MASTER THESIS

The effects of Brand-consumer Fit and Advertising Approach on Consumers' Clickthrough Intentions of Behaviourally Targeted Advertisements

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ABSTRACT

Online behavioural advertising (OBA) has been named as the future of marketing. However, there is an abundance of negative consumer sentiment surrounding OBA that can result in psychological reactance. This in turn triggers the personalisation paradox, when the effects of behavioural targeting backfire and lower consumers' responses to the brands' call to action. Despite earlier research into the implications and positive- and negative effects of OBA, little is known about what influences consumers to find personalisation acceptable and when they stop wanting to click (and e.g. buy). this study therefore makes a start in filling the gap of knowledge surrounding consumers' clickthrough intention in the setting of OBA by looking into the effects of brand-consumer fit and advertising approach on consumers' clickthrough intentions of two different types of OBA: display- and e-mail advertising. To achieve this and determine the impact of these independent variables upon consumers' clickthrough intention, an empirical study in the form of an online survey was conducted. 440 valid responses were gathered (61.8% female, 72.5% Dutch and 60.5% students) and randomly assigned to a display- or an e-mail advertisement. The survey uses existing scales to measure independent- and control variables. The study found a curvilinear, inverted U-shaped relationship between brand-consumer fit and clickthrough intention. Yet, only for e-mail advertisements this effect was significant. Advertising approach was found to have a non-significant effect upon clickthrough intention. Results suggest the possibility of an indirect mediating effect of advertising approach between brand-consumer fit and clickthrough intention. This research has four main contributions to theory by: (1) deepening the understanding of the factors that trigger reactance effects and influence the extent to which companies' OBA efforts have the desired positive effect, (2) exploring the concept of OBA itself through looking at both display- and e-mail marketing and comparing the two, as well as (3) studying the concepts of 'creepy-' and 'annoying marketing' and (4) by introducing a novel measure of brand-consumer fit. The study additionally underlines the importance for practitioners of employing the right marketing messages to the right people, in order to not trigger reactance effects. Furthermore, the study helps marketing practice finetune their marketing efforts aiding the efforts of reaching the right consumer with the right message at the right time.

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1 INTRODUCTION

It has happened to nearly everyone that shops online: when you visit an entirely unrelated website, advertisements keep appearing with the exact products you have looked at during your shopping spree earlier. This is a simple example of online behavioural advertising. Boerman, Kruikemeier and Borgesius (2017) have defined this so called 'online behavioural advertising' (OBA) as "the practice of monitoring people's online behaviour and using the collected information to show people individually targeted advertisements" (p.364). OBA is different from traditional forms of advertising as it aims at relevance on the individual-level using overtly (i.e. openly) and, often, covertly (i.e. not-openly) collected data.

In many recent publications, personalised, targeted advertising is named as the future of marketing due to the belief that marketing will be increasingly precise, personalised and targeted on the individual-level (Boerman et al., 2017; Keller 2016; Schultz 2016). A survey showed conversion rates for targeted ads are 6.8% in comparison to 2.8% for non-targeted advertisements (Beales, 2010). It can therefore be said that OBA is, on average, twice as effective in comparison to non-targeted advertising.

Yet, personalisation efforts are shown to be tricky. Research has indicated an abundance of negative consumer sentiment surrounding the use of OBA (Bleier & Eisenbeiss, 2015; Boerman et al., 2017; Fitzsimons & Lehmann 2004; Goldfarb & Tucker 2011; King & Jessen 2010; Tucker 2012; Okazaki, Li, & Hirose 2009; Phillips, Edwards & Beynon, 2014; Turow, King, Hoofnagle, Bleakley & Hennessy, 2009; White, Zahay, Thorbjørnsen and Shavitt. 2008). These negative effects can in turn result in psychological reactance (Bleier & Eisenbeiss 2015; Boerman et al., 2017). Psychological reactance is common when individuals feel obliged to engage in a specific behaviour and are as a result motivationally aroused to regain freedom and autonomy, often by following the opposing action (Brehm, 1966). This results in lower clickthrough rates and purchases (Bleier & Eisenbeiss 2015; Boerman et al., 2017). 63% of surveyed consumers even say they have stopped buying from a brand that did OBA 'poorly' (SmarterHQ, 2019). Consequently, there appears to be a personalisation paradox: OBA can be both an effective and an ineffective marketing strategy, depending on how it is used. This indicates a curvilinear, inverted U-shaped, relationship.

The negative effects that can trigger psychological reactance can be brought back to two main pillars: OBA being defined as 'creepy' and/or 'annoying' (Moore, Moore, Shanahan, Horky & Mack, 2015). 'Creepy marketing' is based on perceptions of the customer upon the marketing communication effort and is "defined predominantly as feelings" (Moore et al., 2015 p.43). 'Annoying marketing' is attributable to both tactics and content of a marketing effort and "defined primarily as tactics" (Moore et al, 2015 p.43). It is currently not well understood what influences consumers to find personalisation acceptable and when they stop wanting to click (and e.g. buy). More insight into this would help practice reap the fruits of successful personalisation. The goal of this study therefore is to make a start in filling the gap of knowledge surrounding consumers' clickthrough intention in the setting of OBA, increasing insights into the results of 'creepy-' and 'annoying marketing'.

The degree of reactance present within the consumer can be studied by observing the effectiveness of the OBA-advertisement. Or, in other words, to which degree the OBA effort has stimulated positive consumer behaviour. This study will look at clickthrough intention, as the intention of the consumer to click on the OBA-ad increases, the more effective (i.e. positive outcome) the ad is.

This research looks at two factors influencing clickthrough intention. First, brand-consumer fit is the fit between a brand's personality and the consumer's sense of self (Moore et al., 2015; Smit, Van Noort, & Voorveld 2014). As the largest influencer of 'creepy marketing' is invasive tactics, i.e. when information used is 'too personal' or for instance described as "marketing that knows you so well that it is creepy" (Moore et al., 2015 p.49). Research has indicated consumers find advertisements less intrusive and feel less 'creeped' on when they aren't closely targeted (Boerman et al 2017; Lu, Zhao and Xue, 2016). Thus brand-consumer fit seems to be a big determinant of 'creepy marketing'. Second, advertising approach measures consumers' willingness to expose themselves voluntarily to a specific brands' advertising and considers both the ad and the form in which it is delivered (Rosengren & Dahlén, 2015). As marketing is labelled as 'annoying' due to the used tactics and content within the ad, both the OBA-ad itself can be annoying, as can the way in which it is delivered (Moore et al, 2015). Annoyance is a negative effective state closely related to anger, frustration and irritation (Barata, Holtzman, Cunningham, O'Connor & Stewart, 2016). When consumers are annoyed by an advertising effort, they will not be willing to expose themselves voluntarily to said advertising effort. Hence, advertising approach appears to be a main determining factor of 'annoying marketing'. Therefore, both brand-consumer fit and advertising approach are used to study the effects upon said clickthrough intention.

Even though the concept of OBA and data used for its execution can be the same, there are multiple types of advertisements that can be used in OBA. Even though they can all use the same consumer data, these advertisements each have some differences. Therefore, to study the effects of brand-consumer fit and advertising approach upon clickthrough intention of OBA, two different forms of OBA marketing are used: e-mail advertising and display advertising. This enables the exploration of the relationship between advertising approach and brand-consumer fit with clickthrough intention in different scenarios and increases the robustness of findings.

Consequently, in order to improve understanding of what influences consumers to find personalisation acceptable, the research question is as follows:

"How do brand-consumer fit and advertising approach affect consumers' clickthrough intention of display and e-mail advertisements?"

To answer this research question, a quantitative empirical study using survey and regression analysis is conducted using shoes from the brand 'Nike' as case study.

This research offers four main contributions. First, this research offers improvement in the understanding of the extent to which consumers accept OBA, and therewith provides more information towards the (dis)liking of OBA in general (Turow et al. 2009 in Boerman et al., 2017). By doing so, this research responds to existing calls for research towards 'creepy-' and 'annoying marketing' (Moore et al., 2015). Which, second, this research offers a first attempt at operationalising by looking at brand-consumer fit and advertising approach. These contributions are key because the goal of marketing is to identify the best opportunities to reach the right consumer with the right message at the right time. Third, this research explores the concept of OBA by looking at different forms, e-mail and display marketing, and how these differ in consumers' OBA evaluation. And, fourth, this research introduces a novel measure of brand-consumer fit. This measure helps advance the field of behavioural research as it minimises response bias due to it not being a traditional self-reported fit measure (Dodd-McCue & Tartaglia, 2010).

The paper is structured as follows. First, the theoretical background is outlined, and hypotheses are developed in line with this study's objectives. After this, the methodology will be discussed through explaining the research setting and data, explaining the measures used and introducing the estimation techniques. This in turn will be followed by data analysis and a discussion of results. Next, the conclusions will be drawn, and limitations discussed. After which contributions for theory and practice are highlighted and lastly, steps for future research are recommended.

2 THEORETICAL FRAMEWORK

2.1 Differences within Online Behavioural Advertising

OBA, also called behavioural targeting or online profiling (Bennett, 2011), is used to break through the clutter of the many generic online ads by using tailored advertisements based on, e.g. inferred interests and preferences (Acquisiti, 2014; Bleier & Eisenbeiss 2015). Positive effects of OBA include enhanced value of ad communications (Ansari & Mela, 2003), simplifying consumers' choice decisions (Häubl & Trifts 2000; Murthi & Sarkar, 2003) resulting in higher satisfaction rates (Chernev 2003; Iyengar & Lepper 2000), greater ad recall, more purchases and higher evaluations of the content displayed (Acquisiti, 2014; Boerman et al., 2017), increased effectiveness (Tucker, 2014) and higher revenue (Beales, 2010).

But, as previously stated, personalisation efforts are fickle and can also have negative effects that trigger psychological reactance (Bleier & Eisenbeiss, 2015; Boerman et al., 2017). Consumers can feel manipulated, deprived of their freedom or intruded upon (Fitzsimons & Lehmann, 2004; King & Jessen, 2010; Tucker, 2012; White et al., 2008), they can subconsciously feel vulnerable (Aguirre, Mahr, Grewal, Ruyter & Wessels 2015; Bandyopadhyay 2009; Dinev & Hart 2004) and can be concerned for their privacy (Goldfarb & Tucker 2011; Okazaki et al.,2009; Turow et al. 2009 cited in Boerman et al., 2017).

Even though the concept of OBA and the data used for its execution can be the same, there are differences between types of advertisements used in OBA. For instance, between e-mail and display advertisements. Display advertisements are, often graphic, advertisements that appear on specifically designated areas of third-party websites, apps or social media platforms that the advertisement does not necessarily have a relationship to. Display ads can be used e.g. to target consumers that have previously looked at specific products on your website (retargeting) to remind them of your brand/products whilst browsing unrelated websites. E-mail advertisements are marketing e-mails that can be essentially used to do the same but are often opt-in (Ellis-Chadwick & Doherty, 2002), meaning e-mail advertising is a form of permission marketing where consumers that want to get sent "anticipated, personal and relevant messages" (Godin, 2008). Another OBA example is, when people that bought a crib see advertisements, or get sent a newsletter, with items such as night-time nappies and an innovative nightlight to help their new-born sleep a couple of months later. So, although they can be used to do very similar things, these two types of OBA have different characteristics. Which can, in turn, impact consumers' clickthrough intention in different ways. These differences are interesting to explore through the research setting to test effects in different scenarios found in marketing practice.

There are five aspects on which these two forms of OBA differ. First, display advertising is per definition unsolicited. E-mail advertising, on the other hand, is mainly solicited: consumers signing up for e-mail lists and/or creating accounts on webpages give explicit permission to be e-mailed with e.g. discount offers or inspiration. Consent is in some countries even a legal requirement (Worthy & Graham, 2002). Second, the data used in consumers' targeting for display advertisements is often collected covertly via cookies. Even whilst cookie collection has to be disclosed due to the GDPR law, most consumers have limited knowledge on how data collection via cookies takes place (Boerman et al., 2017). As stated, with e-mail advertising, consumers give explicit permission to be e-mailed with e.g. discount offers and inspiration. It can be argued that this also makes for a more overt form of data collection in comparison to display advertisements, as the customer already gave permission to be contacted. Consumer perceptions of control have been shown to reduce reactance (Taylor, 1979 cited in Tucker, 2014). Third, because of the permission marketing aspect to e-mail advertisements, a relationship with said company is established prior to exposure to an advertisement, whereas this is not necessarily the case for a

display advertisement. Fourth, before an e-mail is seen, it has to be opened. When a consumer has been convinced to open the e-mail to see the content this is already a positive interaction. With display advertisements this first positive impulse is not present, a consumer simply encounters the advertisement whilst in their (unrelated) browsing session. Fifth, and last, the tone of voice via an e-mail advertisement is much more personal and can therefore come across as not being an ad.

Clickthrough statistics also suggest a difference between e-mail and display advertising. Average clickthrough rates for display ads are typically below 1% (Chaffey, 2019b) whereas those for e-mail ads range around 3% for personalised newsletters to consumers to 6.54% for shopping cart abandonment e-mails (Chaffey, 2019a; MacDonald, 2019; Mailchimp, 2018; Rose, 2017).

In order to explore the differences in clickthrough intention between display- and e-mail advertising these two types are used as scenario to test the hypotheses that follow in two different settings separately.

2.2 Brand-consumer Fit as a Predictor of Clickthrough Intention

Brands are a guide to consumer choice, their role is to create “an indelible impression” (Clifton and Simmons, 2003 p.15). Brands are intangible and can possess human-like characteristics (e.g. values; Aaker, Vohs, & Mogilner 2010; Allen, Gupta & Monnier 2008). Therefore, brands are complex. The word “brand” encompasses both product, company and visual aspects such as a name, icon or logo (Shurbi, 2015). Even though most companies meticulously set up and manipulate their brand image, the perception of their brand is still subjective to the consumer. Therefore, in this research, a brand is a consumer’s perception about a product, service or organisation.

As stated before, brands can possess human-like characteristics such as values (Aaker et al., 2010; Allen et al., 2008). These characteristics are transformed and become tangible when embodied by brands (Allen 2002). This is called a brand concept (Park, Milberg & Lawson 1991). Research by Hopewell (2005) and Monga and John (2010) has shown that “establishing abstract brand concepts on the basis of motivational and emotional meanings induces more favourable consumer responses than focusing on superior functional attributes” (Levy, 1959; Torelli, Özsomer, Carvalho, Keh & Maehle, 2012 p.92). When adequately used, knowledge about a brand’s personality and the fit with the consumers’ sense of self can influence information processing of the consumer and attitude change (Mulyanegara, Tsarenko & Anderson, 2009; Wheeler, Petty & Bizer 2005). In a 2005 experiment by Wheeler et al. participants reported feeling they allocated greater attention and effort in reading an advertisement that matched their sense of self. Consequently, the experiment showed an increase of the impact of argument quality on resulting attitudes.

Marketers try to tap into this and try to gain consumers’ preference by imbuing brands with human characteristics (Communicator London, 2017; Gutman 1982; Keller 1993, 2007). If done well and the brand concept has both human traits and is successful in communicating with an adequate human tone, the interactions between consumer and brand activate areas of the brain that would also be activated when said consumer was interacting with another human being (Chen, Nelson & Hsu 2015). Communicator London even states that this in turn increases attachment, loyalty and eventually ROI (2017). This is not surprising considering self-schema matched messages were found to be more persuasive than mismatched messages (Wheeler et al., 2005). Additionally, Mulyanegara, et al. (2009) have shown that consumers exhibit a preference for brands that are congruent with their personality. Therefore it can be expected that a higher brand-consumer fit will lead to a higher clickthrough intention.

In addition to the mere idea of matching brand personality to self-image, the degree to which the brand matches a consumers’ self-image is of importance. Research by Torelli et al. (2012) has shown that marketeers can make great use of compatibility of brand meanings. Their framework

helps identify brand meanings that are (in-)compatible with one another as well as compatible within differing cultural orientations. The field can use compatible brand meanings to market towards different audiences without damaging previously instated brand meanings. OBA-ads with a brand personality that matches the consumers self-image but not too closely are then also perceived as less 'creepy'. This is supported by Lu, Zhao and Xue (2016), who stated that "contrary to the conventional wisdom, [companies] should restrain from directly targeting users with behavioural characteristics that are closely related to the ads. Instead, they should focus on displaying ads to the consumers with characteristics that are loosely related to ads" in order to minimise the consumer's sense of being 'creeped' on and increase clickthrough rates (p.16). Advertisements that closely fit consumers also increase the perceived intrusiveness of the ad (Boerman et al 2017). In short, having a too high brand-consumer fit might backfire on the intention to click, indicating a curvilinear relationship where a not perfect brand-consumer fit is optimal.

Studies have indicated that "e-mail marketing campaigns produce approximately twice the return on investment of the other main forms of online marketing", among which display advertising (Ellis-Chadwick & Doherty, 2010 p.3). Having opted-in, subscribed, to a brands' e-mailing list, consumers expect to receive material that matches their interests (Gengler and Thomas, 1995; Grunert, 1996) and are more likely to open and read these messages (Ellis-Chadwick & Doherty, 2010). Cialdini's psychology of persuasion points out that people want to act consistent with prior choices, so when consumers made a choice to opt-in, as is the case with e-mail marketing, they'll likely take the content received more seriously (Influence at Work, 2018). Subsequently, research has shown about 79% of respondents feel they are being tracked because of display advertisements for products (Nettles, 2018). These people feel stalked, creeped on via these display ads. These feelings are not desirable when brands want to have higher clickthrough intentions. Following this, the effects of good brand-consumer fit upon clickthrough intention could be bigger for e-mail advertising than is the case for display advertising.

This leads to the following hypotheses:

H1a: The relationship between brand-consumer fit and clickthrough intention to a display advertisement is inversely U-shaped.

H1b: The relationship between brand-consumer fit and clickthrough intention to an e-mail advertisement is inversely U-shaped.

2.3 Advertising Approach as a Predictor of Clickthrough Intention

The manner in which a brand advertises "over time creates cumulative effects in terms of ad reactions" (Rosengren & Dahlén, 2015 p.2). These advertisement reactions, or -perceptions, are the strongest predictors of advertisement avoidance (Speck & Elliott, 1997). In the online environment specifically, ads are avoided when consumers expect a negative experience or are sceptical towards the message and/or medium of the advertisement (Kelly, Kerr & Drennan, 2010) as well as when the ads are perceived as being intrusive (Edwards, Li & Lee, 2002). It can therefore be stated that, when it comes to advertisements, irritation results in avoidance behaviour.

A study by HubSpot and AdBlock Plus indicated ads that track people's browsing, which OBA-ads generally do, are found to be "highly annoying" by 65% of respondents (An, 2016). OBA-ads thus hold the risk of being categorised as 'annoying marketing' resulting in avoidance behaviour and negative sentiment. This causes a lower advertising approach and in turn lowers clickthrough intention as dictated by the personalisation paradox.

Research also indicates that when consumers expect an advertisement to have value to them, they are more likely to pay attention to the ad (Rosengren & Dahlén, 2015). This increases advertising approach, which in turn also increases positive ad-effects such as clickthrough rates (Rosengren & Dahlén, 2015). Additionally, when this holds true and the ad does offer value to

them, advertising approach increases even further (Yang & Smith, 2009 cited in Rosengren & Dahlén, 2015). This increase in advertising approach indicates consumer opinions and expectations regarding annoyance of the OBA-ad greatly affects approach and avoidance behaviour of the OBA-ad. This in turn directly influences the clickthrough intention. Following this reasoning, a higher advertising approach leads to a higher clickthrough intention.

When e-mail marketing is unwanted, however, it can be categorised as 'spam'. Spam is intruding, and has been linked to customer irritation (Haq, 2009). Additionally, research has indicated that these negative advertising experiences stick with consumers: 84% of respondents agree obnoxious and/or intrusive advertising ('annoying marketing') give them a lasting poor opinion of the brands being advertised (An, 2018a). This implies that when e-mail marketing is labelled by a consumer as spam, this is detrimental to the brand on the longer term. Indeed, unsurprisingly, 15% of people experience a decrease in opinion when the company sends e-mail advertising compared to 13% for display advertisements (An, 2018b). Thus, the effect of advertising approach on clickthrough intention can be stronger for e-mail advertising than for display advertising.

These findings lead to the hypotheses as follows:

H2a: The higher the advertising approach to the display advertisement, the higher the clickthrough intention of the display advertisement.

H2b: The higher the advertising approach to the e-mail advertisement, the higher the clickthrough intention of the e-mail advertisement.

2.4 Controls

Evidently, there are other factors besides brand-consumer fit and advertising approach that influence the consumers' clickthrough intention. Therefore this research controls for four factors: sex, age, perceived utility and familiarity.

First, sex could influence clickthrough rates as research indicated that male and female consumers differ in how they express their personality when it comes to brand personality" (Mulyanegara et al., 2009 p.6) as well as that sex affects risk taking (Jianakoplos & Bernasek, 1998; Sunden & Surette, 1998). Second, prior studies have shown that older adults "pay greater attention than younger adults to online banner ads" (i.e. display advertisements; Goodrich, 2013 p.229), and that age may influence decision making (Gardner & Steinberg 2005). "Younger people are less likely to oppose OBA compared to older people, although the majority of young people do not want OBA" (Boerman et al., 2017 p. 368). Hence this study expects a negative effect of age on clickthrough intention. Both age and gender are also imbued by brands and solely because of this could impact the studies' outcomes (Aaker, 1997). Third, White et al. (2008) found that the lower the perceived utility of the service, the higher the experienced personalisation reactance within consumers. This supports Boerman et al.'s (2017) notion that perceived usefulness is of importance. Therefore a positive effect of perceived utility on clickthrough intention can be expected. Last, familiarity with the brand is used as control to check for differences due to the brand used as setting in this research.

2.5 Conceptual Model

The hypotheses and controls as stated in Chapters 2.1 thorough 2.5 result in the research model as displayed in Figure 1 below.

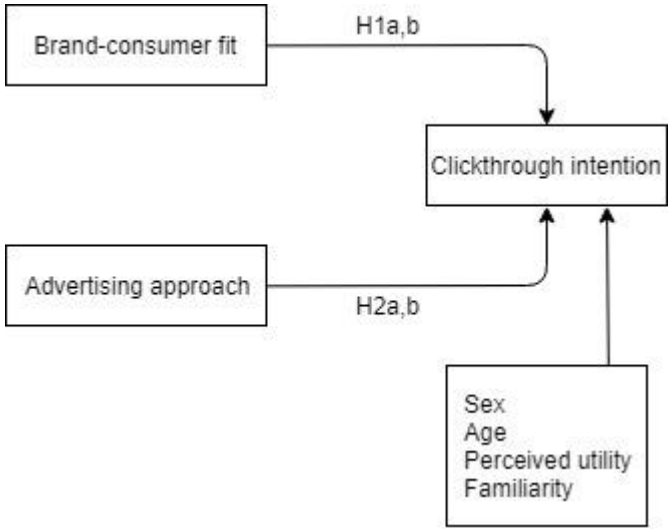


Figure 1 – Conceptual model

3 METHODOLOGY

3.1 Research Setting and Data

This empirical study examines the effect of brand-consumer fit on clickthrough intentions of both e-mail advertisements and display advertisements combining the use of an online questionnaire with ordinal regression analyses. It does so via a case study using the brand Nike.

Nike was chosen because it is a very well-known and accessible brand. As Interbrand (2018) states, Nike is "the world's leading designer, marketer and distributor of authentic athletic footwear, apparel, equipment and accessories". The brand ranks 17th on their 'Best Global Brands 2018' rankings (Interbrand, 2018). With this ranking, Nike is the highest-ranking apparel brand on this list. Additionally, the brand is worn by both men and women of many ages.

3.1.1 Design and procedure

The survey was self-administered by respondents online via Qualtrics, a web-based survey tool. This minimises interviewer bias and influence on the data as well as costs and time, both of which are an important constraint to this research. As an additional attempt to minimise time spent in collecting responses, this research used convenience sampling by recruiting students of the Bachelor module 'Digital Marketing for Networked Business' and Master course 'Advanced Topics in Digital Marketing' of 2019 at the University of Twente as well as via the Facebook and LinkedIn of the researcher. Convenience sampling is a type of non-probability sampling (Lund Research Ltd., n.d.). This means that not all individuals in the actual population have equal chances of being selected for the research population resulting in an unknown proportion of the entire population not being sampled. Therefore, the sample population may or may not represent the actual population accurately and generalization possibilities are bounded. Additionally, as people shared the messages with their network and on their own Social Media, a form of snowball sampling took place (also non-probability; Lund Research Ltd., n.d.).

The research was conducted in two parts. A preliminary version of the questionnaire was discussed with experienced researchers and some peers to control for research errors and grammatical unclarities.

The resulting online survey follows a systematic sequence. First, the participants clicked on the Qualtrics link on their own device after which they first answer questions determining their advertising approach. Second, the research setting was explained as respondents in research can better assess their actual intentions and perceptions when the context of the research is the same in which the behaviour would occur (Azjen, 1991). Therefore, the research setting was carefully formulated as follows:

> "You are casually browsing the internet looking at black sneakers. You visit websites of several sporty brands: Adidas, New Balance, Nike and Reebok. You also receive e-mail newsletters from these brands. You still want to think about whether or not you want to buy black sneakers and also do not know which pair you like best. You are in no rush to buy. Therefore, after you finish your search you simply close the browser and do not order any sneakers."

After which the respondents got questions and advertisements in the context of the brand Nike. Respondents were automatically randomly divided between two groups to test the differences between e-mail advertisement (n = 220, 50%) and a display advertisement (n = 220, 50%). This splitting of the sample is done because not all types of OBA necessarily yield equal responses. Boerman et al. (2017) and Bleier and Eisenbeiss (2015) name both type of information used and

transparency as an advertiser-controlled factor influencing positive effects of OBA on ad performance (in this case higher clickthrough intention). By setting the research the exact same for both the display- and e-mail advertisement the type of information used and transparency influences clickthrough intention similarly for both display- and email advertisement facilitating the exploration within these two different scenarios. Looking at the possible differences increases the knowledge of OBA as well as this study's robustness. Third, respondents were asked about their clickthrough intention. Fourth, the brand-consumer fit questions were asked with familiarity and perceived utility and familiarity control variables in between. Last, respondents filled out several demographic questions after which the questionnaire is submitted (Appendix A).

3.1.2 Participants

A total of 614 people participated by completing the online questionnaire. Participants did not receive any incentives such as course credits or gift certificates to participate in the study. A total of 174 respondents needed to be filtered out due to dropping out halfway, or missing values. This resulted in an n of 440. The sample was 61.8% female and averaged 28 years of age (SD = 10.38, range = 14-72). Of the participants 319 were Dutch (72.5%) and 36 were German (8.2%). The majority of respondents were students (60.5%) or 'employed full time' (26.6%). For more information on the participant statistics, please refer to Appendix B.

3.2 Measures

Wherever possible, items are adopted and/or slightly modified from existing literature to fit the current study as this benefits reliability and validity of the current study.

3.2.1 Clickthrough intention

The dependent variable 'clickthrough intention' is measured via a single item construct using a five-point Likert scale based on research by Yoo (2009) and Gauzente (2009 & 2010) (1 = "strongly disagree", 5 = "strongly agree"; M = 2.630, SD = 1.117). This was recoded to a low-neutral-high brand-consumer fit (where 1 = "low", 3 = "high", M = 1.780, SD = 0.887). The decision was made to recode as in this research the variables, as they are ordinal, exist on an arbitrary scale where the relative ordering is important but it is not important that, for instance, a Likert-value of 5 is higher than 4, just that both are a positive evaluation of clickthrough intention (i.e. "high").

3.2.2 Brand-consumer fit

Several studies looked into which consumer personality best fits which brand concept, or brand personality (e.g. Aaker, 1997; Caprara, Barbaranelli & Guido, 2001; Dikcius, Seimiene and Zaliene, 2013; Lin, 2010; Mulyanegara et al., 2009). Mulyanegara et al. (2009) use a combination of The Big Five Model of human personality of Goldberg (1990) and an adaptation of Aaker's Brand personality index (1997) to investigate the impact of consumer personality on preferences towards a particular brand concept. In similar fashion, this study will use scales of human- and brand personality based on the Big Five.

The Big Five Model of human personality reduces the descriptors of human personalities to five underlaying dimensions, the so-called Big Five: Openness to experience, Conscientiousness, Extroversion, Agreeableness and Neuroticism (the latter also known as 'emotional stability'). People fall on scales from e.g. more or less extrovert instead of fully being an extrovert or not at all. Similarly, brand personality measures "the set of human mental traits consistently associated to brands across situations and time" (Conejo, Wooliscroft and Insch, 2017). This, in turn, is also a scale.

The distance between consumer personality and brand personality shows the reversed brand-consumer fit (i.e. how dissimilar the brand and the consumer are regarding their respective personalities). This is measured via the Euclidean distance. The Euclidean distance ($d_{c,q}$) is the distance between two points (e.g. $c = c_1, c_2, \dots, c_n$ and $q = q_1, q_2, \dots, q_n$) within a space. All Big Five items of personality are within their own space, therefore n=5 corresponding to the number of

dimensions. Thus, the points are within a multidimensional Euclidean space. The Euclidean distance between points c and q equals the length of the straight-line segment connecting them in this multidimensional space, given by the formula:

$$(1) \quad d_{c,q} = \sqrt{\sum_{i=1}^{n}(q_i - c_i)^2}$$

Where d is the Euclidean distance, q is R-BPS and c is BFI.

Determining c_i via the BFI There are numerous measures of the Big Five used in research with just 10 items (TIPI) up to 240-items (NEO), in sentences or just single words. The Big Five Inventory, or BFI, designed by John, Donahue and Kentle (1991) is a 44 item in small sentences scale which takes about five minutes to complete (Srivastava & John, 1999; Appendix A). This is the scale chosen for this study as research has shown that: (1) Respondents' answers are more consistent when scales are accompanied by definitions or elaborations, avoiding ambiguity and salient desirability (John & Srivastava, 1999) and (2) a lengthy scale can cause subjects' satisficing which negatively impacts the reliability of the data (Brent, 2011).

Reliability of the BFI has averaged above α = 0.80 in the past and "validity evidence includes substantial convergent and divergent relations with other Big Five instruments as well as with peer ratings" (Srivastava & John, 1999 p.22). The BFI is measured on a 5-point Likert scale (1 = "strongly disagree", 5 = "strongly agree") and uses statements such as "is full of energy", "is a reliable worker" and "can be tense" to measure the underlying Big Five personality items. Extraversion and neuroticism are measured via 8 questions each, agreeableness and conscientiousness with 9 each and openness via 10 questions. In this research, the BFI subsets resulted in the statistics as displayed in Table 1.

Table 1 – BFI reliability statistics

	Openness	Conscientiousness	Extroversion	Agreeableness	Neuroticism
Cronbach's α	0.685	0.749	0.860	0.667	0.823
Mean	3.680	3.540	3.335	3.745	2.817
SD	0.489	0.578	0.735	0.501	0.720

Determining q_i from the R-BPS Aaker (1997) was amongst the first to develop a theoretical framework to measure brand personality and provided research with by far the most influential measure (Conejo et al., 2017). Aaker (1997) defines brand personality as "the set of human characteristics associated with a brand" (p.347). Most research since has been based on, or expanded the research of, Aaker (1997) (Caprara et al. ,2001; Dikcius et al., 2013; Lin, 2010; Mulyanegara et al., 2009). However, Aaker's brand personality scale is not without flaw and has been called into question because it does not comply with "measurement theory's unidimensionality, invariance and concatenation requirements" (Austin, Siguaw & Mattila, 2003; Conejo et al., 2017 p.1). It does not solely look at mental characteristics (Conejo et al., 2017) but, through relaxing the definition of brand personality by including items such as 'healthy' or 'old', which are not linked to personality as understood by psychology, mix up sender and receiver aspects (Geuens, Weijters & De Wulf, 2009).

The 'Rash Brand Personality Scales' (or R-BPS) of Conejo et al. (2017) solves these issues. The R-BPS is based on Goldberg's (1992) '100 Personality Markers', just like the BFI. Meaning, the R-BPS contemplates both negative and positive traits, leading to a more complete assessment than when only including positive traits (such as in Aaker's (1997) scale; Azoulay, 2007; Geuens et al., 2009; Stapley, 1996 as cited in Conejo et al., 2017). Therefore, the R-BPS was used to measure brand personality.

The R-BPS uses 43 items to measure intellect (9), conscientiousness (6), surgency (9), agreeableness (10) and emotional stability (9). Respondents are asked to respond to statements such as “considerate”, “artistic” and “bold” using a 5-point Likert scale (1 = “strongly disagree”, 5 = “strongly agree”; Appendix A). In this research, the R-BPS subsets resulted in the statistics as displayed in Table 2.

Table 2 – R-BPS reliability statistics

	Intellect	Conscientiousness	Surgency	Agreeableness	Emotional Stability
Cronbach’s α	0.752	0.630	0.739	0.765	0.426
Mean	3.477	3.625	3.904	3.345	3.501
SD	0.527	0.543	0.520	0.520	0.402

Brand-consumer fit Summarising the sections above, both the BFI and the R-BPS correspond to the Big Five dimensions of personality, resulting in the link as shown in Table 3 below.

Table 3 – Brand-consumer fit match

	1	2	3	4	5
BFI dimension	Openness	Conscientiousness	Extroversion	Agreeableness	Neuroticism
R-BPS dimension	Intellect	Conscientiousness	Surgency	Agreeableness	Emotional Stability

This link is subsequently used to calculate the brand-consumer fit via the Euclidean Distance. The Euclidean distance can be both used to find the overall distance (Formula *2*), and the distance for each separate personality item (Formula *3*). The former being within the aforementioned multidimensional space and the latter being within a one-dimensional space. Note: the q_i and c_i values do have to be recoded first (Appendix C).

(2) $$d_{BFI,RBPS} = \sqrt{\sum_{i=1}^{5}(RBPS_i - BFI_i)^2} = \sqrt{(RBPS_I - BFI_O)^2 + (RBPS_C - BFI_C)^2 + (RBPS_S - BFI_E)^2 + (RBPS_A - BFI_A)^2 + (RBPS_{ES} - BFI_N)^2}$$

Where I is Intellect, O is Openness, C is Conscientiousness, S is Surgency, E is Extroversion, A is Agreeableness, ES is Emotional Stability and N is Neuroticism.

(3) $$d_{BFI\ Agreeableness,RBPS\ Agreeableness} = \sqrt{(RBPS_{Agreeableness} - BFI_{Agreeableness})^2}$$

The above formula is an example for the Agreeableness brand-consumer fit item (but the formula will be similar for the other four items of personality).

When brand- and consumer personality are exactly equal, that is to say both brand and consumer score the maximum value on all Big Five personality items as determined by both R-BPS and BFI respectively, the Euclidean distance will be zero. So, the smaller the value of $d_{c,q}$, the better the brand-consumer fit. Therefore, the value $d_{c,q}$ still needs to be transformed an actual brand-consumer fit. When the fit is lowest, the distance is highest (i.e. when a consumer scores the lowest possible values on the BFI scale and the highest possible values on the R-BPS scale, and vice versa, the distance is highest). The value that corresponds to this is 78.994. Therefore, the brand-consumer fit is given by formula *4* (M = 62.860, SD = 6.084, Min. = 39.220, Max. = 78.990).

(4) $$\text{Brand-consumer fit} = 78.994 - d_{BFI,RBPS}$$

3.2.3 Advertising approach

The independent variable 'advertising approach' is measured using Rosengren and Dahlén's (2015) 3 item five-point Likert scale set (1 = "strongly disagree", 5 = "strongly agree"). In their research, Rosengren and Dahlén (2015) build on the notion that consumers are more likely to (want to) pay attention to advertisements in the future when advertisements of the brand have added value to them in the past.

The statements in their scale are "I look forward to Nike's future advertising", "I will find Nike's future advertising worthwhile" and "I want to pay attention to Nike's future advertising". "The first two items focus on the expected value of future advertising and the third on volitional intent" (Rosengren & Dahlén, 2015 p.6). The three items are averaged to form an advertising approach score ($\alpha = 0.877$, $M = 2.882$, $SD = 1.027$). This yields good internal consistency, similar to the study of Rosengren and Dahlén (2015; $\alpha = 0.968$).

3.2.4 Control variables

Sex (Female = 2, 61.8%), age ($M = 28$, $SD = 10.4$, Min. = 14, Max. = 72), perceived utility ($\alpha = 0.712$, $M = 2.097$, $SD = 0.730$) and familiarity ($M = 3.380$, $SD = 0.897$) are the four control variables used in this research.

Respondents are asked their sex and age are (Appendix A). Perceived utility, also called perceived usefulness, is measured via a two-item construct that combines 'perceived usefulness' used by Naidoo and Leonard (2007) and 'perceived utility' of Marsh and Poepsel (2008). Both statements use a 5-point Likert scale. They are (1) "I find advertisements like that…" (1 = "Not at all useful", 5 = "Extremely useful") and (2) "I click on advertisements like that to go to the brands' webpage…" (1 = "Never", 5 = "Always"). The two items are averaged to form a perceived utility. Lastly, familiarity is measured via the question "How familiar are you with the brand 'Nike'?" on 5-point Likert scale (1 = "Not familiar at all", 5 = "Extremely familiar") to check for differences due to the brand used as setting in this research.

3.3 Estimation Techniques

The descriptive statistics and correlations of the model are checked first. Next, a regression analysis was run. Because the dependent variable, clickthrough intention, is ordinal, an ordinal logistic regression analysis was conducted on four regression models to test the hypotheses (UCLA, 2019). Model 1 is the baseline model, with the dependent variable clickthrough intention and the control variables (sex, age, perceived utility and familiarity). Model 2 adds the independent variable brand-consumer fit to test whether brand-consumer fit has a positive curvilinear effect upon clickthrough intention of a display and e-mail advertisement (respectively, H1a and H1b). Model 3 includes both the control variables, dependent variable and advertising approach to test whether advertising approach has a positive effect upon clickthrough intention of a display advertisement or e-mail advertisement (respectively H2a and H2b). The fourth model combines the two independent variables (brand-consumer fit and advertising approach) into a full model. These four models are run separately for both display- and e-mail advertisements.

4 RESULTS

4.1 Results

The descriptive statistics and correlations of the model were checked using IBM SPSS Statistics 25. Table 4 depicts the descriptive statistics of the dependent variable, independent variables and control variables, Table 5 shows the correlations between these variables.

Table 4 – Descriptive statistics of variables (N = 440)

Variable	Mean	Std. Dev.	Min.	Max.
Clickthrough Intention	1.780	0.887	1.000	3.000
Brand-consumer Fit	62.860	6.084	39.220	78.990
Advertising Approach	2.882	1.027	1.000	5.000
Age	28.016	10.380	14.000	72.000
Gender (1 = Male)	1.620	0.486	1.000	2.000
Familiarity	3.380	0.897	1.000	5.000
Perceived Utility	2.097	0.730	1.000	4.500

Table 5 – Bivariate correlations between variables (N = 440)

	Variables	1	2	3	4	5	6	7
1	CTI	1.000						
2	Brand-consumer Fit	0.085	1.000					
3	Advertising Approach	0.223**	0.154**	1.000				
4	Age	-0.148**	0.018	-0.127**	1.000			
5	Gender (Male = 1)	0.111*	0.091	0.017	-0.071	1.000		
6	Familiarity	0.196**	0.029	0.363**	-0.307**	-0.139**	1.000	
7	Perceived Utility	0.439**	0.179**	0.441**	-0.139**	0.066	0.376**	1.000

* Correlation is significant at the 0.05 level (two-tailed)
** Correlation is significant at the 0.01 level (two-tailed)

The correlation coefficients in Table 5 show the strength of linear linkage between the variables, either positive or negative in direction. The variables marked with * or ** have a linear relationship between the two variables with statistically significant p-value. Even though weak to moderate, the presence of such a relationship is an indicator of possible multicollinearity. Note that brand-consumer fit and clickthrough intention do not have a statistically significant linear relationship according to these correlations. This can be explained by the hypothesised curvilinear relationship.

The Variance Inflation Factor (VIF) was checked of all predictors with high correlation to quantify the severity of the multicollinearity. Tolerance was also analysed to ensure no multicollinearity was present. As no values exceeded the acceptable threshold of 10 for VIF and all are below the threshold of 0.20 for tolerance, no multicollinearity issues were detected (Appendix D; Pan & Jackson 2008).

The ordinal logistic regression analysis in Table 6 shows the results of the models that investigate the effect of brand-consumer fit and advertising approach on consumers' clickthrough intention of both e-mail and display advertisements.

Table 6 – Ordered logistic regression analysis using IBM SPSS Statistics 25 (H2a,b and H3a,b)

	Model 1			Model 2			Model 3			Model 4		
Display advertisement												
Variables	Exp(β)	s.e.	P	Exp(β)	s.e.	P	Exp(β)	s.e.	P	Exp(β)	s.e.	P
Brand-consumer fit				1.240	0.380	0.571				1.241	0.382	0.573
Brand-consumer fit²				0.889	0.003	0.554				0.998	0.003	0.551
Advertising Approach							1.134	0.158	0.426	1.146	0.160	0.396
Male	0.763	0.289	0.347	0.752	0.293	0.331	0.786	0.291	0.407	0.773	0.295	0.383
Age	0.979	0.015	0.164 [c]	0.980	0.015	0.198 [c]	0.980	0.015	0.183 [c]	0.981	0.015	0.221
Perceived Utility	3.604	0.231	0.000 [a]	3.582	0.234	0.000 [a]	3.421	0.241	0.000 [a]	3.397	0.244	0.000 [a]
Familiarity	0.665	1.346	0.762	0.758	1.367	0.839	0.736	1.346	0.820	0.862	1.368	0.913
	1.631	0.662	0.461	1.586	0.665	0.489	1.751	0.667	0.401	1.707	0.669	0.424
	0.865	0.568	0.799	0.844	0.572	0.766	0.868	0.569	0.804	0.848	0.572	0.773
	0.765	0.549	0.626	0.756	0.555	0.614	0.742	0.553	0.588	0.733	0.558	0.579
Model fitting (p)		0.000			0.000			0.000			0.000	
Pseudo R² (Nagelkerke)		0.224			0.226			0.227			0.229	
E-mail advertisement												
Variables	Exp(β)	s.e.	P	Exp(β)	s.e.	P	Exp(β)	s.e.	P	Exp(β)	s.e.	P
Brand-consumer fit				2.995	0.466	0.019 [a]				2.968	0.468	0.020 [a]
Brand-consumer fit²				0.991	0.004	0.020 [a]				0.991	0.004	0.022 [a]
Advertising Approach							1.080	0.165	0.642	1.037	0.165	0.828
Male	0.522	0.323	0.044 [a]	0.609	0.328	0.131	0.515	0.324	0.040 [a]	0.604	0.330	0.127
Age	0.981	0.017	0.262	0.981	0.017	0.265	0.981	0.017	0.256	0.981	0.017	0.263
Perceived Utility	4.063	0.254	0.000 [a]	4.154	0.262	0.000 [a]	3.919	0.265	0.000 [a]	4.084	0.273	0.000 [a]
Familiarity	0.000	0.000	- [d]	0.000	0.000	- [d]	0.000	0.000	- [d]	0.000	0.000	- [d]
	0.405	0.690	0.190	0.414	0.713	0.217	0.422	0.699	0.217	0.421	0.720	0.230
	0.405	0.534	0.090 [b]	0.406	0.550	0.101	0.452	0.546	0.117	0.415	0.561	0.117
	0.751	0.516	0.578	0.753	0.534	0.595	0.763	0.518	0.601	0.758	0.535	0.604
Model fitting (p)		0.000			0.000			0.000			0.000	
Pseudo R² (Nagelkerke)		0.292			0.342			0.292			0.324	

[a] $p < 0.05$ (two-tailed)
[b] $p < 0.10$ (two-tailed) or $p < 0.05$ (one-tailed)
[c] $p < 0.10$ (one-tailed)
[d] Unexpected singularities in the Fisher Information matrix are encountered, there might be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

Model 1 shows the impact of the control variables (gender, age, perceived utility and familiarity) upon the dependent variable, clickthrough intention on display- or e-mail advertisements, without the independent variables brand-consumer fit and advertising approach.

Model 2 indicates that brand-consumer fit does increase the odds of a positive effect upon clickthrough intention, holding all controls constant, for both display advertisements and e-mail advertisements. However, this effect is not significant for display advertisements. The model also indicates that there is indeed a curvilinear effect, as the estimates for brand-consumer fit² are negative. Again, this effect is only significant for e-mail advertisements. Overall, this shows that the higher the fit between the brand and the consumer, the higher the intention of the consumer to click on the received e-mail advertisement. However, when the brand-consumer fit is too high, this effect backfires and the intention of the consumer to click on the received e-mail advertisement decreases again. Thus, as H1b is significant the hypothesis can be confirmed valid whereas H1a is rejected.

Model 3 shows that even though the odds-ratio results of advertising approach on clickthrough intention of both display- and e-mail advertisements are positive, the results are not significant. Therefore, both H2a and H2b need to be rejected.

Model 4 combines model 2 and 3 to determine whether the findings in the previous models are robust to each other. In this full model, the positive curvilinear effect of brand-consumer fit upon clickthrough intention of the e-mail advertisement remains significant. This shows that an increase in the fit between the brand and the consumer is associated with an increase in the odds of having a high clickthrough intention for the e-mail advertisement, with an odds ratio of 2.968 (95% CI, 2.005 upper bound to 0.170 lower bound), Wald $X^2(1) = 5.394$ and $p = 0.020$, until the fit is too high after which it backfires.

As for the control variables, the results shown in Table 6 also confirm the findings of White et al. (2008) as there is a significant positive effect of perceived utility upon the odds for a higher consumers' clickthrough intention on both e-mail and display advertisements. As for display advertisements, in Model 2 and 3, there is a significant negative effect of age upon clickthrough intention. Thus, the older the respondent, the lower the odds of a higher clickthrough intention of display advertisements. This effect is in line with previous research, yet not robust as shown by model 4 for display advertisements (Smit, van Noort & Voorveld, 2014). And for e-mail ads, in model 1 and 3, being male has a significant negative effect upon the odds of a higher clickthrough intention. Indicating women would be more likely to clickthrough via an e-mail advertisement. Again, this effect is not robust for e-mail advertisements.

4.2 Robustness Checks

A robustness check was conducted to ensure that the many steps and calculations used to determine the brand-consumer fit from the R-BPS and the BFI did not have a negative impact on the analysis. Therefore, the analysis as described above was re-run using the Euclidean distance (formula *2*) measure as the brand-consumer fit measure as opposed to the actual fit measure brand-consumer fit (formula *4*). The results did not change (Appendix E).

Another robustness check was conducted using a stepwise linear regression analysis to confirm the relationship between brand-consumer fit and clickthrough intention. The relationship was confirmed to be curvilinear (Appendix E).

A third robustness check confirmed the fit of the five separate characteristics (openness, conscientiousness, extroversion, agreeableness and neuroticism) did not affect clickthrough intention individual of the overall brand-consumer fit. These analyses can be found in Appendix E.

5 DISCUSSION

The main aim of this research is to answer the question of how brand-consumer fit and advertising approach impact consumers' clickthrough intention of two types of online behavioural advertising: display and e-mail advertisements. The survey research with Nike as an empirical context showed a positive curvilinear (inverted U) effect of brand-consumer fit on clickthrough intention, whereas advertising approach has no effect. Yet, this only holds true for e-mail advertisements.

The lack of support for the effects of brand-consumer fit on clickthrough intention for display advertisements (H1a) can be attributed to the differences between the two types of OBA as discussed in Chapter 2 of this research. First, the existence of a prior-established relationship creates an advantage. A common premise in research is that trust increases over time in relationships (Vanneste, Puranam & Kretschmer, 2013). E-mail marketing can generally only be done when consumers have signed up for the brands' marketing lists (due to legislation), whereas this is not the case for the cookie enabled online behaviourally targeted display advertisements. Secondly, the degree of awareness within the consumer of previous data collection might make display advertising more 'creepy' setting off the reactance effects since research has shown about 79% of respondents feel they are being tracked because of display advertisements for products (Nettles, 2018). And, third, the tone of voice is much more personal within an e-mail advertisement because of which the e-mail ad can come across as not being an ad. If the brand is successful in communicating with an adequate human tone, the consumers' brain is tricked into acting like it is in fact interacting with another human being instead of a brand (Chen, Nelson & Hsu 2015). Studies show that 70% of consumers trust brand recommendations from friends and 46% trust consumer reviews, but only 10% trust advertising. The more human brands come across the better their ads are trusted (Wasserman, 2013). Coming across as more human can reduce 'creepiness', which would explain why H1a lacks support whereas H1b does not (Moore et al., 2015).

In addition to these advertiser-controlled differences between the two forms of OBA, also consumer-controlled differences can have influence. Trust in the advertiser can impact effects of OBA on ad performance (higher clickthrough intention; Boerman et al., 2017; Bleier & Eisenbeiss, 2015). It can be assumed that in the case of the personalised marketing e-mail a consumer trusts his/her own e-mail provider, in the case of the display advertisement it is unsure if they do. Also, the permission marketing aspect can have given e-mail advertising the advantage since these ads are then anticipated (Godin, 2008).

Yet, results do indicate a curvilinear, inverted U-shaped relationship between brand-consumer fit and clickthrough intention, thus the conceptual model as pictured in Figure 1 in section 2.5 is consistent for this relation. Indeed, as expected, the effects of good brand-consumer fit upon clickthrough intention are bigger for e-mail advertising than is the case for display advertising (odds ratio of 2.968 as opposed to 1.241, respectively). One of the reasons for this, as explained in Chapter 2, could be the effects of Cialdini's psychology of persuasion making combined with permission marketing making consumers want to act consistent with prior choices. In other words, initially opt-in and as a consequence clickthrough (Influence at Work, 2018).

The hypothesised positive relationship between advertising approach and clickthrough intention did not find support for display- nor e-mail advertisements in the data of this research. This lack of support for hypotheses H2a and H2b can possibly be attributed to the found relationship between advertising approach and brand-consumer fit ($B = 0.172$, s.e. = 0.083 and $p = 0.038$), indicating that when advertising approach is higher, the fit between the consumer and the brand portrayed in said ad is higher. This relationship between advertising approach and brand-consumer fit is unsurprising as earlier research suggests advertising approach could have a mediating effect upon

clickthrough intention. This is because advertising approach is positively affected by "consumers' cumulative perceptions of the global value of a brands' past advertising" (also known as advertising equity; Rosengren and Dahlén, 2015 p1). And because perception, in turn, can be described as "a process by which a consumer identifies, organises, and interprets information to create meaning" (Boundless, n.d.). The way in which a consumer's mind functions therefore dictates this person's perceptions. Perceptions of intrusiveness and irritation, and therewith also the degree to which consumers rate advertising as being annoying. Even though no two people are the same, personalities and cultural identities affect these perceptions. Therefore brand-consumer fit will not only have a direct effect upon clickthrough intentions but could also have an indirect mediating effect via advertising equity and advertising approach..

The two graphs shown in Appendix F support this possibility. When advertising approach is split between a low- and high evaluation (low = 0-2.5 and high = 2.6-5), the graphs show a different slope for the quadratic relationship between brand-consumer fit and clickthrough intention. A Chi-Square test of independence (Table 7) using this recoded advertising approach on the brand-consumer fit scale indicates that the difference in brand-consumer fit is indeed significant with a Pearson Chi-Square value of 4.937, p = 0.085 for e-mail advertisements and a Pearson Chi-Square value of 5.185, p = 0.075 for display advertisements. But as Cramer's V is small, 0.154 and 0.150 respectively. This means that, although statistical testing supports the result, the difference is minimal.

Table 7 – Expected spread in Clickthrough Intention for low and high advertising approach

				Clickthrough Intention			**Total**
				Low	Neutral	High	
E-mail ad	**Advertising Approach**	Low	Count	52	10	14	76
			% of Total	23,6%	4,5%	6,4%	34,5%
		High	Count	77	23	44	144
			% of Total	35,0%	10,5%	20,0%	65,5%
Display ad	**Advertising Approach**	Low	Count	38	15	17	70
			% of Total	17,3%	6,8%	7,7%	31,8%
		High	Count	65	25	60	150
			% of Total	29,5%	11,4%	27,3%	68,2%

6 CONTRIBUTIONS

This research offers four contributions. First, by exploring the effects of brand-consumer fit and advertising approach upon the clickthrough intention of two forms of OBA, this research contributes to marketing research on online behavioural advertising. The current research offers an improvement in the understanding of when consumers (no longer) accept OBA. And so, this research provides more information towards the (dis)liking of OBA in general (Turow et al. 2009 in Boerman et al., 2017).

Second, this research responds to existing calls for research towards 'creepy-' and 'annoying marketing' (Moore et al., 2015). Creepy marketing is mainly influenced by the use of invasive tactics that use information that the consumer finds too personal (Moore et al., 2015). This perceived intrusiveness can be minimised through targeting consumers with characteristics that are loosely related to the ads instead of closely related (Boerman et al., 2017; Lu et al., 2016; Torelli et al., 2012). Hence, brand-consumer fit was used to operationalise the concept of creepy marketing. In turn, annoying marketing was operationalised through advertising approach as the former is attributable to both tactics and content of a marketing effort (Moore et al., 2015). This means that both the OBA-ad itself can be annoying, as can the way in which it is delivered. Annoyance causes inconvenience. This is exactly what happens when consumers do not want to voluntary expose themselves to an advertisement; When they are exposed regardless, they find it annoying. Although brand-consumer fit is not directly parallel to creepy marketing and advertising approach is not directly parallel to annoying marketing, they are a first attempt to operationalise these concepts and bridge the gap in existing research.

These two contributions are not only contributing to theory by helping bridge the existing gaps, but also to practice. In any marketing effort, the goal is to identify the best opportunities to reach the right consumer with the right message at the right time to have them act in accordance with the message's call to action. This call to action in the context of this research is to clickthrough but can also for instance be to buy a product, come to an activity or sign-up for something. Finding the best opportunity to show your advertisement to a consumer is therefore key. As is an increased theoretical understanding of what influences consumers to be annoyed by a marketing effort, or find the effort creepy, or in other words (dis)like the OBA effort helps minimise reactance effects. In turn, when psychological reactance effects are avoided, consumers are more likely to respond to the marketers 'call to action' (and e.g. click, buy or sign-up) since they will not be motivationally aroused to do the opposite to regain autonomy (Brehm, 1966). This will save marketing practice money as it helps aids in applying funds efficiently and without causing negative sentiment in the consumer, in turn protecting the brand's name and reputation as negative perceptions are hard to shift (so called 'negativity bias'; Kanouse & Hanson, 1972). Therefore this research helps finetune marketing messages because it underlines the importance of targeting consumers with the right amount of brand-consumer fit (i.e. close, but not too-close) in an attempt to reduce perceived creepiness of the marketing effort and avoid reactance effects.

Third, the study explores the concept of OBA itself through studying various forms of OBA. This study looks at e-mail and display marketing and evaluates how these differ in consumers' clickthrough intention as influenced by brand-consumer fit and advertising approach. The results underline that there are differences for consumers within online behaviourally targeted advertisements, even if these are unconscious. As "studies of e-mail marketing campaigns (…) are rare" exploring the concept of OBA and behaviourally targeted e-mail advertisements adding to the knowledge around e-mail marketing is a contribution to theory in itself (Ellis-Chadwick & Doherty, 2012 p.3). An increase in this understanding is important for theory because consumer behaviour needs to be studied in the specific circumstance it is to occur as much as possible. An

increase in this understanding is important for practice as in many recent publications OBA is named as the future of marketing due to the belief marketing will be increasingly precise, personalised and targeted on the individual-level (Boerman, Kruikemeier & Borgesius, 2017; Keller 2016; Kumar and Gupta, 2016; Rust, 2016; Schultz, 2016). If practice is to reap the benefits of successful OBA, such as higher clickthrough- or conversion rates (Beales, 2010), it is necessary to fully understand the differences and similarities of the forms of OBA available to marketers. This will improve their understanding, in turn helping in the decisions of when to employ which form of advertising to achieve the brands' desired goals.

The fourth contribution of this research is a contribution to methodology. Namely, this research introduces a novel measure of brand-consumer fit. Previous measures of fit have been self-reported and/or focussed on the "degree to which consumers identify with (…) and use a set of brand associations to construct and signal [their own] identity" instead of on the fit between the brands'- and the consumers' personality (Cheng, White & Chaplin, 2012; Escalas & Bettman, 2014; Gaustad, 2015 p.23). This research introduces an objective calculation of brand-consumer fit, combining the concept of Euclidean Distance with self-reported personality scales (BFI and R-BPS). Respondents were not aware of the underlying goal of asking the BFI and R-BPS. This brand-consumer fit measure helps advance the field of behavioural research because it minimises response bias due to it not being a traditional self-reported fit measure (Dodd-McCue & Tartaglia, 2010).

7 LIMITATIONS AND RECOMMENDATIONS

This research presents limitations that could be amended through future research. First, this research explored the effects of two factors, brand-consumer fit and advertising approach, upon consumers' clickthrough intention to two different online behavioural targeting advertisements (display- and e-mail). Evidently, this is not all encompassing. There are more types of marketing and advertising that use behavioural targeting than just e-mail and display advertisements on third party websites. For example, ad-posts on social media, in-app ads, personalised landing pages, different content and/or recommendation types on the website (e.g.. personalised pagerank) (Nath, 2015; Otegi, Agirre & Clough, 2014; Zhou, Albatal & Gurrin, 2016). Similarly, there are more than two concepts that impact consumers' clickthrough intention to these different OBA advertisements. Future research should therefore look into other forms of OBA and other concepts to strengthen the model.

Second, this research focusses on the consumer's perspective and does not consider the difference between product-related attributes and brand-related attributes (Aaker, 1997). However, respondents that dislike sneakers (product) might have not been able to envision themselves in this research context regardless of what they think of Nike (brand) and vice versa. Intentions and perceptions are best assessed "in relation to the particular behaviour of interest, and the specified context must be the same as that in which the behaviour is to occur" (Azjen, 1991 p.185). Similarly, the third limitation of this research owes to the case of the search for shoes particularly, which bounds the study's generalisability. Higher involvement decisions, or lower involvement decisions might make for different responses (Dikcius et al., 2013).

To amend this second and third limitation, future research should consider the difference between product-related attributes and brand-related attributes (Aaker, 1997). This can be done, for instance, by presenting a case to respondents' with the same brand but different products, and the same product but different brands, as a control. Additionally, this research should look into decisions of a different involvement-type (Dikcius et al., 2013). For example, research could consider a product or service with a different degree of involvement such as a type of yogurt (low) or a car (high).

Fourth, the BFI and R-BPS scales used to compose brand-consumer fit have been validated prior to this research by their respective researchers. However, some construct scores for Cronbach's α left to be desired (Cronbach's $\alpha < 0.7$). Openness and agreeableness for the BFI scale rendered a Cronbach's α of 0.685 and 0.667 respectively (due to items 2R, 35R and 41R). Conscientiousness, surgency and emotional stability for the R-BPS scale rendered a Cronbach's α of 0.630, 0.739 and 0.426 respectively (due to items 4, 11, 14, 23R and 29). Further research should validate the reliability of the brand-consumer fit scale introduced in this research, and whilst doing so check the internal consistency of BFI and R-BPS. Furthermore, the brand-consumer fit scale should be validated in different contexts.

The last limitation is the sampling technique used throughout this research. Using convenience sampling means that not all individuals in the actual population have equal chances of being selected for the research population resulting in an unknown proportion of the entire population not being sampled. Therefore, it is unsurprising that both skew and kurtosis exists in the sample. Meaning even though the n of 440 is appropriate for a 5% margin of error and a confidence level of 95%, generalization possibilities are bounded. Therefore new research should use a more random sampling technique than the convenience sampling technique that was used in this study, so that the generalization possibilities of the study are increased.

Furthermore, new research could control for 'liking the brand' next to the 'familiarity' measure. When consumers favour a brand, it has a positive effect on both quality perception and willingness to buy (Dodds, Monroe & Grewal, 1991; Rao & Monroe, 1989). Likewise, more insight needs to be gained in effects of overt versus covert use of consumer information. White et al. (2008) argue that even permission-based (overt) use of personal information "can elicit negative responses when the level of personalization is perceived to be inappropriate" (p.40). More insight needs to be gained and at the very least, future research should control for (c)overt data collection usage.

Research could additionally further explore the possible indirect mediation effect of advertising approach via brand-consumer fit upon clickthrough intention as explained in Chapter 5. Besides this, it would be interesting to do a longitudinal study to see what the long-term effects of negatively (or positively) evaluated OBA advertisement are on the clickthrough rates or brand itself.

8 SUMMARY AND CONCLUSIONS

This research answers the question *"How do brand-consumer fit and advertising approach affect consumers' clickthrough intention of display and e-mail advertisements?".* In order to find the answer, an empirical study via a self-administered online questionnaire using the survey-software Qualtrics was conducted using the brand Nike as case study.

Via convenience sampling a total of 614 people participated of which 440 (~72%) full responses could be used for analysis. This data was analysed using IBM SPSS Statistics 25. Ordinal logistic regression analyses indicated an increase in brand-consumer fit is associated with an increase in the odds of having a high clickthrough intention for the e-mail advertisement, but not for display advertisements. This relationship was indeed curvilinear. Thus, it can be stated that the relationship between brand-consumer fit and clickthrough intention to an e-mail advertisement is inversely U-shaped. This difference could be due to advertiser- and consumer-controlled differences between behaviourally targeted display- and e-mail advertising.

The regression analysis also indicated that an increase in the advertising approach is not associated with an increase in the odds of having a higher clickthrough intention for either type of OBA. Thus, it does not hold true that the higher the advertising approach to the display advertisement, the higher the clickthrough intention of the display- or e-mail advertisement. The reason for this could be the found statistically significant positive relationship between advertising approach and brand-consumer fit.

The control variables used in this research are: sex, age, perceived utility and familiarity. First, although not robust, results for e-mail advertisements indicate women would be more likely to clickthrough via a behaviourally targeted e-mail ad. Second, for display advertisements results show the older the respondent, the lower the odds are of having a higher clickthrough intention. Although also this result wasn't robust across all models. Third, for both display- and e-mail advertisements results indicated a robust positive effect of perceived utility upon the odds for a higher consumers' clickthrough intention. Fourth and last, familiarity with Nike did not have any significant effects upon clickthrough intentions in this research.

Visualising the account as summarised above, Figure 2 below shows the revision of the conceptual model. Throughout this research several connections that were initially modelled, as shown in the left of Figure 2 (as displayed in Figure 1 of section 2.5), did not hold after research resulting in the model in Figure 2 on the right. The dotted arrow between advertising approach and brand-consumer fit indicates the plausible indirect mediating effect as elaborated on in Chapter 5.

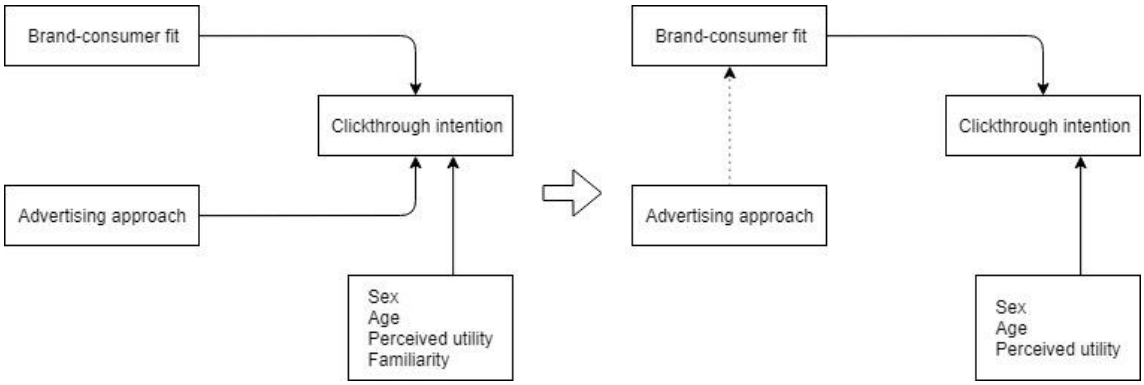


Figure 2 – Conceptual model revised

APPENDIX A | SURVEY

Page 1: Consent

Dear participant,

Many thanks for taking the time to participate in this research.

This questionnaire is part of my graduation research for the master of Business Administration at the University of Twente. I investigate how consumers respond to online advertising. In the questionnaire I use the brand 'Nike' as an example.

Participating in this research will take about 10 minutes of your time. Please answer open and honestly throughout this questionnaire, there are no right or wrong answers.

Your participation in this research is absolutely voluntary. Your response will be kept completely confidential and will be used for scientific purposes only. Answers will not be traced back to you.

Thank you for helping me graduate!

Carlijn Klaus

- Yes, I consent
- No, I do not consent

Page 2: Advertising Approach

When you are online on your computer, smartphone or a tablet, you often encounter many advertisements. Think about the advertising you have seen from Nike in the past. Based on these experiences, what are your expectations of Nike advertisements online in the future?

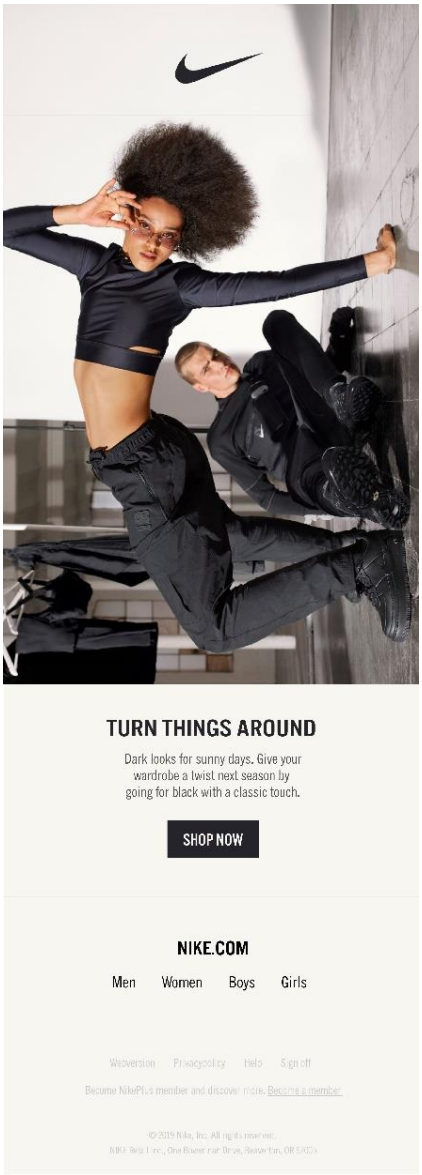
	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I look forward to Nike's future advertising					
I will find Nike's future advertising worthwhile					
I want to pay attention to Nike's future advertising					

Page 3: Research setting

Imagine the following situation before continuing with this survey:

You have been casually browsing the internet and looking at black sneakers. You visited websites of several sporty brands: Adidas, New Balance, Nike and Reebok. You also receive e-mail newsletters from these brands. You have not yet decided upon anything and are in no rush to buy, so you have not yet ordered any sneakers or bought any in a physical store.

Page 4: Advertisement (e-mail OR display)

Several days after your search, you visit a website that you frequently visit (such as a news-website, blog, video website or social media page etc.). On this website you see the advertisement below (note, this is one ad). Please look carefully at the screenshot below before continuing with the survey. You will get questions about the screenshot but will not be able to revisit this page.  	Several days after your search, you log into your e-mail. In your inbox you find the e-mail below. Please look carefully at the screenshot below before continuing with the survey. You will get questions about the screenshot but will not be able to revisit this page. 

Page 5: Clickthrough Intention

Think about the screenshot you just saw.
Would you click on it to go through to the website?

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

Page 6: Brand personality (R-BPS)

Keep the advertisement in the screenshot you saw in mind and answer the following questions spontaneously, without over thinking.

How well do the following statements describe Nike?

Nike is...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Extraverted					
Rude					
Steady					
Unexcitable					
Deep					
Shy					
Generous					
Disorganised					
Fearful					
Artistic					
Talkative					
Distrustful					
Efficient					
Unenvious					
Bright					
Bold					
Kind					
Sloppy					
Undemeaning					
Intellectual					
Timid					
Considerate					
Undependable					
Nervous					
Uninquisitive					
Active					

Harsh					
Organised					
Relaxed					
Unreflective					
Withdrawn					
Trustful					
Anxious					
Uncreative					
Introverted					
Uncooperative					
Insecure					
Unsophisticated					
Reserved					
Helpful					
Jealous					
Shallow					
Cold					

Page 7: Control variable 1 – Familiarity

How familiar are you with the brand 'Nike'?
- Not familiar at all
- Slightly familiar
- Moderately familiar
- Very familiar
- Extremely familiar

Page 8: Control variable 2 – Perceived utility

There are many more advertisements like the Nike advertisement in the screenshot you were shown. You encounter them everywhere in your online environment from many different brands and products, for instance in your e-mail inbox, on social media or on other web pages.

Think about that type of advertisement and your opinion about them, regardless of for which brand or product.

I find advertisements like that…
- Not at all useful
- Slightly useful
- Moderately useful
- Very useful
- Extremely useful

I click on advertisements like that to go to the brands' webpage…
- Never
- Sometimes
- About half the time
- Most of the time
- Always

Page 10: Consumer personality - BFI
The following questions ask about a number of characteristics that may or may not apply to you. How well do the following statements describe you? Please answer the questions spontaneously, without overthinking.

I am someone who...

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Is talkative					
Tends to find fault with others					
Does a thorough job					
Is depressed, blue					
Is original, comes up with new ideas					
Is reserved					
Is helpful and unselfish with others					
Can be somewhat careless					
Is relaxed, handles stress well					
Is curious about many different things					
Is full of energy					
Starts quarrels with others					
Is a reliable worker					
Can be tense					
Is ingenious, a deep thinker					
Generates a lot of enthusiasm					
Has a forgiving nature					
Tends to be disorganised					
Worries a lot					
Has an active imagination					
Tends to be quiet					
Is generally trusting					
Tends to be lazy					
Is emotionally stable, not easily upset					
Is inventive					
Has an assertive personality					
Can be cold and aloof					
Perseveres until the task is finished					
Can be moody					
Values artistic, aesthetic experiences					
Is sometimes shy, inhibited					
Is considerate and kind to almost everyone					
Does things efficiently					
Remains calm in tense situations					

Prefers work that is routine					
Is outgoing, sociable					
Is sometimes rude to others					
Makes plans and follows through with them					
Gets nervous easily					
Likes to reflect, play with ideas					
Has few artistic interests					
Likes to cooperate with others					
Is easily distracted					
Is sophisticated in art, music or literature					

Page 11: Demographic control variables

How old are you?

What is your gender?
- Male
- Female

What is your country of origin?
[drop down box with list of 193 countries]

Which of the following best describes your current (main) working status?
- Student
- Employed full time
- Employed part time
- Unemployed looking for work
- Unemployed not looking for work
- Retired

Page 12: End of survey

Thank you very much for taking the time to answer this questionnaire. Please click SUBMIT at the end of this page to record your response.

If you have any questions about this research, please leave your e-mail in the box below and you will be contacted.

APPENDIX B | RESPONDENT STATISTICS

Nationality					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Afghanistan	1	.2	.2	.2
	Armenia	1	.2	.2	.5
	Austria	1	.2	.2	.7
	Belgium	7	1.6	1.6	2.3
	Brazil	3	.7	.7	3.0
	Bulgaria	2	.5	.5	3.4
	Chile	1	.2	.2	3.6
	China	2	.5	.5	4.1
	Democratic Republic of the Congo	1	.2	.2	4.3
	Denmark	1	.2	.2	4.5
	Ecuador	1	.2	.2	4.8
	Ethiopia	3	.7	.7	5.5
	Finland	2	.5	.5	5.9
	France	5	1.1	1.1	7.0
	Germany	36	8.2	8.2	15.2
	Greece	2	.5	.5	15.7
	Guatemala	1	.2	.2	15.9
	India	4	.9	.9	16.8
	Indonesia	2	.5	.5	17.3
	Iran, Islamic Republic of...	1	.2	.2	17.5
	Italy	2	.5	.5	18.0
	Kenya	1	.2	.2	18.2
	Latvia	2	.5	.5	18.6
	Mauritania	1	.2	.2	18.9
	Mexico	1	.2	.2	19.1
	Myanmar	1	.2	.2	19.3
	Netherlands	319	72.5	72.5	91.8
	Nigeria	1	.2	.2	92.0
	Pakistan	1	.2	.2	92.3
	Poland	1	.2	.2	92.5
	Portugal	2	.5	.5	93.0
	Republic of Korea	1	.2	.2	93.2
	Romania	2	.5	.5	93.6
	Russian Federation	3	.7	.7	94.3
	Slovakia	2	.5	.5	94.8
	Slovenia	2	.5	.5	95.2
	South Africa	1	.2	.2	95.5
	Spain	4	.9	.9	96.4
	Sweden	1	.2	.2	96.6
	Switzerland	1	.2	.2	96.8
	United Kingdom of Great Britain and Northern Ireland	9	2.0	2.0	98.9
	United States of America	4	.9	.9	99.8
	Republic of North Macedonia	1	.2	.2	100.0
	Total	440	100.0	100.0	

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14.00	1	.2	.2	.2
	15.00	1	.2	.2	.5
	16.00	1	.2	.2	.7
	17.00	3	.7	.7	1.4
	18.00	8	1.8	1.8	3.2
	19.00	12	2.7	2.7	5.9
	20.00	22	5.0	5.0	10.9
	21.00	41	9.3	9.3	20.2
	22.00	44	10.0	10.0	30.2
	23.00	56	12.7	12.7	43.0
	24.00	55	12.5	12.5	55.5
	25.00	37	8.4	8.4	63.9
	26.00	18	4.1	4.1	68.0
	27.00	12	2.7	2.7	70.7
	28.00	10	2.3	2.3	73.0
	29.00	13	3.0	3.0	75.9
	30.00	12	2.7	2.7	78.6
	31.00	4	.9	.9	79.5
	32.00	8	1.8	1.8	81.4
	33.00	4	.9	.9	82.3
	34.00	2	.5	.5	82.7
	35.00	4	.9	.9	83.6
	36.00	3	.7	.7	84.3
	38.00	2	.5	.5	84.8
	39.00	4	.9	.9	85.7
	40.00	3	.7	.7	86.4
	42.00	6	1.4	1.4	87.7
	43.00	6	1.4	1.4	89.1
	44.00	1	.2	.2	89.3
	45.00	1	.2	.2	89.5
	46.00	1	.2	.2	89.8
	47.00	2	.5	.5	90.2
	48.00	3	.7	.7	90.9
	49.00	3	.7	.7	91.6
	50.00	8	1.8	1.8	93.4
	51.00	5	1.1	1.1	94.5
	52.00	2	.5	.5	95.0
	53.00	5	1.1	1.1	96.1
	54.00	4	.9	.9	97.0
	55.00	3	.7	.7	97.7
	56.00	1	.2	.2	98.0
	58.00	1	.2	.2	98.2
	59.00	1	.2	.2	98.4
	60.00	1	.2	.2	98.6
	61.00	1	.2	.2	98.9
	63.00	1	.2	.2	99.1
	66.00	1	.2	.2	99.3
	67.00	1	.2	.2	99.5
	71.00	1	.2	.2	99.8
	72.00	1	.2	.2	100.0
	Total	440	100.0	100.0	

Current (main) working status					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	266	60.5	60.5	60.5
	Employed full time	117	26.6	26.6	87.0
	Employed part time	35	8.0	8.0	95.0
	Unemployed looking for work	11	2.5	2.5	97.5
	Unemployed not looking for work	6	1.4	1.4	98.9
	Retired	5	1.1	1.1	100.0
	Total	440	100.0	100.0	

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	168	38.2	38.2	38.2
	Female	272	61.8	61.8	100.0
	Total	440	100.0	100.0	

APPENDIX C | RECODING BFI AND R-BPS

To recode the BFI and R-BPS items, the score for all reverse-scored items should be subtracted from 6.
For example, if the respondent gave a 5, compute 6 minus 5 and the recoded score is 1. That is, a score of 1 becomes 5, 2 becomes 4, 3 remains 3, 4 becomes 2, and 5 becomes 1.

Next, the scale scores are created by averaging the following items for each domain (where R indicates using the reverse-scored item). This yields the overall score for consumer/brand on e.g. conscientiousness.

Big Five Inventory scale scoring	Openness	Conscientiousness	Extroversion	Agreeableness	Neuroticism
	5, 10, 15, 20, 25, 30, 40, 44 35R, 41R	3, 13, 28, 33, 38 8R, 18R, 23R, 43R	1, 11, 16, 26, 36 6R, 21R, 31R	7, 17, 22, 32, 42 2R, 12R, 27R, 37R	4, 14, 19, 29, 39 9R, 24R, 34R
R-BPS Brand personality scale scoring	Intellect	Conscientiousness	Surgency	Agreeableness	Emotional Stability
	5, 10, 15, 20 25R, 30R, 34R, 38R, 42R	3, 13, 28 8R, 18R, 23R	1, 11, 16, 26 6R, 21R, 31R, 35R, 39R	7, 17, 22, 32, 40 2R, 12R, 27R, 36R, 43R	4, 14, 19, 29 9R, 24R, 33R, 37R, 41R

The distance between consumer personality and brand personality shows the brand-consumer fit and is measured via the Euclidean distance.

The Euclidean distance ($d_{c,q}$) is the distance between two points (e.g. $c = c_1, c_2, \dots, c_n$ and $q = q_1, q_2, \dots, q_n$) in the multidimensional Euclidean space. The Euclidean distance between points c and q equals the length of the straight-line segment connecting them in this space, given by the formula:

$$d_{c,q} = \sqrt{\sum_{i=1}^{n} (q_i - c_i)^2}$$

When brand and consumer personality are exactly equal, that is to say both brand and consumer score the maximum value on all Big Five personality items as determined by R-BPS and BFI respectively, the Euclidean distance will be zero.

In the case of conscientiousness, the c_1 score is calculated by adding the BFI items for conscientiousness together (3, 8R, 13, 18R, 23R, 28, 33, 38 and 43R).

The q_1 score is calculated by adding the R-BPS items for conscientiousness together (3, 8R, 13, 18R, 23R and 28). But since this is six items instead of the nine of the BFI it needs to be transformed to the maximum of the BFI. This is done by dividing the added together items by the maximum R-BPS score (six items, maximum of 5 on the Likert scale so 30 points maximum). This is then multiplied by the maximum score of the BFI (nine items, maximum of 5 on the Likert scale so 45 points maximum). So, the calculation would, with conscientiousness as example, be as follows:

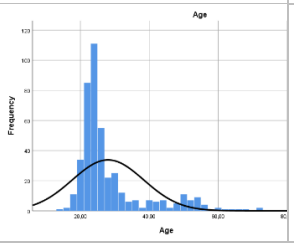
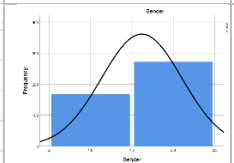
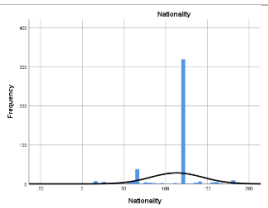
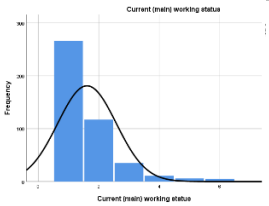
$$q_{conscientiousness} = \frac{3 + 8\text{R} + 13 + 18\text{R} + 23\text{R} + 28}{30} \times 45$$

APPENDIX D | DATA CHECKS

D.1 Skew, Kurtosis and Normality Checks

Skewness has to be between -1 and 1. and less than three times the standard error of skewness. Kurtosis has to be less than three times the standard error of kurtosis. Normality can further be checked by looking at the histograms and the displayed normal curve.

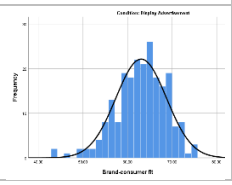
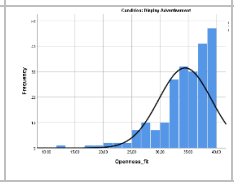
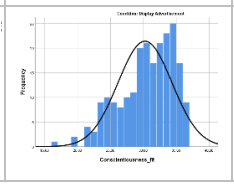
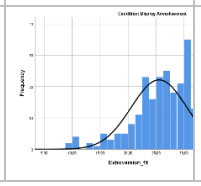
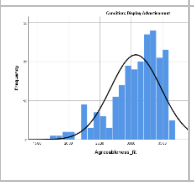
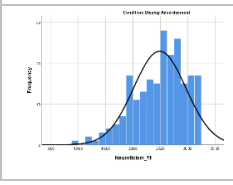
D.1.1 Respondent Characteristics

	Age	Gender	Nationality	Current (main) working status
N	440	440	440	440
Skewness	1.858	-0.488	-1.139	2.125
Std. Error of Skewness	0.116	0.116	0.116	0.116
Kurtosis	2.902	-1.770	2.340	5.279
Std. Error of Kurtosis	0.232	0.232	0.232	0.232
				

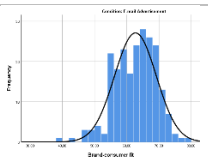
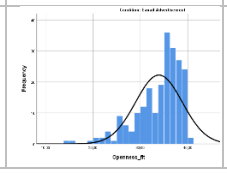
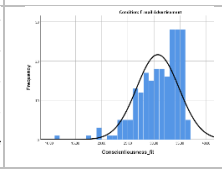
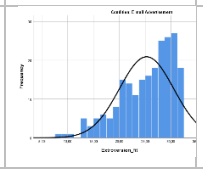
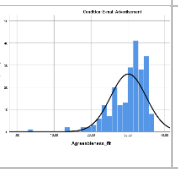
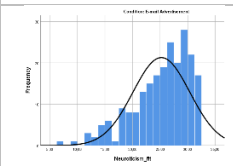
Therefore:

- Age is both positively skewed (mode = 23) and has kurtosis.
- Gender is slightly negatively slightly skewed (mode = female) and has kurtosis.
- Nationality is both negatively skewed (mode = Dutch) and has kurtosis.
- Current (main) working status is both positively skewed (mode = student) and has kurtosis.

D.1.2 Brand-consumer Fit Characteristics
D.1.2.1 Display Advertisement

	Brand-consumer fit	Openness fit	Conscientiousness fit	Extroversion fit	Agreeableness fit	Neuroticism fit
N	220	220	220	220	220	220
Skewness	-0.595	-1.527	-0.701	-1.091	-1.019	-0.635
Std. Error of Skewness	0.164	0.164	0.164	0.164	0.164	0.164
Kurtosis	0.738	3.069	-0.123	1.121	0.608	-0.087
Std. Error of Kurtosis	0.327	0.327	0.327	0.327	0.327	0.327
						

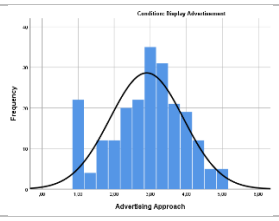
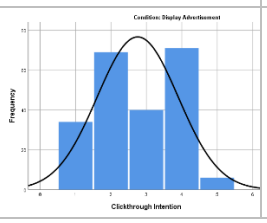
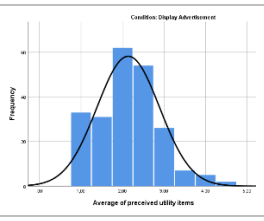
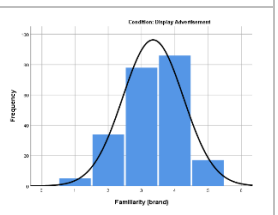
D.1.2.2 E-mail Advertisement

	Brand-consumer fit	Openness fit	Conscientiousness fit	Extroversion fit	Agreeableness fit	Neuroticism fit
N	220	220	220	220	220	220
Skewness	-0.485	-1.278	-1.147	-0.855	-1.633	-0.941
Std. Error of Skewness	0.164	0.164	0.164	0.164	0.164	0.164
Kurtosis	0.416	1.656	2.059	0.069	4.692	0.489
Std. Error of Kurtosis	0.327	0.327	0.327	0.327	0.327	0.327
						

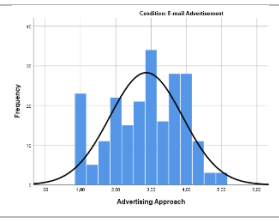
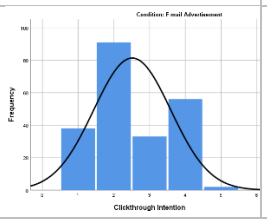
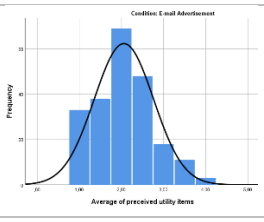
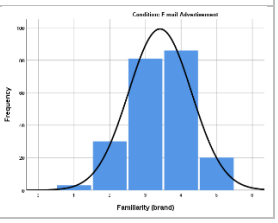
D.1.2.3 Skew/Kurtosis

	Display advertisement		**E-mail advertisement**	
	Skewness	Kurtosis	Skewness	Kurtosis
Brand-consumer fit	Slight negative skew	No	No skew	No
Openness fit	Negative skew	Yes	Negative skew	Yes
Conscientiousness fit	Slight negative skew	No	Negative skew	Yes
Extroversion fit	Negative skew	Yes	Slight negative skew	No
Agreeableness fit	Negative skew	No	Negative skew	Yes
Neuroticism fit	Slight negative skew	No	Slight negative skew	No

D.1.3 Advertising Approach. CTI and Perceived Utility Characteristics
D.1.3.1 Display Advertisement

	Advertising Approach	Clickthrough Intention	Perceived Utility	Familiarity
N	220	220	220	220
Skewness	-0.242	-0.023	0.432	-0.301
Std. Error of Skewness	0.164	0.164	0.164	0.164
Kurtosis	-0.537	-1.213	0.194	-0.268
Std. Error of Kurtosis	0.327	0.327	0.327	0.327
				

D.1.3.2 E-mail Advertisement

	Advertising Approach	Clickthrough Intention	Perceived Utility	Familiarity
N	220	220	220	220
Skewness	-0.258	0.273	0.381	-0.221
Std. Error of Skewness	0.164	0.164	0.164	0.164
Kurtosis	-0.808	-1.111	-0.149	-0.275
Std. Error of Kurtosis	0.327	0.327	0.327	0.327
				

D.1.3.3 Skew/Kurtosis

	Display advertisement		**E-mail advertisement**	
	Skewness	Kurtosis	Skewness	Kurtosis
Advertising Approach	No skew	No	No skew	No
Clickthrough intention	No skew	Yes	No skew	Yes
Perceived Utility	No skew	No	No skew	No
Familiarity	No skew	No	No skew	No

D.2. Multicollinearity Check

D.2.1 Descriptive statistics of variables (N = 440)

Variable	Mean	Std. Dev.	Min.	Max.
Clickthrough Intention	1.7795	0.88729	1	3
Brand-consumer Fit	62.8595	6.08407	39.22	78.99
Advertising Approach	2.8818	1.02718	1.00	5.00
Age	28.0159	10.38012	14.00	72.00
Gender (1 = Male)	1.62	0.486	1	2
Familiarity	3.38	0.897	1	5
Perceived Utility	2.0966	0.72953	1.00	4.50

D.2.2 Bivariate correlations between variables (N = 440)

		1	2	3	4	5	6	7
1	CTI	1.000						
2	Brand-consumer Fit	0.085	1.000					
3	Advertising Approach	0.223**	0.154**	1.000				
4	Age	-0.148**	0.018	-0.127**	1.000			
5	Gender (Male = 1)	0.111*	0.091	0.017	-0.071	1.000		
6	Familiarity	0.196**	0.029	0.363**	-0.307**	-0.139**	1.000	
7	Perceived Utility	0.439**	0.179**	0.441**	-0.139**	0.066	0.376**	1.000

* Correlation is significant at the 0.05 level (two-tailed)
** Correlation is significant at the 0.01 level (two-tailed)

D.2.3 Multicollinearity

	Tolerance	VIF
Brand-consumer fit	0.950	1.053
Advertising Approach	0.752	1.330
Age	0.891	1.123
Gender	0.945	1.059
Perceived Utility	0.730	1.370
Familiarity	0.720	1.390

APPENDIX E | ROBUSTNESS CHECK

E.1 Euclidean Distance as BCF Measure

Using Euclidean Distance as brand-consumer fit measure, Table E.1 shows the correlations between the dependent variable. independent variables and control variables. The variance inflation factor (VIF) was checked of all predictors with high correlation to quantify the severity of multicollinearity. The VIF and tolerance was checked to ensure no multicollinearity was present. (table E.2) As no values exceeded the acceptable threshold of 10 for VIF and all are below the threshold of 0.20 for tolerance. no multicollinearity was detected. This is the same as for using the fit measure for brand-consumer fit.

Table E.3. on the next page that uses the Euclidean distance and the Euclidean distance^2 is similar to the analysis in Chapter 4 for using the 'fit measure' for brand-consumer fit. No surprising sign changes. or changes in significance.

Concluding. the analysis is robust.

Table E.1.1 – Bivariate correlations (Pearson) between variables (N = 440)

		1	2	3	4	5	6	7
1	CTI	1.000						
2	Euclidean distance (BCF)	-0.085	1.000					
3	Advertising Approach	0.223**	-0.154**	1.000				
4	Age	-0.148**	-0.018	-0.127**	1.000			
5	Gender (Male = 1)	0.111*	-0.091	0.017	-0.071	1.000		
6	Familiarity	0.196**	-0.029	0.363**	-0.307**	-0.139**	1.000	
7	Perceived Utility	0.439**	-0.179**	0.441**	-0.139**	0.066	0.376**	1.000

* Correlation is significant at the 0.05 level (two-tailed)
** Correlation is significant at the 0.01 level (two-tailed)

Table E.1.2 – Multicollinearity

	Tolerance	VIF
Euclidean distance (BCF)	0.950	1.053
Advertising Approach	0.752	1.330
Age	0.891	1.123
Gender	0.945	1.059
Perceived Utility	0.730	1.390
Familiarity	0.720	1.370

Table E.1.3 – Ordered logistic regression analysis using IBM SPSS Statistics 25 (exact SPSS output)

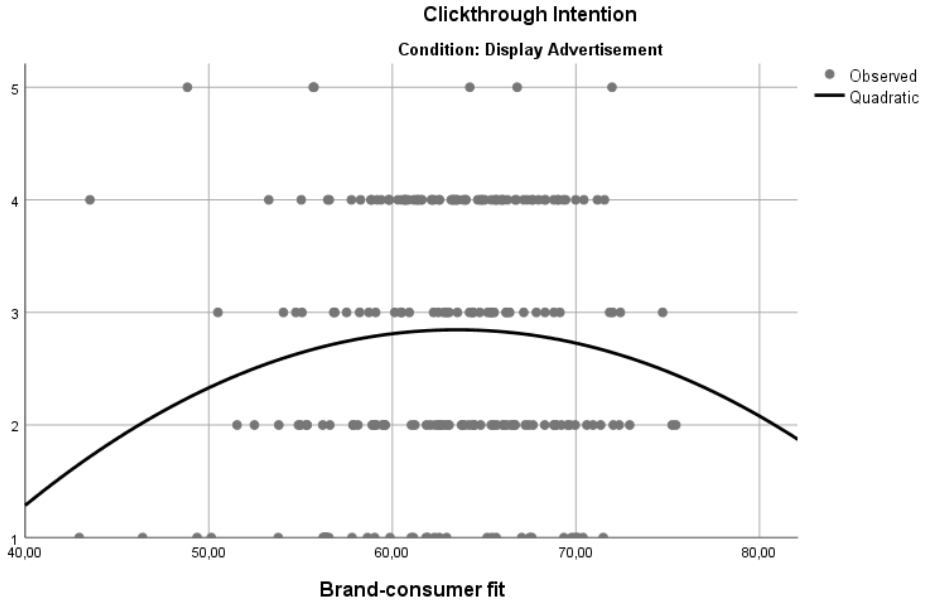
	Model 1			Model 2			Model 3			Model 4		
Display advertisement												
Variables	Exp(β)	s.e.	p	Exp(β)	s.e.	p	Exp(β)	s.e.	p	Exp(β)	s.e.	p
Euclidean Distance				1.076	0.112	0.511				1.080	0.112	0.495
Euclidean Distance²				0.998	0.003	0.554				0.998	0.003	0.551
Advertising Approach							1.134	0.158	0.426	1.146	0.160	0.396
Male	0.763	0.289	0.347	0.752	0.293	0.331	0.786	0.291	0.407	0.773	0.295	0.383
Age	0.979	0.015	0.164 [c]	0.980	0.015	0.198 [c]	0.980	0.015	0.183 [c]	0.981	0.015	0.221
Perceived Utility	3.604	0.231	0.000 [a]	3.582	0.234	0.000 [a]	3.421	0.241	0.000 [a]	3.397	0.244	0.000 [a]
Familiarity	0.665	1.346	0.762	0.758	1.367	0.839	0.736	1.346	0.820	0.862	1.368	0.913
	1.631	0.662	0.461	1.586	0.665	0.489	1.751	0.667	0.401	1.707	0.669	0.424
	0.865	0.568	0.799	0.844	0.572	0.766	0.868	0.569	0.804	0.848	0.572	0.773
	0.765	0.549	0.626	0.756	0.555	0.614	0.742	0.553	0.588	0.733	0.558	0.579
Model fitting (p)		0.000			0.000			0.000			0.000	
Pseudo R² (Nagelkerke)		0.224			0.226			0.227			0.229	
E-mail advertisement												
Variables	Exp(β)	s.e.	p	Exp(β)	s.e.	p	Exp(β)	s.e.	p	Exp(β)	s.e.	p
Euclidean Distance				1.300	0.123	0.033 [a]				1.300	0.124	0.036 [a]
Euclidean Distance²				0.991	0.004	0.020 [a]				0.991	0.004	0.022 [a]
Advertising Approach							1.080	0.165	0.642	1.037	0.165	0.828
Male	0.522	0.323	0.044 [a]	0.609	0.328	0.131	0.515	0.324	0.040 [a]	0.604	0.330	0.127
Age	0.981	0.017	0.262	0.981	0.017	0.265	0.981	0.017	0.256	0.981	0.017	0.263
Perceived Utility	4.083	0.254	0.000 [a]	4.154	0.262	0.000 [a]	3.920	0.265	0.000 [a]	4.084	0.273	0.000 [a]
Familiarity	0.000	0.000	- [d]	0.000	0.000	- [d]	0.000	0.000	- [d]	0.000	0.000	-
	0.405	0.690	0.190	0.414	0.713	0.217	0.422	0.699	0.217	0.421	0.720	0.230
	0.405	0.534	0.090 [b]	0.406	0.550	0.101	0.425	0.546	0.117	0.415	0.561	0.117
	0.751	0.516	0.578	0.753	0.534	0.595	0.763	0.518	0.601	0.758	0.535	0.604
Model fitting (p)		0.000			0.000			0.000			0.000	
Pseudo R² (Nagelkerke)		0.292			0.324			0.292			0.324	

[a] $p < 0.05$ (two-tailed)
[b] $p < 0.10$ (two-tailed) or $p < 0.05$ (one-tailed)
[c] $p < 0.10$ (one-tailed)
[d] Unexpected singularities in the Fisher Information matrix are encountered. there might be a quasi-complete separation in the data. Some parameter estimates will tend to infinity.

E.2 Curvilinear Check

E.2.1 Without Control Variables – Display Advertisement

There is significant change on the $p < 0.10$ level when the variable brand-consumer fit² is introduced (model summary table. 0.073) and the accompanying b value is indeed negative (coefficients table; -1.720). Brand-consumer fit has a significant effect on the $p < 0.10$ level when the curvilinear effect is introduced (coefficients table; 0.065). Brand-consumer effect is not significant on its own ($p = 0.379$).



Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.060[b]	0.004	-0.001	1.145	0.004	0.779	1	218	0.379
2	0.135[c]	0.018	0.009	1.139	0.015	3.237	1	217	0.073

a. Condition = Display Advertisement
b. Predictors: (Constant). Brand-consumer fit
c. Predictors: (Constant). Brand-consumer fit. Brand-consumer fit²

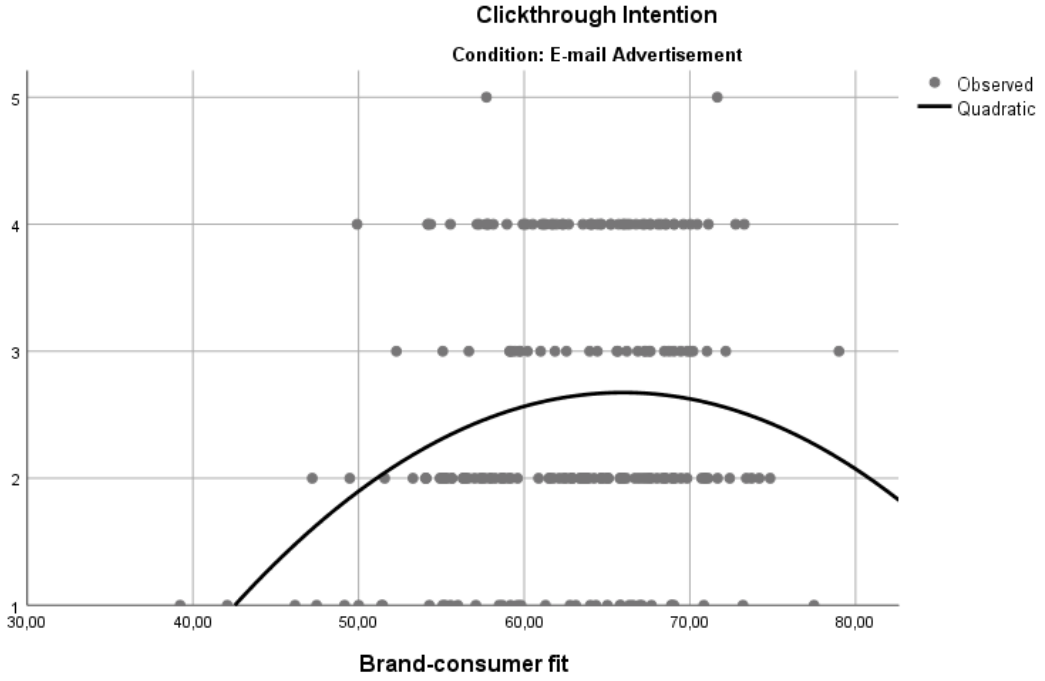
Coefficients[a.b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.995	0.864		2.309	0.022
	Brand-consumer fit	0.012	0.014	0.060	0.882	0.379
2	(Constant)	-8.533	5.915		-1.443	0.151
	Brand-consumer fit	0.358	0.193	1.775	1.857	0.065
	Brand-consumer fit²	-0.003	0.002	-1.720	-1.799	0.073

a. Condition = Display Advertisement
b. Dependent Variable: Clickthrough Intention

E.2.2 Without Control Variables – E-mail Advertisement

There is significant change on the $p < 0.05$ level when the variable brand-consumer fit² is introduced (model summary table. 0.009) and the accompanying b value is indeed negative (coefficients table; -2.247). Brand-consumer fit has a significant effect on the $p < 0.05$ level when the curvilinear effect is introduced (coefficients table; 0.005). Therefore there is indeed a curvilinear effect. as displayed in the graph.



Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.178[b]	0.032	0.027	1.064	0.032	7.106	1	218	0.008
2	0.248[c]	0.062	0.053	1.050	0.030	6.974	1	217	0.009

a. Condition = E-mailAdvertisement
b. Predictors: (Constant). Brand-consumer fit
c. Predictors: (Constant). Brand-consumer fit. Brand-consumer fit²

Coefficients[a.b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.660	0.699		0.944	0.346
	Brand-consumer fit	0.030	0.011	0.178	2.666	0.008
2	(Constant)	-10.601	4.319		-2.454	0.015
	Brand-consumer fit	0.403	0.142	2.418	2.842	0.005
	Brand-consumer fit²	-0.003	0.001	-2.247	-2.641	0.009

a. Condition = E-mail Advertisement
b. Dependent Variable: Clickthrough Intention

E.3 Influence of Separate OCEAN Factors Upon Clickthrough Intention Check*

		Model 1			Model 2			Model 3			Model 4			Model 5			Model 6		
Display advertisement																			
Variables		estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p
BCF	Openness	0.055		0.090													0.056	0.035	0.107
	Conscientiousness				-0.046	0.033	0.167										-0.046	0.034	0.174
	Extroversion							-0.011	0.028	0.690							-0.018	0.029	0.528
	Agreeableness										0.036	0.037	0.332				0.023	0.039	0.544
	Neuroticism													-0.014	0.030	0.646	-0.021	0.031	0.484
Male		-0.229		0.433	-0.287	0.290	0.321	-0.274	0.289	0.342	-0.228	0.292	0.436	-0.294	0.294	0.318	-0.261	0.301	0.387
Age		-0.021		0.147	-0.020	0.015	0.182	-0.021	0.015	0.163	-0.020	0.015	0.176	-0.021	-0.021	0.159	-0.021	0.015	0.168
Perceived Utility		1.298		0.000	1.305	0.233	0.000	1.289	0.232	0.000	1.244	0.233	0.000	1.272	1.272	0.000	1.296	0.238	0.000
Familiarity		-0.511 0.530 -0.148 -0.357	1.358 -.665 0.570 0.553	0.707 0.426 0.785 0.518	-0.280 0.432 -0.158 -0.279	1.340 0.665 0.568 0.548	0.777 0.516 0.781 0.610	-0.364 0.474 -0.162 -0.277	1.349 0.663 0.570 0.550	0.787 0.474 0.776 0.614	-0.582 0.474 -0.192 -0.335	1.364 0.663 0.570 0.553	0.670 0.475 0.737 0.545	-0.311 0.522 -0.112 -0.239	-0.311 0.522 -0.112 -0.239	0.820 0.432 0.845 0.664	-0.370 0.492 -0.170 -0.388	1.394 0.668 0.573 0.554	0.791 0.462 0.767 0.483
Model fitting (p)		0.000			0.000			0.000			0.000			0.000			0.000		
Pseudo R^2		0.236			0.231			0.225			0.228			0.225			0.249		
E-mail advertisement																			
Variables		estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p	estimate	s.e.	p
BCF	Openness	0.045		0.170													0.042	0.034	0.216
	Conscientiousness				0.015	0.037	0.683										0.011	0.039	0.781
	Extroversion							0.026	0.029	0.377							0.022	0.030	0.450
	Agreeableness										0.008	0.032	0.789				0.000	0.033	0.993
	Neuroticism													-0.023	0.030	0.431	-0.027	0.030	0.377
Male		-0.649		0.045	-0.653	0.323	0.043	-0.669	0.324	0.039	-0.644	0.324	0.047	-0.709	0.334	0.034	-0.736	0.337	0.029
Age		-0.017		0.305	-0.019	0.017	0.250	-0.021	0.017	0.217	-0.019	0.017	0.262	-0.021	0.017	0.208	-0.023	0.017	0.193
Perceived Utility		1.257		0.000	1.390	0.256	0.000	1.366	0.256	0.000	1.393	0.255	0.000	1.406	0.255	0.000	1.329	0.261	0.000
Familiarity		-19.989 -0.881 -0.898 -0.299	0.000 0.685 0.438 0.521	- 0.205 0.095 0.566	-10.838 -0.940 -0.944 -0.305	0.000 0.697 0.543 0.520	- 0.177 0.082 0.557	-19.936 -0.948 -0.924 -0.294	0.000 0.694 0.537 0.519	- 0.172 0.085 0.571	-19.827 -0.897 -0.900 -0.286	0.000 0.693 0.536 0.518	- 0.196 0.093 0.581	-19.709 -0.876 -0.916 -0.292	0.000 0.693 0.536 0.518	- 0.206 0.088 0.573	-19.952 -0.906 -0.955 -0.320	0.000 0.710 0.552 0.527	- 0.202 0.083 0.544
Model fitting (p)		0.000			0.000			0.000			0.000			0.000			0.000		
Pseudo R^2		0.299			0.292			0.295			0.292			0.294			0.304		

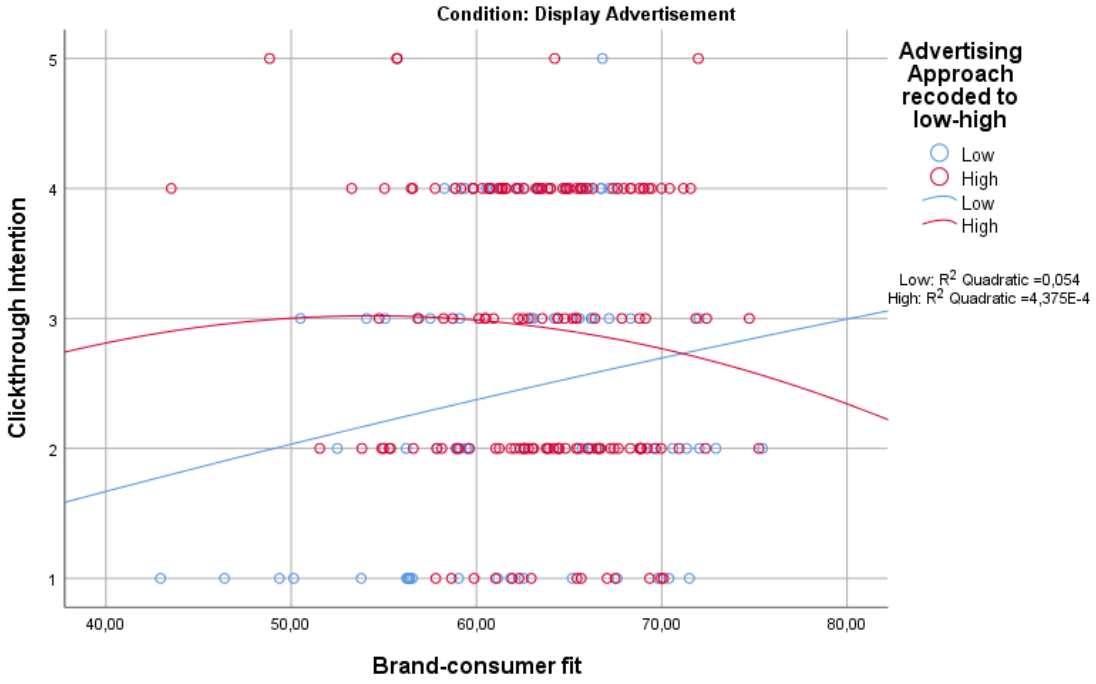
*Please note, the estimates have not been transformed to the Exp(β)!

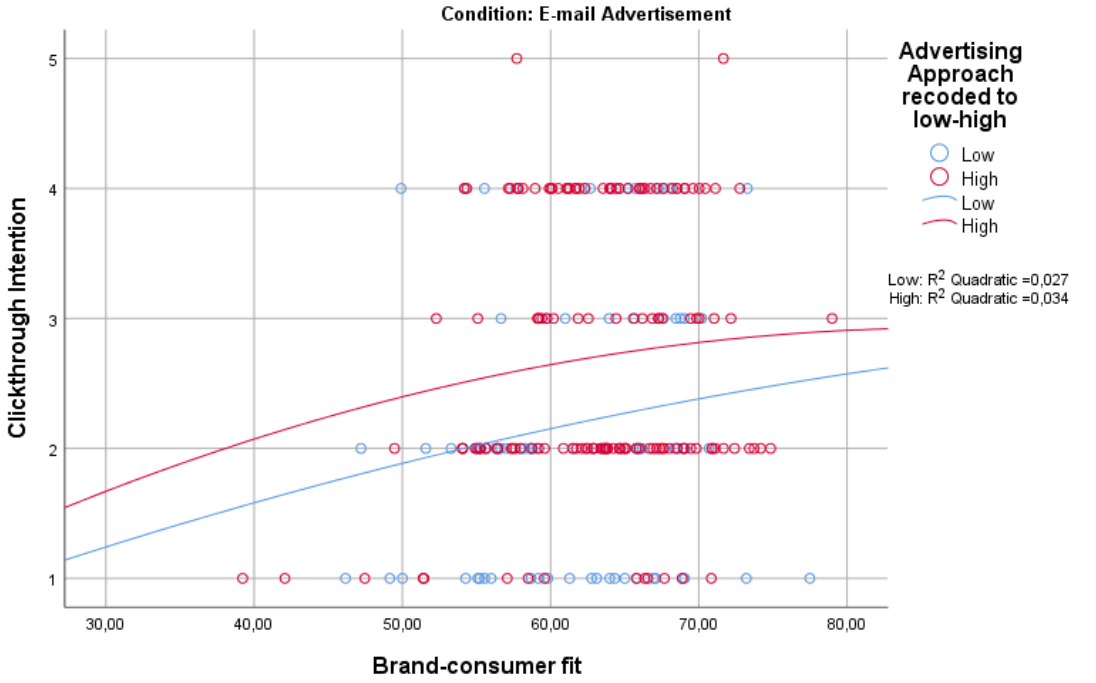
E.4 Chi-Square Test

Expected spread in Clickthrough Intention for both OBA types

		Clickthrough Intention			Total
		Low	Neutral	High	
Display Advertisement	Count	103	40	77	220
	Expected Count	116,0	36,5	67,5	220,0
	% of Total	23,4%	9,1%	17,5%	50,0%
E-mail Advertisement	Count	129	33	58	220
	Expected Count	116,0	36,5	67,5	220,0
	% of Total	29,3%	7,5%	13,2%	50,0%

APPENDIX F | FUTURE RESEARCH: ADVERTISING APPROACH AS MODERATOR





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