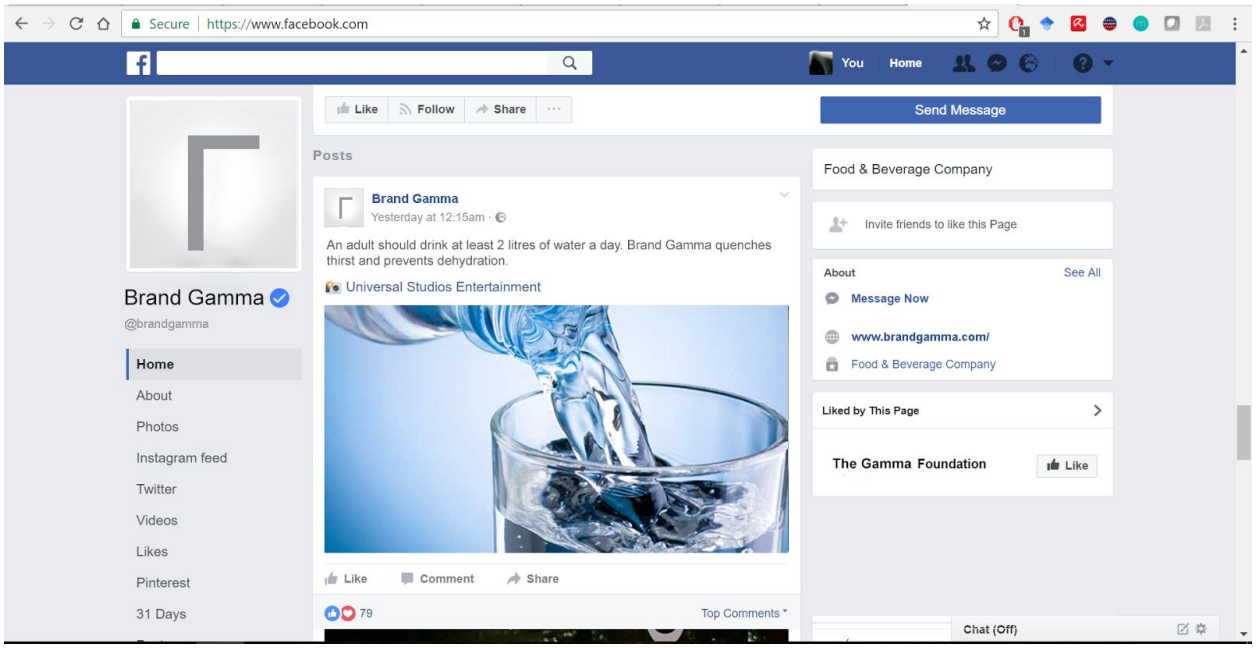
Appendix 1: CBBE Pyramid

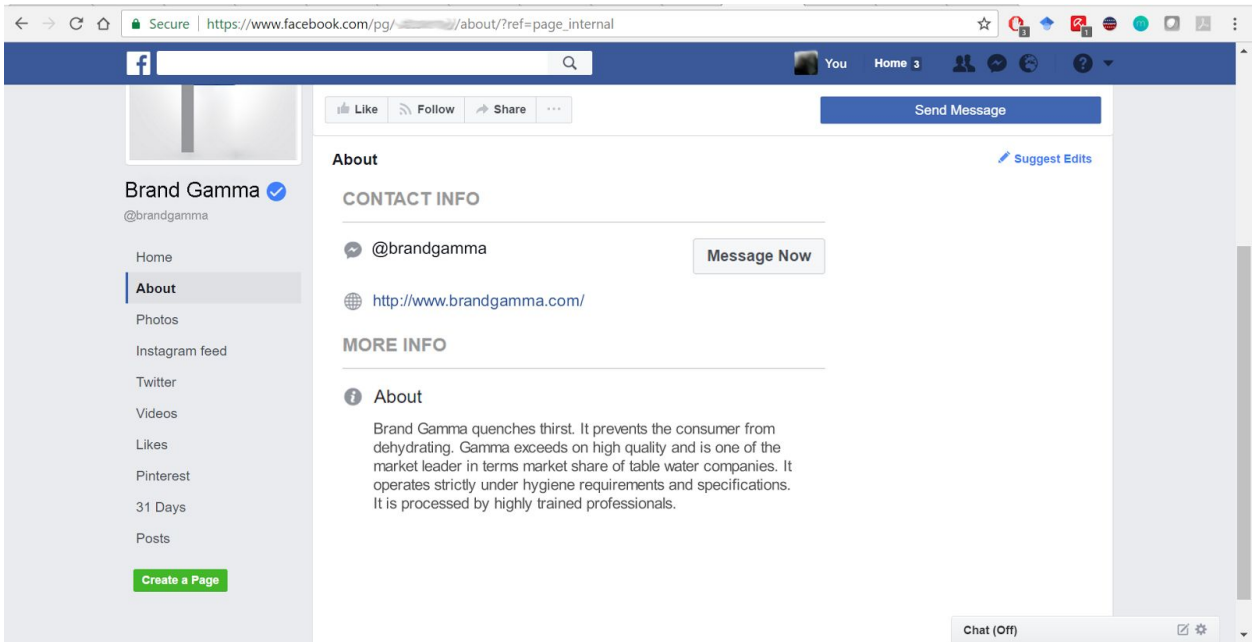


Appendix 2: The Brands' Facebook Appearances

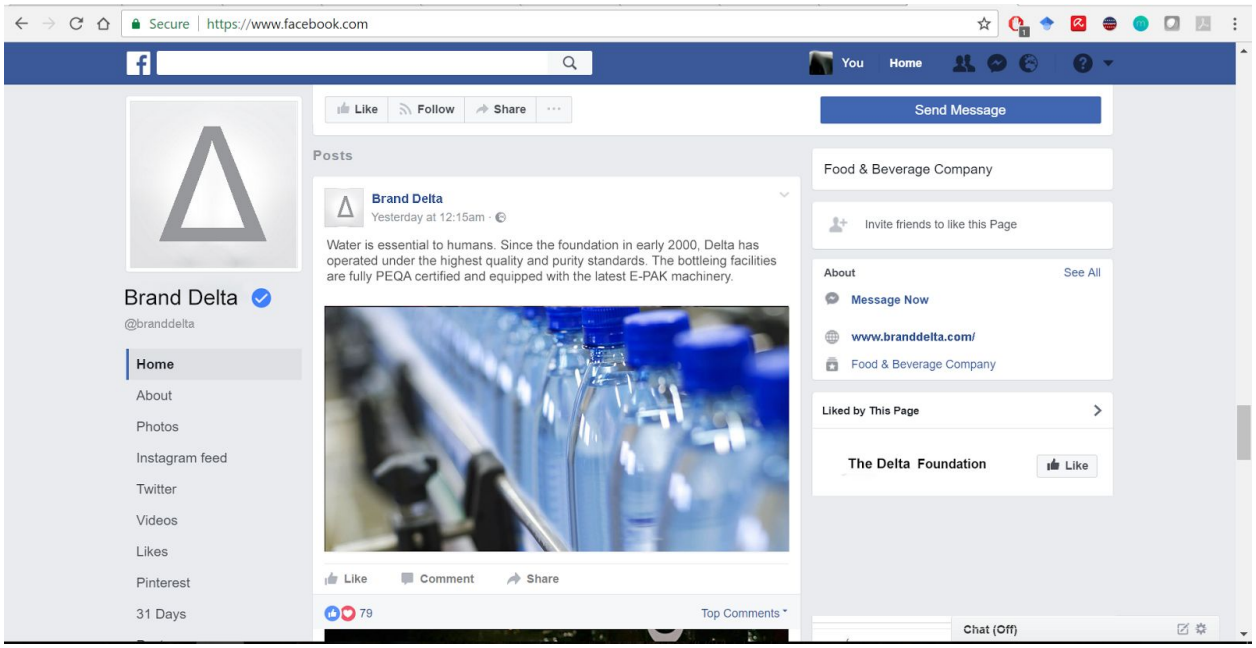
Non-humanised

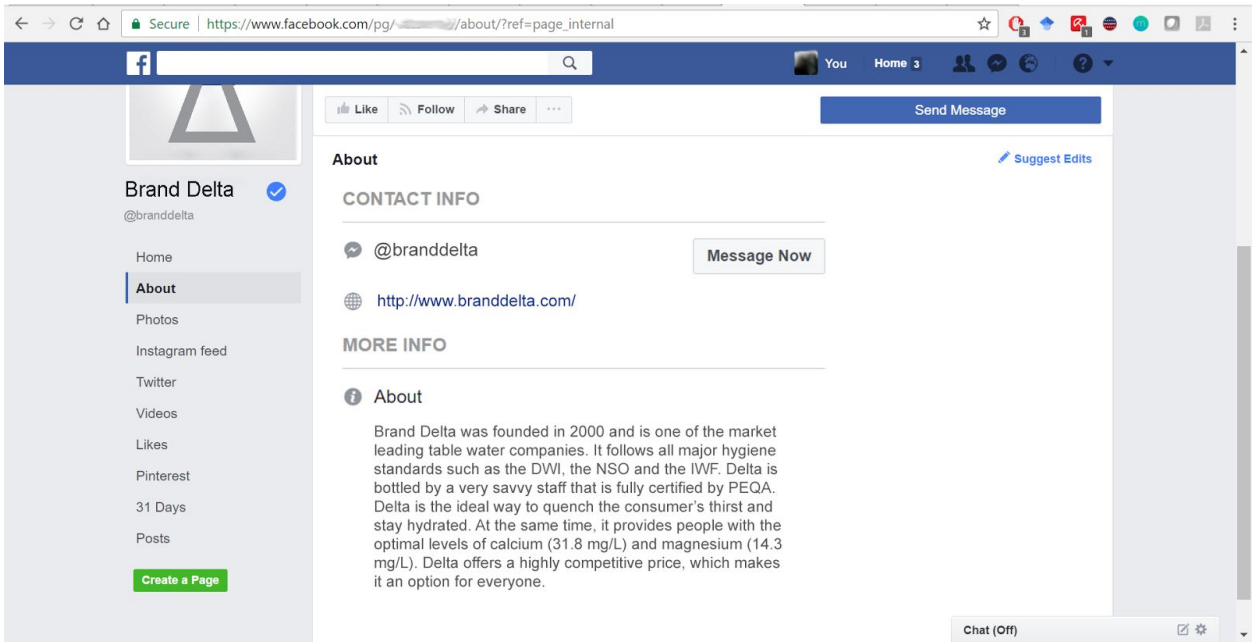
Gamma





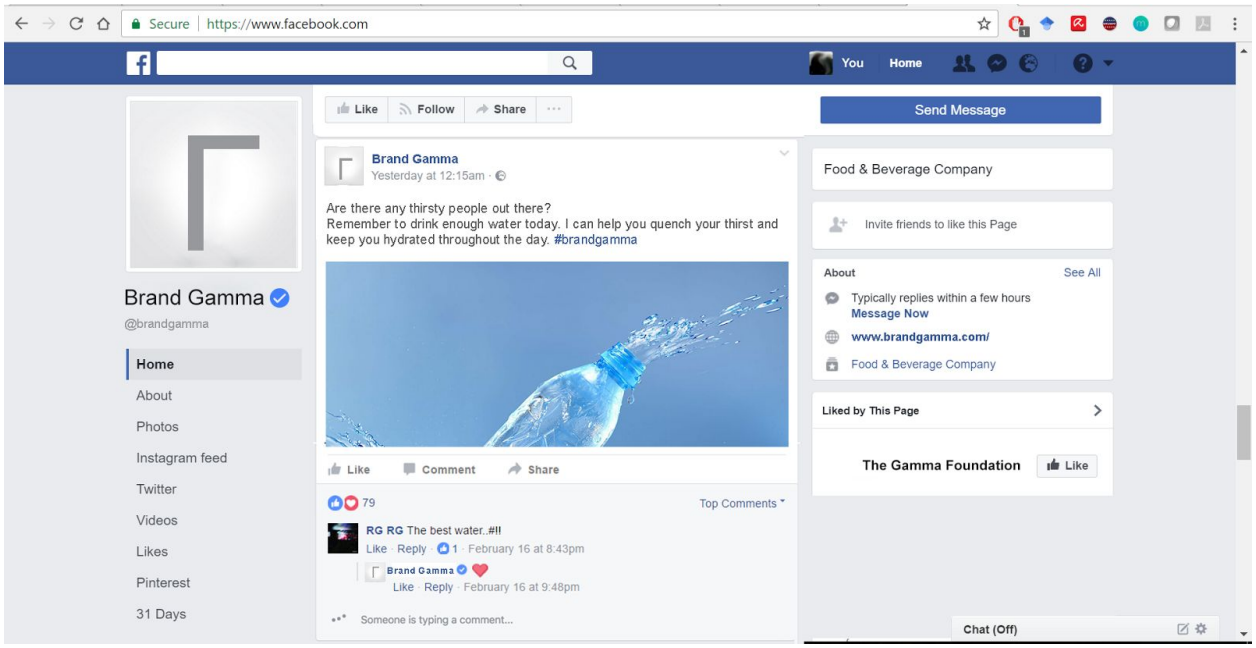
Delta

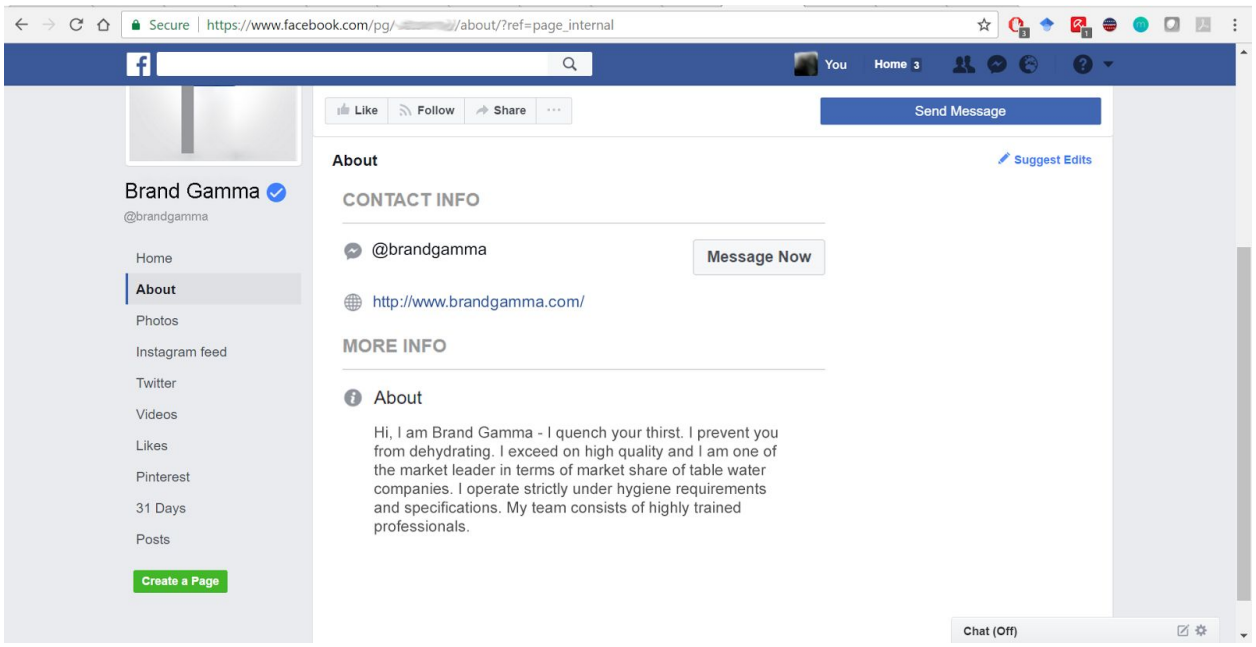

Secure | https://www.facebook.com
You
Home
Like
Follow
Share
Send Message
Posts
Brand Delta
Yesterday at 12:15am
Water is essential to humans. Since the foundation in early 2000, Delta has operated under the highest quality and purity standards. The bottleing facilities are fully PEQA certified and equipped with the latest E-PAK machinery.
Like
Comment
Share
79
Top Comments
Brand Delta
@branddelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Food & Beverage Company
Invite friends to like this Page
About
See All
Message Now
www.branddelta.com/
Food & Beverage Company
Liked by This Page
The Delta Foundation
Like
Chat (Off)


Secure | https://www.facebook.com/pg/[redacted]/about/?ref=page_internal
You
Home 3
Like
Follow
Share
Send Message
Brand Delta
@branddelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Posts
Create a Page
About
Suggest Edits
CONTACT INFO
@branddelta
Message Now
http://www.branddelta.com/
MORE INFO
About
Brand Delta was founded in 2000 and is one of the market leading table water companies. It follows all major hygiene standards such as the DWI, the NSO and the IWF. Delta is bottled by a very savvy staff that is fully certified by PEQA. Delta is the ideal way to quench the consumer's thirst and stay hydrated. At the same time, it provides people with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). Delta offers a highly competitive price, which makes it an option for everyone.
Chat (Off)

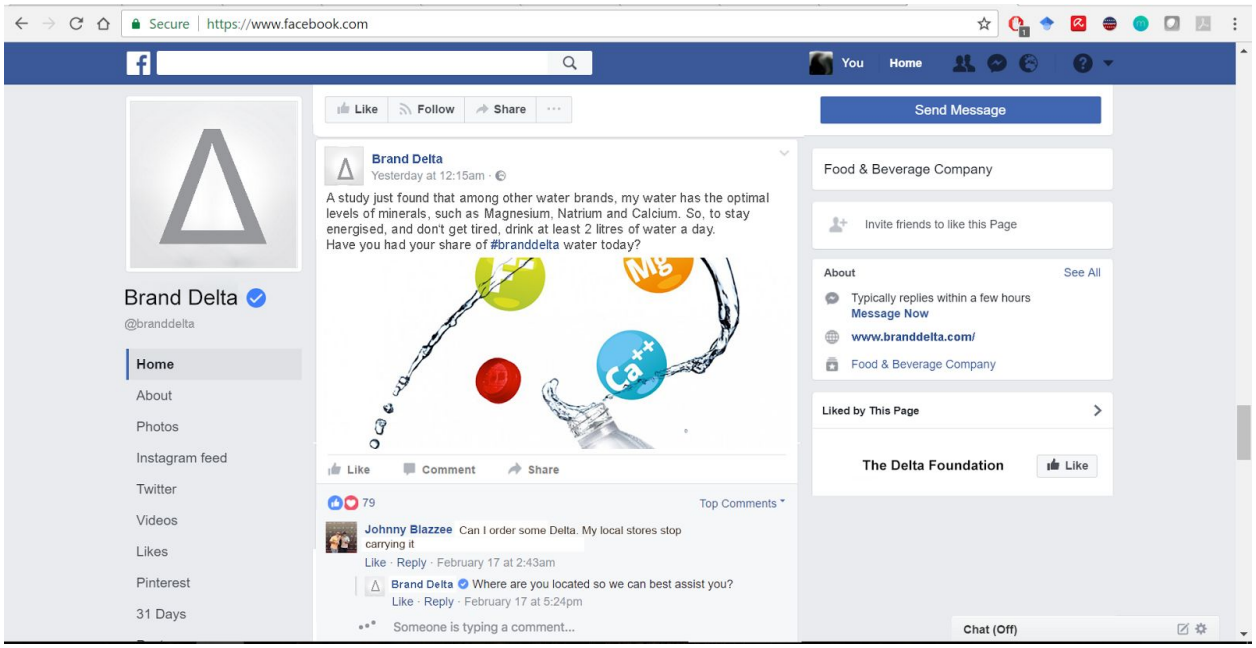
Interaction

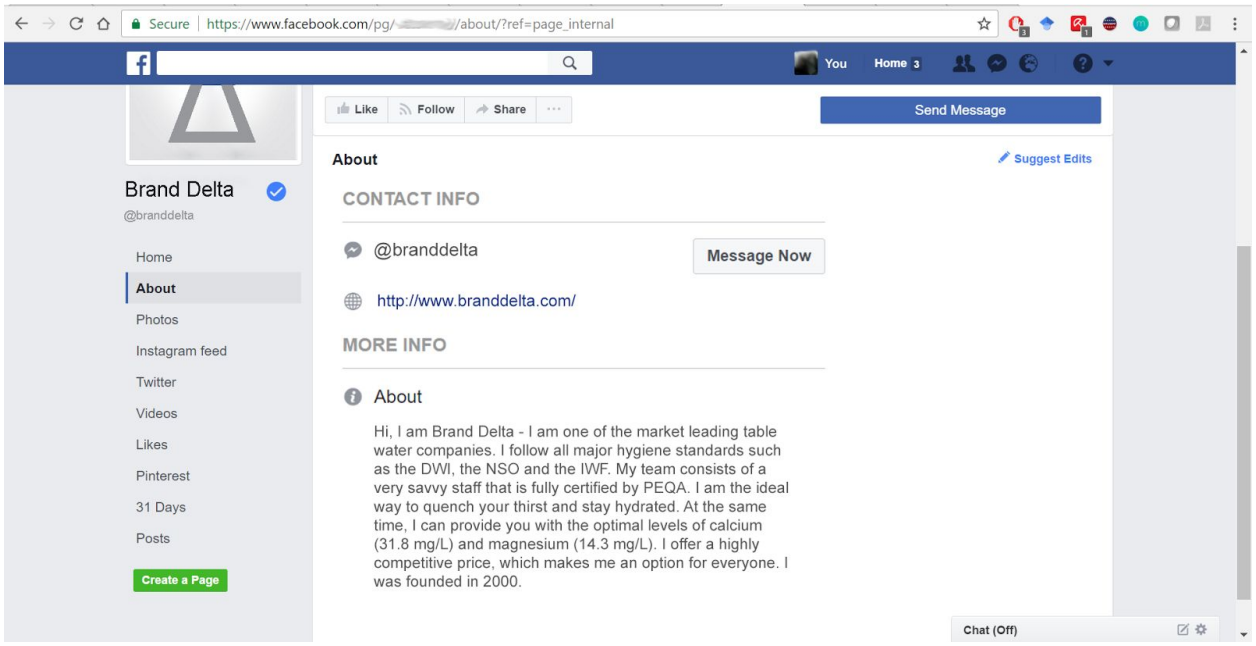
Gamma





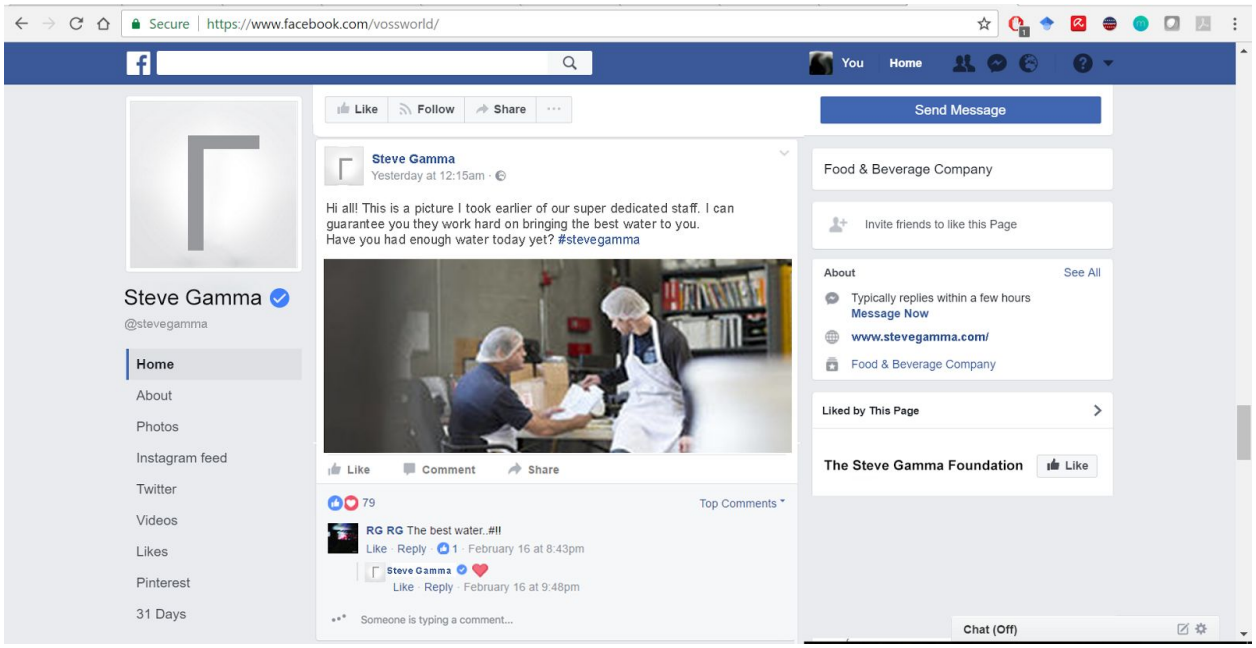
Delta

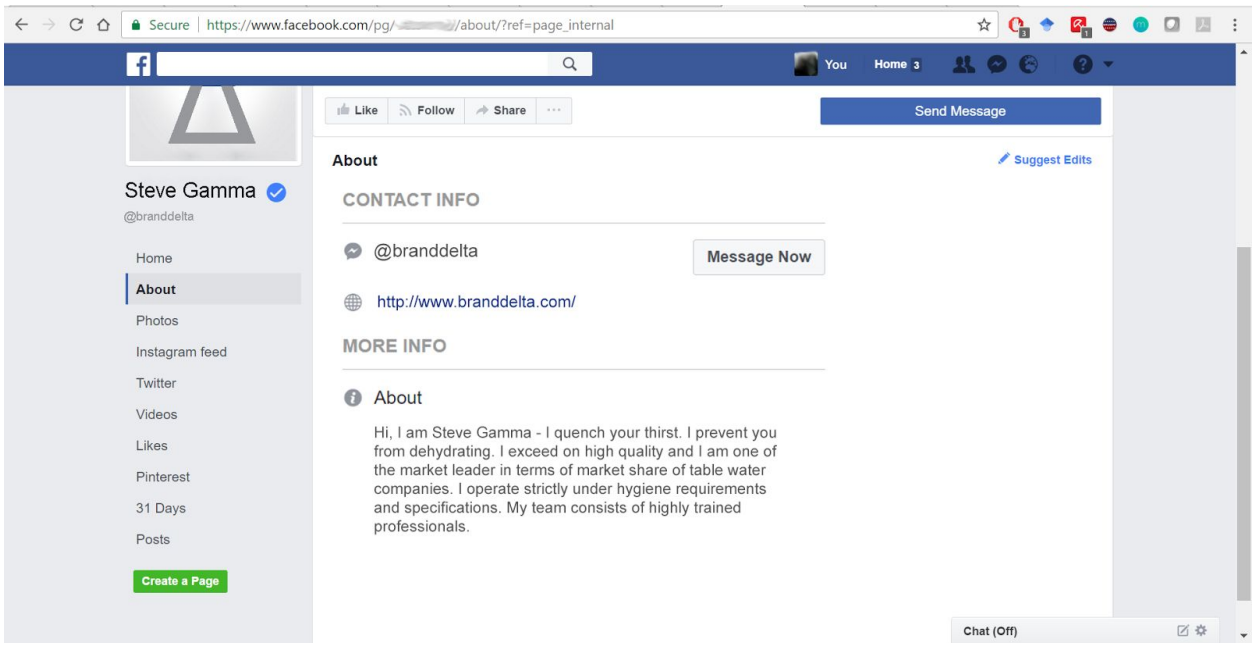

Secure | https://www.facebook.com
You
Home
Like
Follow
Share
Send Message
Brand Delta
Yesterday at 12:15am
A study just found that among other water brands, my water has the optimal levels of minerals, such as Magnesium, Natrium and Calcium. So, to stay energised, and don't get tired, drink at least 2 litres of water a day.
Have you had your share of #branddelta water today?
Food & Beverage Company
Invite friends to like this Page
About
See All
Typically replies within a few hours
Message Now
www.branddelta.com/
Food & Beverage Company
Liked by This Page
The Delta Foundation
Like
Brand Delta
@branddelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Comment
Share
79
Top Comments
Johnny Blazzee Can I order some Delta. My local stores stop carrying it
Like · Reply · February 17 at 2:43am
Brand Delta Where are you located so we can best assist you?
Like · Reply · February 17 at 5:24pm
Someone is typing a comment...
Chat (Off)


Secure | https://www.facebook.com/pg/[redacted]/about/?ref=page_internal
You
Home 3
Like
Follow
Share
Send Message
About
Suggest Edits
CONTACT INFO
@branddelta
Message Now
http://www.branddelta.com/
MORE INFO
About
Hi, I am Brand Delta - I am one of the market leading table water companies. I follow all major hygiene standards such as the DWI, the NSO and the IWF. My team consists of a very savvy staff that is fully certified by PEQA. I am the ideal way to quench your thirst and stay hydrated. At the same time, I can provide you with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). I offer a highly competitive price, which makes me an option for everyone. I was founded in 2000.
Brand Delta
@branddelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Posts
Create a Page
Chat (Off)

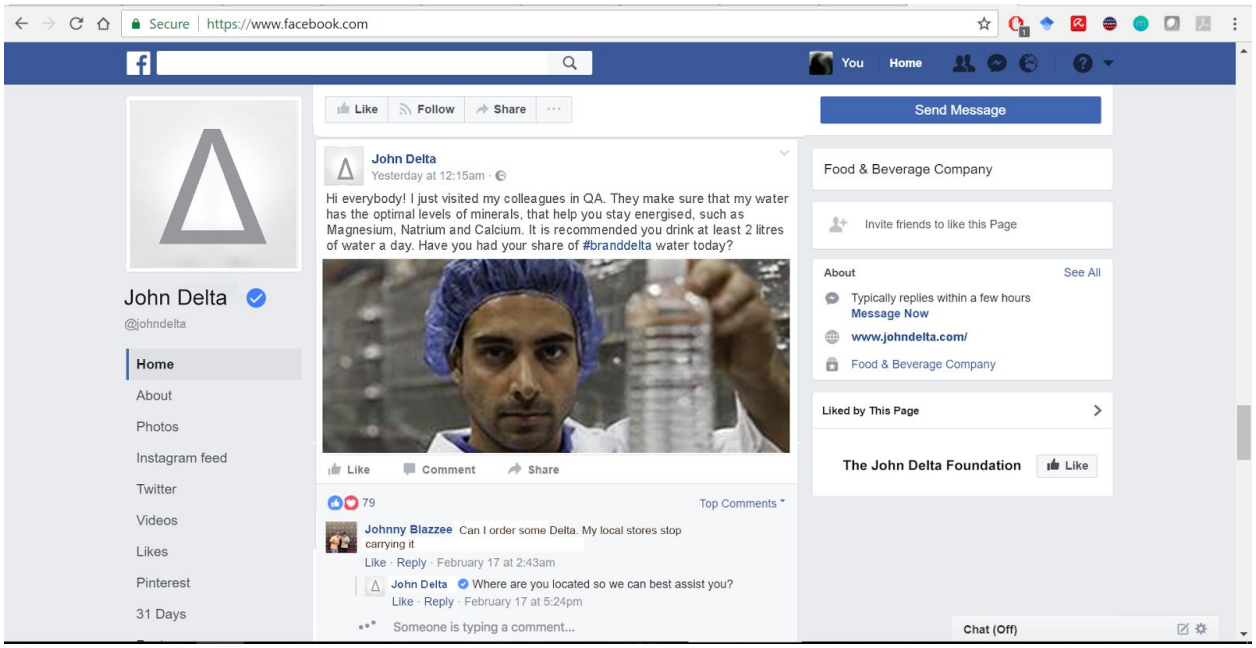
Spokescharacters

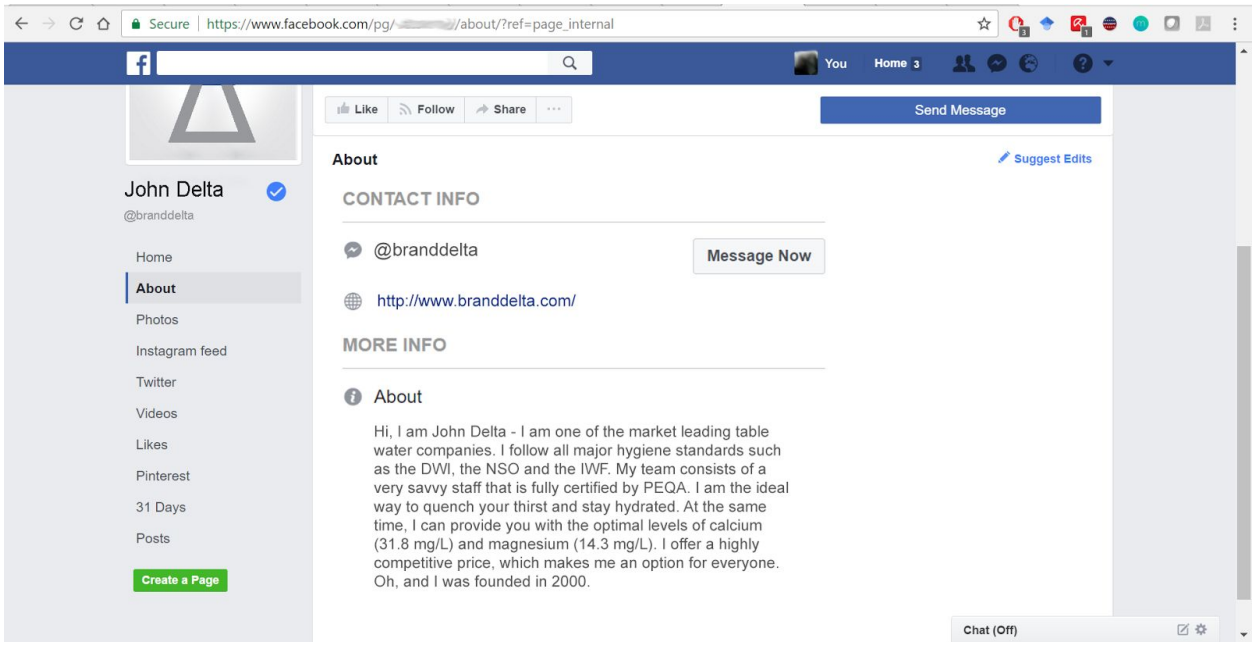
Gamma





Delta


Secure | https://www.facebook.com
You
Home
Like
Follow
Share
Send Message
John Delta
Yesterday at 12:15am
Hi everybody! I just visited my colleagues in QA. They make sure that my water has the optimal levels of minerals, that help you stay energised, such as Magnesium, Natrium and Calcium. It is recommended you drink at least 2 litres of water a day. Have you had your share of #branddelta water today?
Like
Comment
Share
79
Top Comments
Johnny Blazzee Can I order some Delta. My local stores stop carrying it
Like · Reply · February 17 at 2:43am
John Delta Where are you located so we can best assist you?
Like · Reply · February 17 at 5:24pm
Someone is typing a comment...
John Delta
@johndelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Food & Beverage Company
Invite friends to like this Page
About
See All
Typically replies within a few hours
Message Now
www.johndelta.com/
Food & Beverage Company
Liked by This Page
The John Delta Foundation
Like
Chat (Off)


Secure | https://www.facebook.com/pg/[redacted]/about/?ref=page_internal
You
Home 3
Like
Follow
Share
Send Message
About
Suggest Edits
CONTACT INFO
@branddelta
Message Now
http://www.branddelta.com/
MORE INFO
About
Hi, I am John Delta - I am one of the market leading table water companies. I follow all major hygiene standards such as the DWI, the NSO and the IWF. My team consists of a very savvy staff that is fully certified by PEQA. I am the ideal way to quench your thirst and stay hydrated. At the same time, I can provide you with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). I offer a highly competitive price, which makes me an option for everyone. Oh, and I was founded in 2000.
John Delta
@branddelta
Home
About
Photos
Instagram feed
Twitter
Videos
Likes
Pinterest
31 Days
Posts
Create a Page
Chat (Off)

Appendix 3: Cronbach Alpha Outputs

Gamma Responses

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.828	.833	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.906	.907	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.825	3

Delta Responses

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.865	.868	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.904	.904	3

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.813	.816	3

Gamma and Delta Combined Responses

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.778	.778	6

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.742	.743	6

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.743	.741	6

Appendix 4: Factor Analysis Before And After Outlier Removal

Before

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Gamma	.510	.357	.592
Q2Gamma	.144	.454	.814
Q3Gamma	.349	-.078	.862
Q4Gamma	.778	.373	.299
Q5Gamma	.817	.192	.305
Q6Gamma	.803	.412	.233
Q7Gamma	.416	.803	.162
Q8Gamma	.247	.885	.119
Q9Gamma	.527	.507	.199

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Delta	.719	.210	.477
Q2Delta	.343	.205	.826
Q3Delta	.249	.234	.838
Q4Delta	.822	.279	.324
Q5Delta	.829	.257	.213
Q6Delta	.844	.280	.185
Q7Delta	.205	.745	.491
Q8Delta	.223	.860	.141
Q9Delta	.369	.700	.149

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 6 iterations.

After

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Gamma	.549	.340	.564
Q2Gamma	.168	.420	.810
Q3Gamma	.289	-.062	.892
Q4Gamma	.805	.366	.262
Q5Gamma	.811	.212	.293
Q6Gamma	.818	.410	.195
Q7Gamma	.413	.797	.122
Q8Gamma	.197	.893	.094
Q9Gamma	.369	.619	.223

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Rotated Component Matrix[a]

	Component		
	1	2	3
Q1Delta	.548	.663	.231
Q2Delta	.299	.839	.224
Q3Delta	.256	.807	.264
Q4Delta	.746	.466	.274
Q5Delta	.836	.252	.239
Q6Delta	.808	.281	.273
Q7Delta	.273	.412	.769
Q8Delta	.145	.159	.889
Q9Delta	.398	.187	.677

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Appendix 5: Pearson's r Analysis of Dependent Variable Items

Correlations

		LikingGammaN	PurchIntGamma	PercValGamma
LikingGammaN	Pearson Correlation	1	.702**	.693**
	Sig. (2-tailed)		.000	.000
	N	86	86	83
PurchIntGamma	Pearson Correlation	.702**	1	.517**
	Sig. (2-tailed)	.000		.000
	N	86	86	83
PercValGamma	Pearson Correlation	.693**	.517**	1
	Sig. (2-tailed)	.000	.000	
	N	83	83	83

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

		PercValDelta	LikingDeltaN	PurchIntDelta
PercValDelta	Pearson Correlation	1	.626**	.622**
	Sig. (2-tailed)		.000	.000
	N	86	86	84
LikingDeltaN	Pearson Correlation	.626**	1	.749**
	Sig. (2-tailed)	.000		.000
	N	86	86	84
PurchIntDelta	Pearson Correlation	.622**	.749**	1
	Sig. (2-tailed)	.000	.000	
	N	84	84	84

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 6: Pearson's r Analysis of Brand Personality Items

Correlations

		Appears Sincere	Appears Competent	Appears Excited
Appears Sincere	Pearson Correlation	1	.405**	.489**
	Sig. (2-tailed)		.000	.000
	N	81	81	81
Appears Competent	Pearson Correlation	.405**	1	.284*
	Sig. (2-tailed)	.000		.010
	N	81	81	81
Appears Excited	Pearson Correlation	.489**	.284*	1
	Sig. (2-tailed)	.000	.010	
	N	81	81	81
Appears Sophisticated	Pearson Correlation	.459**	.659**	.418**
	Sig. (2-tailed)	.000	.000	.000
	N	81	81	81
Appears Rugged	Pearson Correlation	.369**	.228*	.374**
	Sig. (2-tailed)	.001	.040	.001
	N	81	81	81

Correlations

		Appears Sophisticated	Appears Rugged
Appears Sincere	Pearson Correlation	.459**	.369**
	Sig. (2-tailed)	.000	.001
	N	81	81
Appears Competent	Pearson Correlation	.659**	.228*
	Sig. (2-tailed)	.000	.040
	N	81	81
Appears Excited	Pearson Correlation	.418**	.374**
	Sig. (2-tailed)	.000	.001
	N	81	81
Appears Sophisticated	Pearson Correlation	1	.266*
	Sig. (2-tailed)		.016
	N	81	81
Appears Rugged	Pearson Correlation	.266*	1
	Sig. (2-tailed)	.016	
	N	81	81

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 7: Introductory 'About' Texts on Facebook:

Fs: Brand Gamma quenches thirst. It prevents the consumer from dehydrating. Gamma exceeds on high quality and is one of the market leader in terms market share of table water companies. It operates strictly under hygiene requirements and specifications. It is processed by highly trained professionals.

Anthropomorphised Fs: Hi, I am Brand Gamma - I quench your thirst. I prevent you from dehydrating. I exceed on high quality and I am one of the market leader in terms of market share of table water companies. I operate strictly under hygiene requirements and specifications. My team consists of highly trained professionals.

Spokescharacter Anthropomorphised Fs: Hi, I am Steve Gamma - I quench your thirst. I prevent you from dehydrating. I exceed on high quality and I am one of the market leader in terms of market share of table water companies. I operate strictly under hygiene requirements and specifications. My team consists of highly trained professionals.

Fc: Brand Delta was founded in 2000 and is one of the market leading table water companies. It follows all major hygiene standards such as the DWI, the NSO and the IWF. Delta is bottled by a very savvy staff that is fully certified by PEQA. Delta is the ideal way to quench the consumer's thirst and stay hydrated. At the same time, it provides people with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). Delta offers a highly competitive price, which makes it an option for everyone.

Anthropomorphised Fc: Hi, I am Brand Delta - I am one of the market leading table water companies. I follow all major hygiene standards such as the DWI, the NSO and the IWF. My team consists of a very savvy staff that is fully certified by PEQA. I am the ideal way to quench your thirst and stay hydrated. At the same time, I can provide you with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). I offer a highly competitive price, which makes me an option for everyone. I was founded in 2000.

Spokescharacters Anthropomorphised Fc: Hi, I am John Delta - I am one of the market leading table water companies. I follow all major hygiene standards such as the DWI, the NSO and the IWF. My team consists of a very savvy staff that is fully certified by PEQA. I am the ideal way to quench your thirst and stay hydrated. At the same time, I can provide you with the optimal levels of calcium (31.8 mg/L) and magnesium (14.3 mg/L). I offer a highly competitive price, which makes me an option for everyone. I was founded in 2000.