Erasmus School of Economics

**Erasmus University Rotterdam**

*Master Thesis Business and Economics Marketing*

# The effect of personalized social media advertisements on online consumer behavior and the mediating role of brand loyalty

**Name student:** Chantalle Okhuijsen
**Student ID number:** 655033
**Supervisor:** Assist. Prof. Dr. Cansu Tor Kadioglu
**Second assessor:**
**Date final version:** 6th of July 2023

## Abstract

Digitalization has led to a dramatic change in how consumers use social media, which used to be dominated by non-personalized advertisements. As a result, marketing strategies had to be reorganized, and personalized social media advertisements were implemented. Since the last couple of years, the personalization of social media advertisements is on the rise. However, it is also a controversial topic. Customers raised privacy concerns about personalization, a method of collecting and customizing their personal information. In response, the General Data Protection Regulation law has been in effect since May 25, 2018, having the greatest impact on the ad tech industry. In addition, consumer behavior is quite complex to comprehend since it is influenced by a variety of factors, such as brand loyalty. For this reason, the crucial role of brand loyalty is considered in this study, as customers may favor personalized advertisements if they have a high level of brand loyalty to a certain brand. With all this in mind, this study aims to examine, using the Elaboration Likelihood Model (ELM), whether brand loyalty might mediate the effect of personalized social media advertisements on online consumer behavior. Among 211 Dutch customers, an online within-subjects questionnaire experiment was conducted. They were asked to state their preferences for four advertisements of two different brands. The effect of the indicators used for this study was evaluated with multiple regression models. Based on the results, personalization of social media advertisements has a statistically significant positive impact on online consumer behavior. Moreover, customers taking the central route, regarding the ELM, with a high level of brand loyalty, seem to have a negative impact on online consumer behavior, although this effect is not statistically significant. A comprehensive analysis of online consumer behavior, personalized social media advertisements, and brand loyalty is presented in this study to provide more insights to Brand- and Communication Managers.

## Table of Contents

# 1. Introduction

Throughout this section, a summary of background information on social media advertising, online consumer behavior, and brand loyalty, as well as the problem statement is presented. Furthermore, the research questions of this study, their managerial and academic relevance, as well as the structure of this thesis, are outlined.

## *1.1 Background Information and Problem Statement*

In terms of digital advertising, Social Media Advertising is the second largest market, according to Bloomberg (2021). Statista even stated that the worldwide revenue of $89.5 billion in 2019 will rise to $138.4 billion in 2025 (Bloomberg, 2021). Where the advertising expenditure will reach €663.22 billion in 2023 (Statista, 2023). In addition, according to The Economist (2022), customers' spending during the pandemic in America increased by 38% with the use of social media advertisements. Moreover, Statista (2023) also states that there were over 4.26 billion people in 2021 who used social media worldwide for 144 minutes a day. They also predicted that this number of users will be increased to six billion in 2027.

However, social media advertisements are seen by people on average between 6,000 and 10,000 times a day. As a result, most ads are ignored or forgotten within seconds since the average person's brain is simply incapable of processing such a volume of information (Kirk, 2022). Therefore, it is difficult to stand out in a world where almost every company uses social media advertisements. According to The Economist (2023), a customer who has a high level of loyalty to a certain company is more likely to remember and be attracted by its advertisements.

Customers' loyalty is influenced by three factors: Pricing, Customer Service, and Product/Service offerings, says Statista (2023). Furthermore, 94% say they are more likely to purchase again if they have a positive customer service experience. Despite an upcoming recession, 40% of the customers will remain loyal to the brands they currently buy but consume the products less frequently. 12% of customers said they would continue to purchase the brands and amounts they are used to (Faria, 2023). It is therefore important for Brand-and Communication Managers to consider brand loyalty when implementing their social media advertisement strategies.

In terms of social media advertising, it has become a trend for companies to personalize their social media advertisements to build a relationship with their customers (The Economist, 2022).

Moreover, according to a recent study, 31% of customers said they tend to be more loyal to brands that embrace personalized advertisements, than brands that do not (Innovid, 2020). Statista (2023) even reports that 62% of customers would lose loyalty to a brand if it would deliver a non-personalized experience. In addition, the personalization of advertisements has grown in importance over the past few years, as the percentage of 62 increased by 17 from the previous year.

Although ad personalization on social media is on the rise, it is also a controversial issue. Due to privacy concerns, some customers tend to be not so enthusiastic about personalized ads (The Economist, 2021). As reported by Statista Research Department (2023), 74% of respondents were concerned about brands viewing and tracking their online behavior for advertising purposes. About a quarter of respondents were aware of how companies and brands use their personal data for online advertising. Therefore, since May 25, 2018, the General Data Protection Regulation (GDPR) law has been in effect. As a result of this privacy law, businesses, and organizations are obligated to handle personal information carefully. The advertising technology, also called, the ad tech industry, has been hit the hardest, according to The Economist (2018).

In response to this, research has already been conducted on the effect of privacy concerns related to personalized social media advertisements, and the perceptions of customers on this topic (de Keyzer, van Noort & Kruikemeijer, 2022; Hayes, Brinson, Bott & Moeller, 2021). These studies still emphasize the importance of personalization, even though it is a controversial issue. Additionally, they highlight the role of brand loyalty in influencing customer decisions; customers' perceptions of risk are more dominant when they do not have a strong relationship with a brand. This statement is also supported by previous studies about the effect of brand loyalty on consumer purchase behavior (Ćatić & Poturak, 2022; Laroche, Reza & Richard, 2012). Moreover, previous studies show that personalized social media advertisements are more effective than non-personalized social media advertisements (Tran, Muldow & Ngoc Bich Ho, 2020; Walrave, Poels, Antheunis, van den Broeck & van Noort, 2016). However, the effect of how personalized social media advertisements influence online consumer behavior is still difficult to measure since it could be affected by the amount of loyalty a customer has for a certain brand. Ansari (2018) argues that brand loyalty can be driven by several factors, such as trust and image. Personalization and online consumer behavior are also driven by several factors, which also must be taken into account to reach meaningful and valid results.

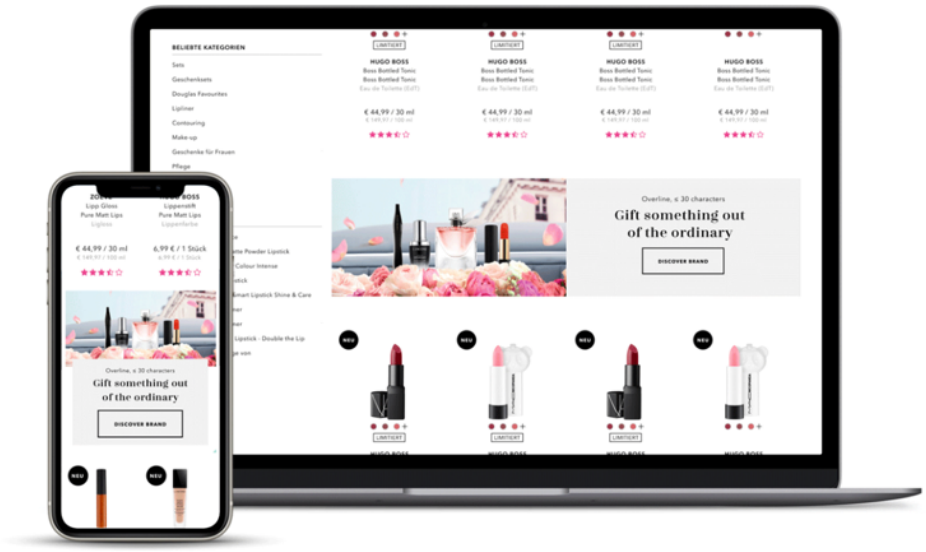
## *1.2 Research Questions*

In light of the fact that ad personalization is on the rise, as well as being a controversial topic, more research is needed in the area of social media ad personalization, brand loyalty, and online consumer behavior. To examine these effects, personalized social media advertisements represent the independent variable, online consumer behavior the dependent variable, and brand loyalty the mediator. Therefore, the main research question and sub-question of this study are: *'How do personalized social media advertisements affect online consumer behavior? And how may brand loyalty mediate this effect?'*. This study will examine Personalized Social Media Advertisements by considering two different types of personalization, namely by location and by interests (de Keyzer, Dens, & de Pelsmacker, 2022). In addition, online consumer behavior will be investigated considering the following aspects: Web Atmosphere, E-Retailers' Image, Trust, and Attitude (Ansari, 2018). Furthermore, Brand Loyalty is examined by the Brand-Oriented Attitudinal method (Mellens, Dekimpe, & Steenkamp, 1996). There are two types of measures within this method: (1) those which use stated purchase intentions or preferences, and (2) those that utilize commitment as an indicator of brand loyalty.

## *1.3 Managerial Relevance*

As a result of privacy concerns and GDPR privacy law, it is more difficult for Brand- and Communication Managers to use personalized social media advertisements effectively and incorporate them into their marketing strategies. Hence, data-driven marketing requires a new approach. In order for a data-driven marketing strategy to be successful, it is essential to have a strong, trust-based relationship with customers according to McKinsey & Company (2021). For example, at Douglas, a personalized shopping environment is part of their marketing strategy (Douglas Marketing Solutions, 2021). Each target group sees a different 'Audience ad' that is customized to their shopping habits (see *Figure 1)*. The Audience ads are in accordance with the theory of de Keyzer, et al. (2022) which identifies interest as one of the most important factors in personalized social media advertising.

*Figure 1: Douglas' Audience Ads:*




Personalized shopping environments allow Douglas to provide a much more relevant shopping experience for its customers, resulting in higher engagement and performance. In this regard, as a contribution to managerial thinking, this study will help Brand- and Communication Managers better understand the online behavior of customers in terms of personalized advertising, considering brand loyalty. In turn, Brand- and Communication Managers can use the insights that this study provides to optimize their advertising strategy to create a (long-lasting) relationship with their customers.

## *1.4 Academic Relevance*

While ad personalization may be controversial due to privacy concerns, digital behaviors, and COVID-19 have raised the bar on it. As a result of the pandemic, three-quarters of consumers changed stores, products, or buying methods, according to McKinsey & Company (2021). Companies are expected to deliver personalized interactions to 71% of customers. Most customers (76%) tend to feel frustrated when this does not occur. About 75 percent of shoppers experimented with a new shopping behavior in the last 18 months, and more than 80 percent plan to keep up the new behavior. Personalization is proven to increase revenue by 40% for companies that excel at it (McKinsey & Company, 2021). This growth makes the main research question of this study as well as the sub-question relevant. Even though there have already been studies done according to the impact of social media advertisements on consumer behavior, and the importance of brand loyalty, there is still a gap in the literature regarding

whether brand loyalty explains the effectiveness of personalized social media advertisements on online consumer behavior. Thus, this study aims to play a significant role in understanding how personalized social media advertisements affect online consumer behavior as it explores the impact of brand loyalty on it.

### *1.5 Thesis Structure*

This study consists of five sections, with the first section presenting background information, the research questions, and the managerial and academic relevance. An overview of relevant literature, as well as a framework and hypotheses for this study, are presented in the second section. Additionally, in the third section, the methodology, which includes variables and data collection methods, is discussed. The fourth section presents the results, with a description of the data. Lastly, the research question and hypotheses are addressed, limitations of the study are discussed, and future research recommendations are provided.

## 2. Literature Review and Conceptual Model

This section contains a review of the literature on social media advertising, brand loyalty, personalized advertisements, the Elaboration Likelihood Model (ELM), Privacy Calculus Theory, and an application of the theoretical framework to this study. The hypotheses and the conceptual model are also discussed in this chapter.

### *2.1 Social Media Advertising*

Social media advertising has become an integral part of modern marketing. As a result, social media advertising has been the subject of many studies. Most social media advertising effectiveness measures are based on the behavior of the respondent regarding social media and its intensity of usage (Sreejesh, Justin, Strong & Piuse, 2020; Duangruthai & Klieb, 2018; Alalwan, 2018). To investigate online consumer behavior, the indicators of Atmosphere, E-Retailers' Image, Trust, and Attitude are used in this study (Ansari, 2018). As an example, the results of Hanaysha (2022) show that several social media marketing activities were significantly associated with purchase intention. Consumer purchase intentions were significantly positively affected by interactivity, entertainment, information, and perceived relevance. It appears that marketing practitioners should engage regularly in social media advertising to build value for customers and influence their purchase decisions. In a second study done by Duanggruthai and Klieb (2018), results show that social media use positively

influences consumer satisfaction during the information-seeking and the alternative evaluation stage. Moreover, the brand could build a stronger relationship with its customers if it achieves higher levels of customer satisfaction. A third study, conducted by Bond et al. (2010), reveals that a multichannel communications approach including social media advertising could significantly affect brand loyalty and engagement. These findings are in line with the findings of Duanggruthai and Klieb (2018). As a result of the COVID-19 Pandemic, the use of social media has increased significantly. According to the findings of a study conducted by Mason, Brown, Mason, Narcum & Corona (2021), social media has become a more important tool for consumers to make decisions. Considering the global reach of the COVID-19 pandemic, the implications of an increasing role of social media in consumer decision-making will likely affect most countries.

## *2.2 The Importance of Brand Loyalty*

Building and maintaining customer loyalty in electronic marketplaces has become increasingly important due to the rapid growth of E-commerce and online customer shopping trends (Gommans, Krishnan, & Scheffold, 2001). As a result, brand loyalty is also called E-loyalty. The concept of brand loyalty is broad. According to Doyle (2016), brand loyalty is the consumer's unwillingness to switch to a competitor's product or service. The following four measurement categories can be used to measure brand loyalty: (1) Brand-Oriented Attitudinal measures, (2) Individual-Oriented Attitudinal measures, (3) Brand-Oriented Behavioral measures, and (4) Individual-Oriented Behavioral measures (Mellens, Dekimpe, & Steenkamp, 1996). *Table 1* illustrates the Framework of Brand Loyalty. In this study, the Brand-Oriented Attitudinal method is used to measure the extent of commitment to a specific brand.

Table 1: Brand Loyalty Measurements Framework

| | **Attitudinal** | **Behavioral** |
|---|---|---|
| **Brand-Oriented** | A1. Stated purchase intentions<br>A2. Commitment measures | C1. Measures based on aggregated data.<br>C1a. Measures based on aggregated switching matrices.<br>C1b. Measures based on market share.<br>C2. Measures based on individual-level data. |

| | Attitudinal | Behavioral |
|---|---|---|
| **Individual-Oriented** | B1. Measures on product category level.<br>B2. General measures | D1. Proportion-of-purchase measures.<br>D2. Sequence-of-purchase measures. |

In a study done by Ćatić & Poturak (2022), it was found that confectionary customers differ significantly in terms of their brand loyalty based on their socio-demographic characteristics (age, education, income level). In addition, customers' brand loyalty to confectionaries is significantly influenced by brand loyalty factors. Overall, they concluded that brand loyalty does affect consumer behavior significantly. Businesses and brands who want to target specific customer groups can use this study to target and promote their products. Therefore, the company will be able to better position itself and focus all its resources towards achieving its most important goal, which is rapid expansion. Further research done by Laroche et al. (2012) found that the relationships customers have with certain products, brands, and companies are positively affected by social media. This leads to a positive impact on brand trust, which in the end leads to a positive impact on brand loyalty. This outcome could help with the usage of advertising in general but not specifically with personalized social media advertisements.

### *2.3 Personalized Advertisements vs. Non-Personalized Advertisements*

Users' interests, behaviors, and preferences are considered when creating personalized social media advertisements. A variety of data is collected from users' online activity, including their search history, likes, and interactions on social media platforms. By providing relevant content, personalized advertisements are intended to catch users' attention and encourage conversions. The use of social media advertisements that are personalized has been proven to be more effective in terms of engagement (Tran, et al., 2020; Shanahan, Tran & Taylor, 2020). As an example, a study conducted by Tran et al. (2020) shows that personalized advertisements have a significant effect on brand loyalty. Although online consumer behavior is not considered, this result could help to develop social media advertising campaigns with the goal to increase brand loyalty. Another study, done by Mehta & Kulkarni (2020), suggests that the frequency of personalized advertisement exposure, the perceived usefulness, and relevance of the advertisement, and the concern about privacy controls, as well as consumers' cognitive and affective attitudes significantly influence consumers' perception and subsequent purchase intentions. Further research, considering the Elaboration Likelihood Model (ELM), reveals that

customer responses are positive as well to personalized social media advertisements, considering privacy concerns (Walrave, Poels, Antheunis, van den Broeck, & van Noort, 2016).

### *2.4 Elaboration Likelihood Model (ELM)*

In accordance with Petty and Cacioppo (2011), the dual-process theory of persuasion (ELM) was developed. The model proposes two routes through which people can be persuaded: the central route and the peripheral route. ELM suggests that when people are motivated and have the capacity to process information, they will take the central route to persuade, which involves evaluating arguments carefully. Conversely, when people are unmotivated or incapable of processing information, they rely on factors such as credibility, length, or emotional appeal to decide whether to listen to the message. In addition, the ELM suggests that people's attitudes and beliefs, along with their level of involvement in the issue being discussed, determine how they are likely to persuade. People are more likely to use the central route when they have strong attitudes and beliefs. A peripheral route is more likely to be used by people with weak attitudes and beliefs and who are not very involved in the issue. In this light, people who exhibit a high level of brand loyalty tend to follow the central route more frequently, while those who exhibit a low level of brand loyalty tend to follow the peripheral route more frequently. According to Madadi, Torres, Fazli-Salehi & Ángel (2020), ELM finds that perceived similarity partially mediates the effect of ethnicity on attitudes toward ads (Aad) for hedonic but not utilitarian services. For hedonic services, advertisements with ethnic factors were more effective than advertisements with utilitarian cues for developing brand love. In another study by Zaki, Kamarulzaman & Mohtar (2021), people who were exposed to emotions that induce a positive feeling before they see an advertisement are more likely to take the central route (ELM). These studies show that taking the central route can be influenced by several aspects.

### *2.5 Privacy Calculus Theory*

As mentioned before in *section 2.3*, Walrave et al. (2016) and Mehta and Kulkarni (2020) found that customers respond positively to personalized social media advertisements. However, it is also important to examine this effect considering the privacy calculus theory, since personalization is a controversial issue. In accordance with the privacy calculus theory, people make rational decisions about how to share their personal information online, and privacy concerns can be addressed by reducing perceived risks associated with sharing personal information and increasing people's sense of control (Culnan, 1999). Based on the findings of

a study conducted by Hayes et al. (2021), consumers and brands perceive the value of information disclosure based on perceived benefits and perceived risks. Whereas perceived risks dominated privacy calculus decisions when consumers and brands did not have strong relationships. The outcome shows the importance of brand loyalty, considering the calculus theory. Moreover, de Keyzer et al. (2022) examined the perceived costs and benefits of personalization. It appears that perceived costs are more important than perceived benefits when it comes to perceptions of personalized advertisements. This study shows that the context of personalization matters, and that future research should consider the implications and perceptions of personalization in that context.

## *2.6 Applying the Theoretical Framework to this Study*

As described before, previous studies show the effects between brand loyalty, consumer behavior, and social media. In addition, as stated in the introduction, the use of personalized advertisements is becoming increasingly important (McKinsey & Company, 2021). On the other hand, privacy concerns must be considered. Therefore, this research will take the outcome of Hayes et al. (2021) into account, which states that perceived risks dominated privacy calculus decisions when consumers and brands do not have strong relationships. In this regard, this study will assume that consumers with a strong relationship with a certain brand tend to be more likely to not be dominated by the perceived risks that dominate their decisions. In addition, according to the ELM and studies based on the ELM, individuals' attitudes and how they process messages have been examined already. Nevertheless, the ELM or studies based on ELM do not consider the impact of brand loyalty in the central route when processing messages. *Table 2, Appendix II* provides insight into the most important literature that is used for this research. It can be concluded that no research has been done yet (using the Elaboration Likelihood Model) into the mediating role that brand loyalty may have on the effect of personalized advertisements on the online behavior of consumers, which nowadays is crucial to consider. Therefore, the purpose of this research is to clarify the following research question by using the ELM theory: *'How do personalized social media advertisements affect online consumer behavior and how may brand loyalty mediate this effect?'*

## *2.7 Hypotheses and Conceptual Model*

The majority of social media advertising effectiveness measurements are based on the respondent's behavior on social media and its intensity of use (Sreejesh et al., 2020;

Duangruthai and Klieb, 2018; Alalwan, 2018). According to Walrave et al. (2016), customer responses are mostly positive to personalized social media advertisements. In addition, several studies show that many customers have preferences for personalized social media advertisements (Innovid, 2020; Statista, 2023). In order to analyze personalized social media advertising, two types of personalization could be considered, namely by location and by interests (de Keyzer et al., 2022). Moreover, the GDPR privacy law has been enacted to protect consumer privacy. By implementing personal data governance, organizations will be able to improve customer trust through the General Data Protection Regulation (GDPR). This is also supported by a study conducted by Zhang, Hassandoust, and Williams (2020), which states that increasing customer trust through stronger rights and more transparency are two of the effects of the GDPR law. The confirmation as well as insights can lead antecedents of trust into a new light. As a result of the pandemic, consumers have increased their online shopping by more than 10 percent in most industries, and they plan to keep shopping online once brick-and-mortar stores reopen (Arora, et al., 2020). Across all industries, e-commerce continues to grow in markets where internet conversion rates were high before the pandemic. Therefore, more research is needed on how online consumer behavior is changed against personalized social media advertisements.

*H1: Personalized social media advertisements positively affect online consumer behavior. Where personalized social media advertisements are measured on two different levels: Location and Interest and online consumer behavior is measured on four different levels: Web Atmosphere, E-Retailers Image, Trust, and Attitude. Assumed is that consumers are more inclined to buy products after seeing a personalized advertisement.*

For H1, the regression model is as follows per advertisement:

$$OCB_i = \beta_0 + \beta_1 PSL1_i + \beta_2 PSI1_i + \beta X + \varepsilon$$

Where OCB stands for Online Consumer Behavior, PSL1 for Personalized Social Media Advertisements by Location, and PSI1 for Personalized Social Media Advertisements by Interests. As control variables, gender, age, social media usage (hours and platform type), and education are included. Although customers prefer personalized social media advertisements, several studies have demonstrated that perceived privacy risks predominate when customers do not have a strong bond with a particular brand (Keyzer et al., 2022; Hayes et al., 2021). This indicates the importance of brand loyalty when it comes to privacy concerns. Considering this outcome, it is assumed in this study that when customers already have a strong bond with a

certain brand, perceived privacy risks will not dominate. Therefore, privacy concerns will not be tested in this study. Regarding Ćatić *and Poturak (2022)*, brand loyalty significantly affects consumer behavior. However, this study is more based on the factors that brand loyalty drives and consumer behavior in general, not specifically online consumer behavior. In order to understand the impact of brand loyalty, brand loyalty will be measured through the Brand-Oriented Attitudinal method (Mellens et al., 1996). Considering the lack of research and the change in the E-commerce behavior of customers (Gommans, Krishnan, & Scheffold, 2001), more research is needed on brand loyalty's effect on online consumer behavior.

*H2: Brand loyalty positively affect online consumer behavior. Where brand loyalty is measured on two different levels: Brand-Oriented and Attitudinal, following the Brand-Oriented Attitudinal method* (Mellens, Dekimpe, & Steenkamp, 1996). *The term Brand-Oriented refers to the respondents' brand orientation, whereas Attitudinal refers to their attitude toward the brand. Assumed is here that respondents who have loyalty towards a brand, are more inclined to buy products and follow. In addition, individuals with high brand loyalty (1) are assumed to follow the central route in the ELM.*

For H2, the regression model is as follows per customer:

$$OCB_i = \beta_0 + \beta_1 BLA\_1_i + \beta_2 BLB1_i + \beta_3 BLB2_i + \beta X + \varepsilon$$

Where BLA1 stands for Brand Loyalty Attitudinal, which is more based on the attitude of the respondents. In addition, BLB1 and BLB2 stand for Brand Loyalty Brand-Oriented, which represents the amount of brand loyalty a customer has. As control variables, gender, age, social media usage (hours and platform type), and education are included. A study conducted by Bond, Ferraro, Luxton, and Sands (2010), shows that a multichannel communications approach including social media advertising could significantly affect brand loyalty and engagement. These findings are in line with the findings of Duanggruthai and Klieb (2018). Considering the outcomes of Duanggruthai and Klieb (2018), and Bond et al. (2010), it could be assumed that social media positively affect brand loyalty. However, these outcomes do not say anything about the effect that brand loyalty may have on social media advertising. In addition, Laroche et al. (2012) also found that the relationships customers have with certain products, brands, and companies are positively affected by social media. This leads to a positive impact on brand trust, which in the end leads to a positive impact on brand loyalty. The purpose of H3 is to

investigate whether brand loyalty could mediate how personalized social media advertisements influence online consumer behavior as a result of the lack of research into this effect.

*H3 Brand loyalty mediates the effect of personalized social media advertisements on consumer behavior. In this regard, brand loyalty is measured on two different levels: Brand-Oriented and Attitudinal, following the Brand-Oriented Attitudinal method* (Mellens, Dekimpe, & Steenkamp, 1996). *Assumed is here that brand loyalty explains the effect of personalized social media advertisements on online consumer behavior, where respondents who have loyalty towards a brand, are more inclined to buy products after seeing a personalized social media advertisement. In addition, individuals with high brand loyalty (1) are assumed to follow the central route in the ELM.*

For H3, the regression model is as follows per customer:

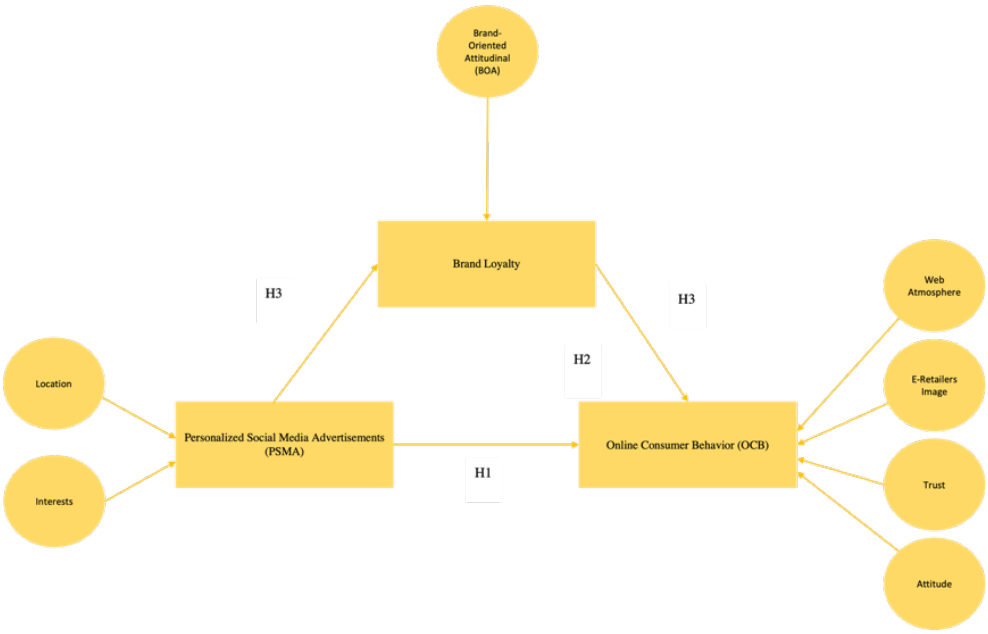
$$OCB_i = \beta_0 + \beta_1 PSI1_i + \beta_2 PSL1_i + \beta_3 BLA1_i + \beta_4 BLB1 + \beta_5 BLB2$$

$$+ \beta_6 PSI1_i * \beta_7 BLA1_i * \beta_8 BLB1 * \beta_9 BLB2 + \beta_{10} PSL1_i * \beta_{11} BLA1_i$$

$$* \beta_{12} BLB1 * \beta_{13} BLB2 + \beta X + \varepsilon$$

In *Figure 2*, the conceptual model presents the hypotheses mentioned above.

**Figure 2: Conceptual Model**



# 3. Data and Methodology

A description of the methodology and data is provided in this chapter. In this study, it is examined how personalized social media advertisements influence online consumer behavior. An analysis of this effect was conducted quantitatively. An online survey experiment was conducted with a within-subjects design to collect primary data. Detailed information is provided below.

## *3.1 Experiment Design*

To investigate these effects, an experiment was designed, using primary data by conducting a survey via Qualtrics. The survey examined how personalized social media advertisements affect online consumer behavior and whether brand loyalty plays a mediating role in this. Social media advertisements, consumer behavior, and brand loyalty are the three constructs considered in this experiment, with personalized social media advertisements as an independent variable, online consumer behavior as a dependent variable, and brand loyalty as a mediator. Each of the respondents was given the same survey in a within-subjects design. There were no differences in the conditions for the participants. In this way, it was possible to investigate respondents' opinions. The survey starts with a short introduction in which the respondents are asked to complete the survey truthfully, how much time filing in the survey will take, and so on. The variable personalized social media advertisements is tested by showing the respondent several personalized and non-personalized social media advertisements, considering interests and location. These advertisements relate to the Douglas and Axe brand, with the Douglas brand targeting female respondents and the Axe brand targeting male respondents. Moreover, the ELM attempts to explain how people process stimuli (*personalized social media ads*) and how their attitudes (*brand loyalty*) influence their behavior (*online consumer behavior*). In response to a personalized social media advertisement, the respondents will process it at a low or high level of elaboration. To measure the level of elaboration, open-text entries, and multiple-choice questions are being used for questions considering the memory of the respondents. After showing these ads, questions are asked considering interests, location, and age. These questions are presented as Likert scales. To test the effect of the online consumer behavior variable, again a Likert scale is being used. In addition to testing Web Atmosphere, E-Retailors Image, Attitude, and Trust, a multiple-choice question is being used (Ansari, 2018). To test the variable brand loyalty, questions are asked considering two indicators: Attitudinal and Brand-Orientation (Mellens, Dekimpe, & Steenkamp, 1996). As the final part of the survey, a few

demographic questions were asked in a multiple-choice format. An overview of each variable and the assigned questions can be seen in *Table 3, Appendix III,* and the Qualtrics Survey can be seen in *Appendix IV*.

## *3.2 Data Collection*

During the data collection phase, the survey link was distributed via e-mail and various social media platforms, including LinkedIn, WhatsApp, Instagram, and Facebook.

## *3.3 Measurements*

Three types of variables are presented in this section: the dependent variable, the independent variable, and the mediating variable. Where online consumer behavior represents the dependent variable, personalized social media advertisements the independent variable, and brand loyalty the mediator.

### *3.3.1 Dependent Variable*

Online consumer behavior represents the dependent variable. To measure the dependent variable, the indicators Web Atmosphere, E-retailers' Image, Trust, and Attitude are used (Ansari, 2018). As shown in *Table 3, Appendix III*, each indicator corresponds to a statement in the survey. The indicators are all added to the dataset as separate variables, namely: OCW1, OCA1, OCT1, and OCI1. According to Tittle and Hill (1967), the Likert scale is the best predictor of behavior. Therefore, a five-point Likert scale is used to indicate the acceptability of statements, where the first option relates to 'Not likely at all' and the fifth option to 'Likely at all'.

### *3.3.2 Independent Variable*

Personalized social media advertisements represent the independent variable. There are two indicators used to measure the independent variable in the survey: Location and Interest (de Keyzer, et al., 2022). In the survey, there are four advertisements being shown; two that promote a brand aimed at the interests of men, and two that promote a brand aimed at the interests of women. Further, one of each brand's advertisements is personalized to a location or name, while the other is not. Each indicator corresponds to a statement (*see Table 3*), and questions are posed using multiple-choice questions and five-point Likert scales. The indicators are all added to the dataset as separate variables, namely: PSI1, PSI2, and PSL.

### *3.3.3 Mediator*

Brand loyalty represents the mediator in this study. According to Mellens et al. (1996), there are several ways to measure Brand Loyalty. As discussed in *section* 2.2, for this study the Brand-Oriented Attitudinal method is used. This method can be measured by two different indicators (1) those which use stated purchase intentions or preferences, and (2) those that utilize commitment as an indicator of brand loyalty. As well as for the dependent and independent variables, statements are related to the indicators (*see Table 3*). In the survey, the statements are asked as multiple-choice questions. In addition, the indicators are all added to the dataset as separate variables, namely: BLB1_Douglas, BLA1_1_Douglas, BLA1_2 Douglas, BLB2_Douglas, BLB1_Axe, BLA1_1_Axe, BLA1_2_Axe, and BLB2_Axe.

### *3.3.4 Internal Consistency*

Generally, Cronbach's Alpha is used to measure internal consistency, according to Ferketich (1990). Therefore, in this study, Cronbach's Alpha is also calculated for the three variables that are considered in this study: personalized social media advertisements, online consumer behavior, and brand loyalty. Firstly, for online consumer behavior, the variables OCW1, OCA1, OCT1, and OCI1 are used to calculate Cronbach's Alpha. Moreover, for personalized social media advertisements, the variables PSI1, PSI2, and PSL are used to calculate Cronbach's Alpha. Lastly, for brand loyalty, the variables BLB1_Douglas, BLA1_1_Douglas, BLA1_2 Douglas, BLB2_Douglas, BLB1_Axe, BLA1_1_Axe, and BLA1_2_Axe, BLB2_Axe are used to calculate Cronbach's Alpha. As can be seen in *Tables 4, 5, and 6, Appendix III*, the value of Cronbach's alpha analyses for online consumer behavior is 0.790, for personalized social media advertisements it is 0.802, and for brand loyalty, it is 0.452. According to George and Mallery (2003), these rules of thumb should be followed: "_> .9 – Excellent, _> .8 – Good, _> .7 – Acceptable, _> .6 – Questionable, _> .5 – Poor, and _< .5 – Unacceptable" (p. 231). In this regard, it can be concluded that the internal consistency for the dependent variable is *acceptable,* for the independent variable, it is *good*, and for the mediator it is *unacceptable*. In light of this, the indicators of *online consumer behavior* (Dependent Variable) and the indicators of *personalized social media advertisements* (Independent Variable) are merged in this study. In addition, the indicators of *brand loyalty* (mediator) are not merged because of Cronbach's Alpha, which is indicated as unacceptable.

### *3.3.5 Control Variables*

Several studies found that the number of hours someone spends on social media affects their online consumer behavior (Stephen, 2015; Thoumrungroje, 2014; Ziyadin, Doszhan, Borodin, Omarova, and Ilyas, 2019). Therefore, the number of hours someone spends on social media is used as a control variable. Which social media platforms are used the most by the respondent, is the second control variable, gender is the third, age is the fourth, and highest level of education is the fifth. Moreover, to filter the sample, the respondents who are not likely at all to buy a product if an online advertisement is personalized are excluded from the questionnaire (Krosnick, 2017). To ensure validity, in the middle of the survey respondents are asked to indicate option C, as well as timers at the point when they are asked to review the advertisements. In addition, to getting the respondents' first impression, setting timers also help the ELM test their memory. Moreover, respondents are filtered out of the sample if the answer that tests their memory regarding the advertisements does not match. In addition, According to Lietz (2010), demographic questions, such as age and education should be placed at the end of the questionnaire rather than at the beginning, to avoid negative feelings about providing personal information impacting the answer behavior or participation. Therefore, demographic questions are asked at the end of the survey of this study.

## *3.4 Product Selection*

Douglas and Axe are selected as the two brands to measure online consumer behavior in this study. Several factors contributed to the selection. First, according to Buchholtz (2021), in the United States, the Retail industry has the highest share of total digital advertising spending in 2021. Therefore, in this study, the focus is on retail brands. In light of this, Douglas is the largest premium beauty platform in Europe (Douglas, 2022), which is also already a great player in terms of personalized advertising (see *section 1.1*). Moreover, to not only focus on one brand, the brand Axe is selected. The brand Axe is part of Unilever, which is also known as a Marketing Giant (Patton & Holstius, 2015). In choosing two popular brands with high brand awareness, the chances are high that respondents already know them. Since respondents know the brands, they may also already have an association with them. The likelihood of brand loyalty was much lower if two unknown brands were selected.

# 4. Results

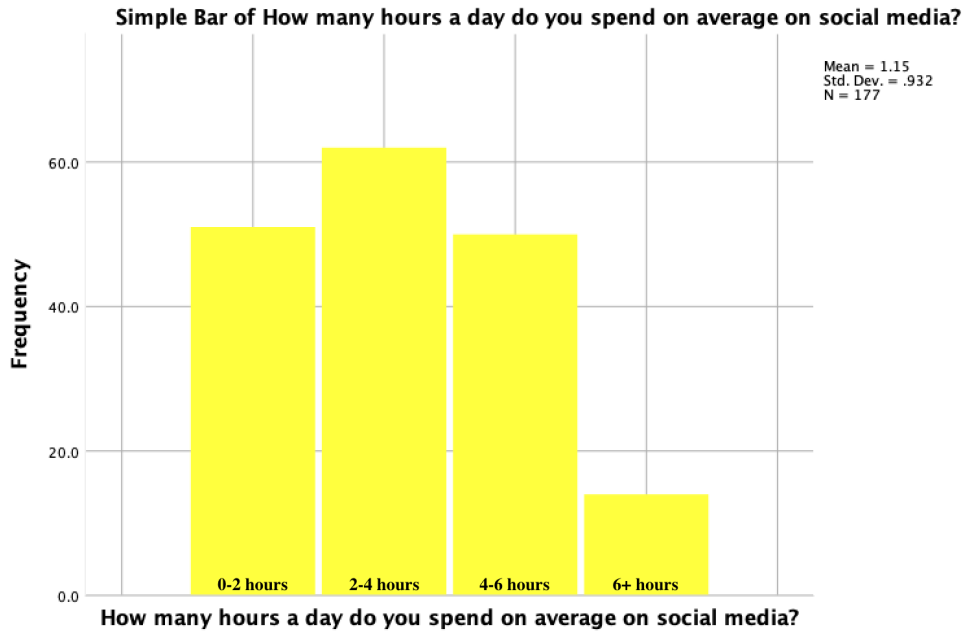
This section discusses sample sizing and data preparation. In addition, the assumptions associated with performing multiple regression analyses are tested and presented. Following that, each hypothesis will be examined in detail. The results of this study are summarized at the end of this chapter.

## *4.1 Sample*

In this survey, respondents are consumers who use social media platforms and are aware of social media advertisements. To determine a suitable sample size for this research, Pieters' (2023) tool is used, shown in *Figure 18, Appendix V* (Pieters, 2023). In this regard, the survey is conducted among 211 respondents (with a minimum of 98 and a maximum of 3306 respondents). Overall, 211 respondents started the survey, but 26 of them did not finish the questionnaire. A completion rate of 87,68% is therefore achieved. The attention checks were passed by every respondent. Additionally, 177 of the 185 respondents live in the Netherlands. The other countries represented are Afghanistan, Belgium, Germany, Nepal, Portugal, Romania, and Sweden. This study uses only respondents living in the Netherlands in order to get an accurate and representative model because online consumer behavior and brand loyalty can vary per country. In the Netherlands, for example, Dutch people shop online on a weekly basis, which positively affects their online consumer behavior (Pasquali, 2023). In addition, Dutch people tend to be (more) loyal to their favorite brand (Faria, Loyalty Towards Favorite Brands Worldwide 2020, By Country, 2023). Therefore, for the analysis of this study, the variable Country of Residence is not used as a control variable since all respondents are filtered to be Dutch. Hence, this study used 177 Dutch consumers as its final sample, and most of the respondents are between 18 and 24 years old (see *Table 7, Appendix V*). According to *Table 8, Appendix V*, 129 respondents (73.9%) are female and 48 (27.1%) are male, with no respondents belonging to the 'non-binary'/'third gender' category or 'preferring not to say'. Additionally, *Table 11*, *Appendix V*, shows that most of the respondents have a university – Bachelor's Degree (58.2%). Moreover, the majority of respondents (35%) use Instagram, 20% use Snapchat, 15% use Facebook other platforms, 9% use Twitter, and 6% use Youtube (see *Table 10* and *Figure 20, Appendix V*). *Figure 19* (see *Table 9, Appendix V*) shows the number of hours a respondent spends on average on social media. It shows that most respondents spend around 2-4 on social media. It is striking that the minority of the respondents spend around 6+ hours

on social media. A full list of demographic information and descriptives can be found in (*Table 12) Appendix V*.

**Figure 19: Simple bar of How many hours a day a respondent on average spends on social media**




## *4.2 Data Preparation*

By examining the impact of personalized social media advertisements, and considering brand loyalty, this study will contribute to more insides into online consumer behavior. This study defines statistical significance as a p-value less than 5% ($p < 0.05$). As mentioned earlier in *section 3.1*, *Table 3* shows multiple measurements for the variable online consumer behavior. For this study, multiple regression is used to test the effects of personalized social media advertisements, online consumer behavior, and brand loyalty. The four measurements of the dependent variable as well as the independent variable are merged based on their mean as mentioned in *section 3.3.1*, where Cronbach's Alpha was calculated. In addition, all nominal variables are transformed into dummy variables to run a multiple regression.

## *4.3 Testing the Assumptions of Multiple Regression*

In advance, the assumptions underlying multiple regression have been tested on the dataset. This study considers assumptions of normality, linearity, reliability, and homoscedasticity. In order to avoid Type I and Type II errors, it is important to verify these assumptions (Osborne & Walters, 2002). *Table 13* shows if the assumption is met per model, where R1 stands for

Regression Model 1 (H1), R2 for Regression Model 2 (H2), and R3 for Regression Model 3 (H3). More detailed information about the tests that are done, can be found in *Appendix VI*.

| Table 13: Assumptions of Multiple Regression | | | | |
|---|---|---|---|---|
| **Type of assumption:** | **Test:** | **R1 Satisfied Yes/No** | **R2 Satisfied Yes/No** | **R3 Satisfied Yes/No** |
| Linearity | Scatterplot | Yes | Yes | Yes |
| Normality | Normal P-P Plot | Yes | Yes | Yes |
| Reliability | Cronbach's Alpha | No | No | No |
| Homoscedasticity | Scatterplot | Yes | Yes | No |

To test the linearity of the model, a scatterplot is examined. In the graphs, there are linear patterns, which means that the assumption is satisfied for each model. Furthermore, the normality of the model is tested by conducting a Normal P-P Plot. This graph shows that the assumption is met for each model. In order to test the assumption of reliability, Cronbach's Alpha has been calculated for each model. In none of the models, the assumption of reliability is met. Lastly, the partial regression plot is examined for the three models. The scatterplots of Models 1 and 2 show no increasing residual variance. Therefore, it can be assumed that the assumption of Homoscedasticity is met. In addition, the scatterplot of Model 3 shows does shows increasing residual variance, which is a clear case for heteroscedasticity. In this regard, the assumption of Homoscedasticity is not satisfied for Model 3.

Overall, at least three assumptions out of four are satisfied for regression models 1 and 2. For regression model 3, two assumptions out of four are satisfied. However, the multiple regression analysis will still be conducted. For this reason, results should be interpreted with caution.

### *4.4 Hypothesis 1*

*H1: Personalized social media advertisements positively affect online consumer behavior. Where personalized social media advertisements are measured on two different levels: Location and Interest and online consumer behavior is measured on four different levels: Web Atmosphere, E-Retailers Image, Trust, and Attitude. Assumed is that consumers are more inclined to buy products after seeing a personalized advertisement.*

With the first hypothesis, the main effect of this study is tested. For this model, a multiple regression is examined to investigate if personalized social media advertisements have an effect

on online consumer behavior. For the dependent variable, the measurements OCW1 *(Online Consumer Behavior Web Atmosphere*), OCI1 (*Online Consumer Behavior E-Retailers Image*), OCT1 (*Online Consumer Behavior Trust*), and OCA1 (*Online Consumer Behavior Attitude*) are merged (Ansari, 2018). In addition, for the independent variable, the measurements PSI1 (*Personalized Social Media Advertisements Interests*) and PSL1 (*Personalized Social Media Advertisements Location*) are merged (de Keyzer, et al., 2022). *Section 3.3* shows Cronbach's Alpha, which calculated the internal consistency before merging the variables. Both variables were internally consistent. As mentioned before, this study is only based on Dutch respondents. Moreover, SPSS automatically excluded the variable Male.

Table 19: H1 Coefficients[a]:

| **Model 1** | **Unstandardized Coefficients B** | **Unstandardized Coefficients Std. Error** | **Standardized Coefficients B** | **t** | **Sig.** |
|---|---|---|---|---|---|
| (Constant) | .094 | .800 | | .118 | .907 |
| Instagram users | -.108 | 0.135 | -.048 | -.804 | .422 |
| Twitter users | .030 | .158 | .013 | .192 | .848 |
| Snapchat users | -.005 | .113 | -.003 | -.045 | .965 |
| Youtube users | .006 | .108 | .003 | .058 | .965 |
| Facebook users | .094 | .110 | -.047 | .857 | .393 |
| Other platform users | .067 | .117 | .033 | .570 | .569 |
| Gender: Female | .232 | .113 | .110 | 2.042 | .043 |
| How many hours a day do you spend on average on social media? | .095 | .065 | .090 | 1.460 | .146 |
| Age | -.100 | .044 | -.138 | -2.268 | .025 |
| Highest level of education completed | .025 | .041 | .033 | .605 | .546 |
| Independent variable: Personalized Social Media Advertisements | .681 | .057 | .687 | 12.005 | .000 |

a. Dependent variable: Online Consumer Behavior

Regarding *Table 19*, the independent variable Personalized Social Media Advertisements has a significant (.000 < p-value 0.05) effect on Online Consumer Behavior, with a 95% confidence interval. It suggests that if a consumer has seen a personalized social media advertisement, the

consumer is on average 0.681 more likely on a five-point Likert scale to buy a product from that certain brand. Furthermore, the control variables Females (0.043 < p-value 0.05) and Age (.025 < p-value 0.05) have a significant effect on online consumer behavior. In addition, female consumers are approximately 0.232 more likely to buy products from a brand, if their age increases by 1, ceteris paribus. Moreover, the independent variable can explain 0.564 (adjusted R Square: 56.4%) of the variance in y. Overall, the independent variable means are statistically (F (11) = 21.660; p-value .000 < 0.05), which indicates that the means are different. More information is provided in *Appendix VII*. Considering the results of the multiple regression model above, where personalized social media advertisements have a significant effect on online consumer behavior, hypothesis 1 is supported.

### *4.5 Hypothesis 2*

*H2: Brand loyalty positively affect online consumer behavior. Where brand loyalty is measured on two different levels: Brand-Oriented and Attitudinal, following the Brand-Oriented Attitudinal method* (Mellens, Dekimpe, & Steenkamp, 1996). *The term Brand-Oriented refers to the respondents' brand orientation, whereas Attitudinal refers to their attitude toward the brand. Assumed is here that respondents who have loyalty towards a brand, are more inclined to buy products and follow. In addition, individuals with high brand loyalty (1) are assumed to follow the central route in the ELM.*

The purpose of the second hypothesis is to determine whether brand loyalty affects online consumer behavior or not. An SPSS multiple regression is used to test this effect, which also includes the control variables mentioned in *section 3.3.4*. As in the previous regression model, OCW, OCI, OCT, and OCA are used as indicators of online consumer behavior, which is the dependent variable in this model. To examine the effect of brand loyalty, the indicators of Mellens et al. (1996) are used. These indicators measure brand loyalty based on the attitude and brand orientation of the respondents. In order to show brand managers exactly how the effect of brand loyalty works, the indicators are not merged into one. Therefore, in this study brand loyalty has been measured through the indicators BLA (*Brand Loyalty Attitudinal*) and BLB (*Brand Loyalty Brand Oriented*). It is important to note that this study is based exclusively on Dutch respondents. Further, SPSS automatically excluded the following variables from the analysis: Gender: Female, BLB1_Douglas: I know the brand, but I've never bought their products, BLA1_1_Douglas: Only advertisement B looks more attractive to me, BLB2_Douglas: Yes, I would be willing to pay a higher price for this brand over other brands,

BLB1_Axe: I know the brand, but I've never bought their products, BLA1_1_Axe: Only advertisement B looks more attractive to me, and BLB2_Axe: No, I am not willing to pay a higher price for this brand over other brands. As shown in *Table 16*, only the variables BLA1_1_Axe: Only advertisement A looks attractive to me (0.19 < p-value 0.05), BLA1_1_Axe: Yes, both advertisements A & B look attractive to me (.024 < p-value 0.05), and Age (.000 < p-value 0.05) have a significant effect on the dependent variable. Considering that the p-value must be < 0.05, the other variables do not have a significant effect on online consumer behavior, ceteris paribus. Moreover, regarding the ELM, for the central route, 1 can be filled in in the formula for BLB and BLA, to determine the impact of brand loyalty in the ELM. As an example, the formula can be filled in as follows, considering no control variables:

OCB = 3.521 – 4.18 *1 - 0.266 * 1 - 0.136 * 1 - 0.339 * 1 -0.634 * 1 - 0.614 * 1 - 0.529 * 1 - 0.419 * 1 + 0.251 * 1 + 0.061 * 1 - 0.103 * 1 + 0.136 * 1 + 0.167 * 1 - 0.174 * 1 + 0.372 * 1 - 0.218 * 1 - 0.134 * 1 - 0.134 * 1 + 0.084 * 1 + 0.234 * 1 + $\varepsilon$

= The effect of brand loyalty, considering consumers who take the central route of the ELM is -3.054 on their online consumer behavior, which is not statistically significant considering a p-value of 0.05.

According to variable BLA1_1_Axe: Only advertisement A looks attractive to me, consumers who find non-personalized advertisements appealing are 0.614 less likely to purchase products from that brand. Additionally, according to variable BLA1_1_Axe: Yes, both advertisements A & B look attractive to me, consumers who find personalized as well as non-personalized advertisements appealing are 0.529 less likely to purchase products from that brand. Moreover, taking the variable *Age* into consideration, it shows that if the consumer's age increases by one, they are 0.238 less likely to buy a product from a brand, based on their brand loyalty. In addition, brand loyalty can explain 20.1% of the variance in y (adjusted R Square of 0.201). Moreover, in general, the means of brand loyalty are statistically significant (F (30) = 2.479; p-value .000 < 0.05), indicating a difference in their means. Additionally, *Table 22* shows that when comparing the results with the most impact on online consumer behavior of the BLB1 variables from both brands, consumers who do not know the brand and never bought their products, seem to have a positive impact (0.251) on online consumer behavior, this is statistically insignificant (0.666 > p-value 0.05). Furthermore, consumers who prefer Axe over its competitors seem to have a negative impact on online consumer behavior (-0.199), but this is also not statistically significant (0.507 > p-value 0.05). Moreover, based on the results of the

BLB2 variable, consumers who do not have an opinion about paying a higher price and are not willing to pay a higher price for Douglas over other brands, seem to have the most impact (-0.134) on online consumer behavior, both statistically insignificant (0.622 > p-value 0.05 and 0.498 > p-value 0.05). However, the largest (negative) impact on online consumer behavior (0.234) seems to come from consumers who do not have an opinion about paying a higher price for Axe over its competitors (0.748 > p-value 0.05). Further, according to the variable BLA, consumers who find that both advertisements of Douglas do not look attractive to them, seem to have the biggest impact (-0.418) on online consumer behavior, which is not statistically significant (0.141 > p-value 0.05). Also, consumers who find that both advertisements of Axe do not look attractive to them, seem to have a negative impact (-0.634) on online consumer behavior, this is statistically significant (0.026 < p-value 0.05). *Appendix VIII* provides more information.

Table 22: H2 Coefficients[a] Considering both Douglas and Axe

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 3.521 | 1.064 | | 3.311 | .001 |
| Instagram users | -.142 | .195 | -.062 | -.727 | .468 |
| Twitter users | .264 | .253 | .114 | 1.040 | .300 |
| Snapchat users | -.181 | .159 | -.095 | -1.136 | .258 |
| Youtube users | -.117 | .156 | -.062 | -.749 | .455 |
| Facebook users | .257 | .155 | .130 | 1.660 | .099 |
| Other platform users | .026 | .175 | .013 | .150 | .881 |
| Gender: Male | -.166 | .192 | -.079 | -.863 | .390 |
| How many hours a day do you spend on average on social media? | .091 | .089 | .089 | 1.021 | .309 |
| Age | -.238 | .067 | -.328 | -3.568 | .000 |
| Highest level of education completed | .026 | .060 | .035 | .439 | .662 |
| BLB1_Douglas: I do not know the brand, so I've never bought their products | .251 | .581 | .034 | .0432 | .666 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Douglas: I buy from this brand on a regularly basis | .061 | .223 | .027 | .272 | .786 |
| BLB1_Douglas I prefer this brand over its competitors | -.103 | .356 | -.024 | -.289 | .773 |
| BLB1_Douglas: I often buy products from this brand | .136 | .189 | .072 | .722 | .472 |
| BLA1_1_Douglas: No, the advertisements do not look attractive at all to me | -.418 | .283 | -.162 | -1.478 | .141 |
| BLA1_1_Douglas: Only advertisement A looks attractive to me | -.266 | .270 | -.119 | -.983 | .327 |
| BLA1_1_Douglas: Yes, both advertisements A and B look attractive to me | -.136 | .251 | -.066 | -.541 | .589 |
| BLA1_1_Douglas: I have no opinion on this | -.339 | .334 | -.097 | -1.013 | .313 |
| BLB2_Douglas: No, I am not willing to pay a higher price for this brand over other brands | -.134 | .197 | -.070 | -.679 | .498 |
| BLB2_Douglas: I have no opinion on this | -.134 | .271 | -.050 | -.494 | .622 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Axe: I do not know the brand, so I've never bought their products | .167 | .300 | .043 | .556 | .579 |
| BLB1_Axe: I buy from this brand on a regularly basis | -.174 | .259 | -.061 | -.672 | .503 |
| BLB1_Axe: I prefer this brand over its competitors | .372 | .559 | .051 | .665 | .507 |
| BLB1_Axe: I often buy products from this brand | -.218 | .207 | -.079 | -1.054 | .294 |
| BLA1_1_Axe: No, the advertisements do not look attractive at all to me | -.634 | .282 | -.234 | -2.247 | .026 |
| BLA1_1_Axe: Only advertisement A looks attractive to me | -.614 | .258 | -.254 | -2.379 | .019 |
| BLA1_1_Axe: Yes, both advertisements A and B look attractive to me | -.529 | .232 | -.255 | -2.279 | .024 |
| BLA1_1_Axe: I have no opinion on this | -.419 | .323 | -.120 | -1.299 | .196 |
| BLB2_Axe: Yes, I would be willing to pay a higher price for this brand over other brands | .084 | .232 | .031 | .360 | .719 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB2_Axe: I have no opinion on this | .234 | .231 | .085 | 1.014 | .312 |

a. Dependent variable: Online Consumer Behavior

Further, in the questionnaire, there are advertisements shown from two different brands: Douglas and Axe (see *section 3.1*). However, when for example Douglas is excluded from the regression model, the same variables turn out to be significant. Based on the results, it can be assumed that BLA (Brand Loyalty Attitude) influences online consumer behavior. However, not every variable of BLA is significant. In light of this, it is not possible to draw valid conclusions about brand loyalty, the ELM and online consumer behavior. As a result, hypothesis 2 cannot be supported.

### *4.6 Hypothesis 3*

*H3 Brand loyalty mediates the effect of personalized social media advertisements on consumer behavior. In this regard, brand loyalty is measured on two different levels: Brand-Oriented and Attitudinal, following the Brand-Oriented Attitudinal method* (Mellens, Dekimpe, & Steenkamp, 1996). *Assumed is here that brand loyalty explains the effect of personalized social media advertisements on online consumer behavior, where respondents who have loyalty towards a brand, are more inclined to buy products after seeing a personalized social media advertisement. In addition, individuals with high brand loyalty (1) are assumed to follow the central route in the ELM.*

This hypothesis tests whether brand loyalty mediates the effect of personalized social media advertisements on online consumer behavior. In this regard, brand loyalty is measured by the indicators BLA and BLB, and online consumer behavior by the indicators OCW, OCI, OCT, and OCA, in which online consumer behavior is combined into a single variable. In addition, personalized social media advertisements are tested by the indicators *PSI* and *PSL*, which are also merged into one variable. An important note is that only Dutch respondents are considered I this study. A further exclusion of variables from the analysis was done automatically by SPSS. The following variables were excluded: BLB1_Douglas: I know the brand, but I've never bought their products, BLA1_1_Douglas: Only advertisement B looks attractive to me, BLB2_Douglas: Yes, I would be willing to pay a higher price for this brand over other brands,

BLB1_Axe: I know the brand, but I've never bought their products, BLA1_1_Axe: Only advertisement B looks attractive to me, and BLB2_Axe: No, I am not willing to pay a higher price for this brand over other brands. Moreover, regarding the ELM, for the central route, 1 can be filled in in the formula for BLB and BLA, to determine the impact of brand loyalty in the ELM. As an example, the formula can be filled in as follows, considering no control variables:

OCB = 0.625 + 0.686 * 1 - 0.147 * 1 + 0.122 * 1 + 0.073 * 1 - 0.153 * 1 - 0.247 * 1 - 0.177 * 1 - 0.230 * 1 + 0.015 * 1 - 0.087 * 1 + 0.181 * 1 + 0.161 * 1 + 0.222 * 1 - 0.127 * 1 - 0.099 * 1 + 0.115 * 1 - 0.199 * 1 - 0.047 * 1 + 0.024 * 1 - 0.020 * 1 + 0.152 * 1 + 0.686 * 1 * -0.147 * 1 * 0.122 * 1 * 0.073 * 1 * -0.153 * 1 * -0.247 * 1 * -0.177 * 1 * -0.230 * 1 * 0.015 * 1 * -0.087 * 1 * 0.181 * 1 * 0.161 * 1 * 0.222 * 1 * -0.127 * 1 * -0.099 * 1 * 0.115 * 1 * -0.199 * 1 * -0.047 * 1 * 0.024 * 1 * -0.020 * 1* 0.152 * 1 + $\varepsilon$

= The effect of brand loyalty, considering consumers who take the central route of the ELM is approximately -1.239 on their online consumer behavior, which is not statistically significant considering a p-value of 0.05.

According to *Table 25*, only the independent variable personalized social media advertisements is statistically significant (.000 < p-value 0.05). Furthermore, neither the variables measuring brand loyalty, nor the control variables are statistically significant with a p-value > 0.05, ceteris paribus. Based on the independent variable, consumers who see personalized social media ads are 0.686 more likely to buy a product from that brand, regardless of whether they are loyal to the brand. Further, the effect has an adjusted R square of 0.551, explaining 55.1% of the variance in y. Additionally, the means are statistically significant (F (31) = 7.973; p-value .000 < 0.05), indicating a difference in their means. Additionally, *Table 25* shows that when comparing the results with the most impact on online consumer behavior of the BLB1 variables from both brands, consumers who frequently buy Douglas products seem to have a positive impact (0.222) on online consumer behavior, but this is statistically insignificant (0.549 > p-value 0.05). Furthermore, consumers who frequently buy Axe products have a negative impact on online consumer behavior (-0.199), but this is also not statistically significant (0.202 > p-value 0.05). Moreover, based on the results of the BLB2 variable, consumers who do not have an opinion about paying a higher price for Axe seem to have the most impact (0.152) on online consumer behavior, this effect is not statistically significant (0.380 > p-value 0.05). However, the largest (negative) impact on online consumer behavior (-0.47) seems to come from

consumers who do not want to pay more for Douglas over other competitors, this effect is statistically insignificant (0.748 > p-value 0.05). Further, according to the variable BLA, consumers who do not have an opinion about Douglas' advertisements have the biggest impact (-0.153) on online consumer behavior, which is not statistically significant (0.542 > p-value 0.05). Also, consumers who find both advertisements A and B of Axe attractive have a negative impact (-0.230) on their buying behavior, although it is not statistically significant (0.194 > p-value 0.05). More details are provided in *Appendix IX*.

| Table 25: Coefficients[a] Considering both Douglas and Axe | | | | | |
|---|---|---|---|---|---|
| **Model 1** | **Unstandardized Coefficients B** | **Unstandardized Coefficients Std. Error** | **Standardized Coefficients B** | **t** | **Sig.** |
| (Constant) | .625 | .842 | | .742 | .459 |
| Instagram users | -.167 | .146 | -.074 | -1.146 | .254 |
| Twitter users | -.063 | .192 | -.027 | -.327 | .744 |
| Snapchat users | -.010 | .120 | -.005 | -.079 | .937 |
| Youtube users | .117 | -.042 | -.676 | .500 | .522 |
| Facebook users | .085 | .117 | .043 | .725 | .470 |
| Other platform users | .055 | .131 | .027 | .415 | .678 |
| Gender: Male | -.063 | .144 | -.030 | -.434 | .665 |
| How many hours a day do you spend on average on social media? | .092 | .067 | .091 | 1.386 | .168 |
| Age | -.097 | .052 | -.133 | -1.870 | .064 |
| Highest level of education completed | .040 | .045 | .052 | .877 | .382 |
| Independent Variable: Personalized Social Media Advertisements | .686 | .064 | .692 | 10.715 | .000 |
| BLB1_Douglas: I do not know the brand, so I've never bought their products | -.087 | .436 | -.012 | -.200 | .842 |
| BLB1_Douglas: I buy from this brand on a regularly basis | .181 | .168 | .081 | 1.077 | .283 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Douglas: I prefer this brand over its competitors | .161 | .268 | .038 | .601 | .549 |
| BLB1_Douglas: I often buy products from this brand | .222 | .142 | .118 | 1.566 | .120 |
| BLA1_1_Douglas: No, the advertisements do not look attractive at all to me | -.147 | .213 | -.057 | -.689 | .492 |
| BLA1_1_Douglas: Only advertisement A looks attractive to me | .122 | .206 | .055 | .595 | .593 |
| BLA1_1_Douglas: Yes, both advertisements A and B look attractive to me | .073 | .189 | .035 | .389 | .698 |
| BLA1_1_Douglas: I have no opinion on this | -.153 | .251 | -.044 | -.611 | .542 |
| BLB2_Douglas: No, I am not willing to pay a higher price for this brand over other competitors | -.047 | .148 | -.025 | -.321 | .748 |
| BLB2_Douglas: I have no opinion on this | .024 | .204 | .009 | .117 | .907 |
| BLB1_Axe: I do not know the brand, so I've never bought their products | -.127 | .227 | -.032 | -.559 | .577 |
| BLB1_Axe: I buy from this brand on a regularly basis | -.099 | .194 | -.034 | -.508 | .613 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Axe: I prefer this brand over its competitors | .115 | .420 | .016 | .275 | .784 |
| BLB1_Axe: I often buy products from this brand | -.199 | .155 | -.072 | -1.280 | .202 |
| BLA1_1_Axe: No, the advertisements do not look attractive at all to me | -.247 | .215 | -.091 | -1.150 | .252 |
| BLA1_1_Axe: Only advertisement A looks attractive to me | -.177 | .199 | -.048 | -.585 | .559 |
| BLA1_1_Axe: Yes, both advertisements A and B look attractive to me | -.230 | .176 | -.111 | -1.306 | .194 |
| BLA1_1_Axe: I have no opinion on this | .015 | .245 | .004 | .059 | .953 |
| BLB2_Axe: Yes, I would be willing to pay a higher price for this brand over other brands | -.020 | .174 | -.008 | -.115 | .909 |
| BLB2_Axe: I have no opinion on this | .152 | .173 | .055 | .880 | .380 |

a. Dependent variable: Online Consumer Behavior

Due to the results above, which show that the mediating variable of brand loyalty is not statistically significant, even though the independent variable personalized social media advertisements is, no further research on the mediating effect is conducted. In this regard, it can be concluded that hypothesis 3 is not supported.

### *4.7 Hypothesis Overview*

A summary of the tested hypotheses is provided in *Table 28*.

| Table 28: Summary of the Results of the Hypotheses | | |
|---|---|---|
| **#** | **Hypotheses** | **Result** |
| 1 | Personalized social media advertisements positively affect online consumer behavior. Where personalized social media advertisements are measured on two different levels: Location and Interest and online consumer behavior is measured on four different levels: Web Atmosphere, E-Retailers Image, Trust, and Attitude. Assumed is that consumers are more inclined to buy products after seeing a personalized advertisement. | Supported |
| 2 | Brand loyalty positively affects online consumer behavior. Where brand loyalty is measured on two different levels: Brand Oriented and Attitudinal. The term Brand Orientation refers to the respondents' brand orientation, whereas Attitudinal refers to their attitude toward the brand. Assumed is here that respondents who have loyalty towards a brand, are more inclined to buy products. | Not supported |
| 3 | Brand loyalty mediates the effect of personalized social media advertisements on consumer behavior. In this regard, brand loyalty is measured on two different levels: Brand Oriented and Attitudinal. Assumed is here that brand loyalty explains the effect of personalized social media advertisements on online consumer behavior, where respondents who have loyalty towards a brand, are more inclined to buy products after seeing a personalized social media advertisement. | Not supported |

## 5. Conclusions and Recommendations

The purpose of this chapter is to provide a summary of all the findings according to the hypotheses. In addition, conclusions are drawn based on the findings of multiple regression analyses. Furthermore, theoretical, and managerial implications are given, as well as limitations and recommendations for future research.

### *5.1 Key Findings of the Literature Review*

According to the literature review, social media advertising, the importance of brand loyalty, personalized advertisements vs. non-personalized advertisements, the Elaboration Likelihood Model, and the Privacy Calculus Theory are discussed. Firstly, it has been shown in a study conducted by Bond et al. (2010) that multichannel communication involving social media advertising can significantly affect brand loyalty and engagement. Additionally, Duanggruthai and Klieb (2018) supported this conclusion in their study. Moreover, Laroche et al. (2012) found that social media was positively affecting customers' relationships with certain products,

brands, and companies. In addition, multiple studies have shown that personalized advertisements on social media improve customer engagement (Tran et al., 2020; Shanahan et al., 2019). Further, as part of the ELM, as well as studies based on the ELM, attitudes and how individuals process messages have already been examined (Zaki et al., 2021; Madadi et al., 2020). Despite this, ELM or studies based on ELM neglect brand loyalty when processing messages in the central route. Lastly, Hayes et al. (2021) demonstrate that consumers and brands perceive information disclosure as a combination of perceived benefits and risks. As a result, perceived risks dominated privacy calculus decisions when there was little or no relationship between the consumer and the brand.

### *5.2 Key Findings of the Empirical Research*

The main objective of this study is to investigate how personalized social media advertisements affect online consumer behavior. Furthermore, the study examines how brand loyalty may mediate this effect by exploring the hypotheses considering the ELM. To examine these effects a survey was conducted among 211 respondents. The survey included four different advertisements from two different brands, including personalized and non-personalized ads, and was distributed across multiple social media platforms including WhatsApp, Facebook, and Instagram.

The first hypothesis investigated the effect of personalized social media advertisements on online consumer behavior, which is the main effect of this study. In light of this, it is found that personalized social media advertisements have a positive effect on consumer behavior. The analysis shows that consumers who have seen personalized social media advertisements, significantly intend to be on average approximately 0.681 more likely to buy products from that brand. To this end, Hypothesis 1 '*Personalized social media advertisements positively affect online consumer behavior',* is supported. This suggests that consumers who have seen a personalized advertisement are more likely to buy products than consumers who do not have seen a personalized advertisement on social media. These findings are in line with the hypothesis expectations.

The second hypothesis tests if brand loyalty influences online consumer behavior, which is an indirect effect in this research. In this regard, it is investigated that brand loyalty has no significant effect on online consumer behavior, which means that hypothesis 2 '*Brand loyalty positively affects online consumer behavior*', is not satisfied. However, results assume that BLA has an impact on online consumer behavior since some of the variables were statistically

significant. In addition, consumers who take the central route of the ELM, turn out to be negatively impacted on their online consumer behavior.

Lastly, the mediating effect of brand loyalty on the effect of personalized social media advertisements and online consumer behavior is tested in hypothesis 3. The results of the study revealed that brand loyalty does not produce statistically significant effects as a mediator, while personalized social media advertisements remain significant as an independent variable, which does not support hypothesis 3 '*Brand loyalty mediates the effect of personalized social media advertisements on consumer behavior'*. Further, consumers who take the central route of the ELM appear to be negatively impacted by their online behavior.

### *5.3 Comparison Key Findings of Literature Review and Empirical Research*

To begin with, the findings of a study done by Tran et al. (2020) show that personalized advertisements on social media improve customer engagement. The results of the empirical research of this study show that personalized advertisements do have a positive effect on online consumer behavior, but not specifically on customer engagement since customer engagement was not considered in this study. The similarity of the findings could be explained by the findings of a study conducted by Zhang et al. (2020), who state that increasing customer trust through stronger rights and more transparency are two of the effects of the GDPR law. In this light, it can be assumed that the GDPR law ensures more customer trust, which may result in higher use of personalized social media advertisements and thus a positive impact on online consumer behavior, which supports hypothesis 1'*Personalized social media advertisements positively affect online consumer behavior'*.

In addition, the findings of Hayes et al. (2021), state that perceived risks dominated privacy calculus decisions when there was little or no relationship between the consumer and the brand. This may assume that consumers with a low level of brand loyalty are less likely to buy products after seeing personalized advertisements than consumers with a high level of brand loyalty. The empirical results of this study are not significant in brand loyalty, as mentioned before. The differences in findings could be explained using different indicators to measure brand loyalty and the theory considered in this study compared to Hayes et al. (2021). In this regard, Hayes et al. (2021) used Perceived Benefits and Perceived Risks based on the Privacy Calculus Theory, whereas this study used the Brand-Oriented Attitudinal method indicators based on the ELM to measure the level of brand loyalty. Therefore, no conclusions regarding hypothesis 2 '*Brand loyalty positively affects online consumer behavior*', can be drawn.

The empirical results of this study found that brand loyalty did not significantly affect online consumer behavior after seeing personalized social media advertisements, in contrast to the findings from Bond et al. (2010) and Duanggruthai and Klieb (2018), who found that brand loyalty and engagement were significantly influenced by multichannel communication and social media advertising. These differences could be explained by the fact that Bond et al. (2010) and Duanggruthai and Klieb (2018) studied non-Europeans, while this study only studies European residents, specifically the Dutch (Pasquali, 2023; Faria, 2023). Considering these diverse results regarding hypothesis 3, it can be assumed that brand loyalty varies by country and even by culture, which is also an important finding when considering the broad concept of brand loyalty in a global context. Additionally, Laroche et al. (2012) found that social media positively affects customers' relationships with certain brands and companies, whereas the empirical results of this study did not find significant evidence for the effect of brand loyalty, considering personalized social media advertisements and online consumer behavior. As a potential explanation for these differences, the sample size for Laroche et al. (2012) was 441 compared to the sample size used for this study, which was 211 (Pieters, 2023). In this regard, it could be assumed that the sample size of studies regarding personalized social media advertisements, online consumer behavior, and brand loyalty must be larger to draw statistically significant conclusions.

Moreover, according to a study conducted by Zaki et al. (2021), consumers that are exposed to emotions that induce a positive feeling before they see an advertisement are more likely to take the central route (ELM). The empirical results of this study reveal that consumers who take the central route, are negatively impacted on their online consumer behavior, although this effect is not statistically significant. A possible explanation for the difference in these findings could be the level of engagement that consumers already had before starting the questionnaire (Tran, Muldrow, & Ngoc Bich Ho, 2020). Based on the empirical results of this study, BLA seems to influence online consumer behavior, whereas BLB does not. In addition, brand loyalty does also not mediate the effect between personalized social media advertisements and online consumer behavior. As a result of already having a high engagement with one of the brands considered in this study, which refers to brand orientation (BLB), consumers are more likely to purchase that brand. However, when consumers already have a low level of engagement with these brands, they are less likely to purchase products after seeing the (personalized) advertisements. In *Table 29*, an overview of the comparisons made in this section is shown.

| Table 29: Comparison of Key Findings of the Literature Review and Empirical Research | | | |
|---|---|---|---|
| **Hypothesis** | **Key findings Literature Review** | | **Key findings Empirical Research** |
| **#** | **Source(s)** | **Findings** | **Findings** |
| **1** | (Tran, Muldrow, & Ngoc Bich Ho, 2020) (Zhang, Hassandoust, & and Williams, 2020) | Personalized advertisements on social media improve customer engagement. In addition, increasing customer trust through stronger rights and more transparency are two of the effects of the GDPR law. | Personalized social media advertisements have a significant positive effect on online consumer behavior. |
| **2** | (Hayes, Brinson, Bott, & Moeller, 2021) | Consumers and brands perceive information disclosure as a combination of perceived benefits and risks. As a result, perceived risks dominated privacy calculus decisions when there was little or no relationship between the consumer and the brand. | Brand loyalty has no statistically significant effect. This effect may be explained by the difference in indicators to measure the variables and the theory. |
| **3** | (Bond, Ferraro, Luxton, & Sands, 2010) (Duangruthai & Klieb, 2018) (Laroche, Reza, & Richard, 2012) | Multichannel communication involving social media advertising can significantly affect brand loyalty and engagement. Additionally, social media was positively affecting customers' relationships with certain products, brands, and companies. Moreover, consumers that are exposed to emotions that induce a positive feeling before they see an advertisement are more likely to take the central route (ELM). | After seeing advertisements, online consumer behavior is not significantly influenced by brand loyalty. However, BLA partially does have a significant effect. In addition, brand loyalty does not explain the effect of personalized social media advertisements on online consumer behavior. These differences may be explained by the differences in cultural factors and sample size. Further, testing emotions goes beyond the findings of this study. Therefore, this study tested brand loyalty as a measurement based on the ELM. It turns out that consumers who take the central route, have a negative effect on their online consumer behavior. However, this is not statistically significant. |

### *5.4 Managerial Implications*

A reading of this study has valuable managerial implications for Brand- and Communication Managers. This study indicates that when a customer finds a non-personalized advertisement attractive, it has a negative impact on online consumer behavior, which is statistically significant. In this light, for Brand- and Communication managers to receive more impact on online consumer behavior, they are advised to use personalized social media advertisements instead of non-personalized social media advertisements in their brand strategy. To do this, first, the target group must be segmented before personalized social media advertisements can be implemented in a brand strategy. This can be accomplished by analyzing the customers' interests, behavior, and demographics. Moreover, to customize the advertisements based on the customer's interests, their online consumer behavior must be examined, like their purchase history and attitude online. For example, cookies can be used to track users, questionnaires can be used to collect information, and social media tools can be used to analyze data, but it is essential that the GDPR law be considered (Zhang, Hassandoust, & and Williams, 2020). Furthermore, it is important to stand out among the many advertisements. To stand out, the ELM can be considered. In this regard, customers taking the central route with a high level of brand loyalty seem to negatively impact online consumer behavior. Therefore, this effect shows that customers who evaluate arguments carefully are not more likely to buy products. The ELM suggests that when people are unmotivated or incapable of processing information, they rely on factors such as credibility, length, or emotional appeal to decide whether to listen to the message. However, this effect is not statistically significant, it is still advised to Brand- and Communication Managers to focus on the credibility, length, or emotional appeal of the message they want to communicate to their customers (Zaki, Kamarulzaman, & Mohtar, 2021). In light of this, credibility can be achieved by being transparent about the brand, product, or service being promoted, which will help customers create trust in the brand (Zhang, Hassandoust, & and Williams, 2020). To make the advertisement easier to understand for customers, it should also have a clear call to action. In addition to emotional appeal, social media advertisements can be personalized to individual interests, geographical locations, or age groups, regarding the results of this study. When an advertisement captures the attention of the customer, it is important to maintain that connection. According to the results of this study, brand loyalty has no statistically significant effect on mediating effects. However, it is found that consumers who are more likely to buy one brand over another also exhibit a higher level

of loyalty to that brand. As a result, it is also advised to implement retention programs, such as loyalty programs or personalized offers, to maintain and strengthen customer loyalty.

### *5.5 Research Limitations and Recommendations for Further Research*

This study adds to the existing literature by presenting interesting insights into personalized social media advertisements and the effects they have on online consumer behavior, and the mediating role of brand loyalty, but it has some limitations that can be addressed by future research. To begin with, this study was conducted among 211 customers, considering only the Dutch residents. Since previous research has shown differences even between European countries in terms of consumer characteristics, it is important to take into account their specific behavior before generalizing the results to other countries and cultures (Pasquali, 2023). Thus, future research should compare these findings with those of other countries, so that more valid conclusions can be drawn. Alternatively, comparative studies across countries and cultures could be conducted. In addition, a narrow sample size may also contribute to the inconclusive results of this study regarding brand loyalty's effect on online consumer behavior, as well as its mediating role on personalized social media advertisements and online consumer behavior. Therefore, it is advised to conduct research with a larger sample size to address this problem. Additionally, respondents with less education and older age are underrepresented, which may also be considered a limitation. In future studies, these concerns could be addressed by including a broader and more diverse sample of Dutch participants in future research. Moreover, Cronbach's Alpha was calculated for the dependent variable, which was 'acceptable'. It would be beneficial for researchers to measure online consumer behavior with different questions in the future to get a higher internal consistency. Furthermore, the advertisements used in this study, are from two different brands: Douglas and Axe. Although one advertisement focuses more on females, while the other advertisement focuses more on males, it could be that the customer already has a certain association with the brand(s) or does not yet have any association with either. To overcome this problem, a pre-test could be used in future research to address this issue. In addition, it is also noteworthy that this study relies on ELM rather than for example the Privacy Calculus Theory, which emphasizes perceived risks and benefits, which is considered a limitation since privacy concerns are more likely to arise. Considering this, other theories considering other variables that measure online consumer behavior and brand loyalty could be addressed in future studies since these topics are very broad.

## References


Ćatić, L., & Poturak, M. (2022). *Influence of Brand Loyalty on Consumer Purchase Behavior*. Turkey: SSBFNET.

Alalwan, A. A. (2018). *Investigating the Impact of Social Media Advertising Features on Customer Purchase Intention*. Jordan: Elsevier.

Ansari, A. Z. (2018). *Measuring Online Consumer Behavior: Scale Development & Validation*. Saudi Arabia: ABRM.

Arora, N., Charm, T., Grimmelt, A., Ortega, M., Robinson, K., Sexauer, C., . . . Yamakawa, N. (2020). *A Global View of How Consumer Behavior is Changing Amid COVID-19*. Globally: Mckinsey & Company.

Bloomberg. (2021). *Social Media Advertising Market is The Second Biggest Market Within Digital Advertising*. Retrieved 02 21, 2023, from https://www.bloomberg.com/press-releases/2021-03-18/social-media-advertising-market-is-the-second-biggest-market-within-digital-advertising

Bond, C., Ferraro, C., Luxton, S., & Sands, S. (2010). *Social Media Advertising: An Investigation of Consumer Perceptions, Attitudes, and Preferences for Engagement*. Australia, New Zealand: Anzmac.

Buchholtz, K. (2021). *The Top Ad Spending Verticals in The U.S*. USA: Statista.

Culnan, J. M. (1999). *Information Privacy Concerns, Procedural Fairness, and Impersonal Trust: An Empirical Investigation*. USA: INFORMS.

de Keyzer, F., Dens, N., & de Pelsmacker, P. (2022). *Let's Get Personal: Which Elements Elicit Perceived Personalization in Social Media Advertising?* USA: Elsevier.

de Keyzer, F., van Noort, G., & Kruikemeijer, S. (2022). *Going to Far? How Consumers Respond to Personalized Adverting from Different Sources*. The Netherlands, Belgium: Journal of Electronic Commerce Research, VOL 23, NO 3.

Douglas. (2022). *Respecting Douglas*. Retrieved 05 23, 2023, from https://corporate.douglas.de/wp-content/uploads/2022/06/Douglas_Sustainability_Report_2021.pdf

Douglas Marketing Solutions. (2021). *Audience Ads: Much More Than a Display Banner – Targeted Advertising in The Customer's Visual Field With Contextual Targeting*. Retrieved 04 28, 2023, from https://www.douglas-marketing-solutions.com/audience-ads/

Doyle, C. (2016). In *A Dictionary of Marketing (4 ed.)*. UK: Oxford University Press.

Duangruthai, V., & Klieb, L. (2018). *Impact of Social Media on Consumer Behaviour*. Thailand: Inderscience publishers.

Faria, J. (2023, 01 06). *Brand loyalty in the face of a recession in the U.S. 2022*. Retrieved 04 28, 2023, from https://www.statista.com/statistics/1342430/brand-loyalty-in-the-face-of-a-recession-us/

Faria, J. (2023, 06 01). *Loyalty Towards Favorite Brands Worldwide 2020, By Country*. Retrieved from Statista: https://www.statista.com/statistics/1266440/loyalty-brands/

Ferketich, D. S. (1990). *Internal Consistency Estimates of Reliability*. USA: Wiley Periodicals, Inc., A Wiley Company.

George, D., & Mallery, P. (2003). *SPSS for Windows Step by Step: A Simple Guide and Reference. 11.0 Update (4th ed.)*. Boston: Allyn & Bacon.

Gommans, M., Krishnan, S. K., & Scheffold, B. K. (2001). *From Brand Loyalty to E-Loyalty: A Conceptual Framework*. USA: Journal of Economic and Social Research 3(1).

Hanaysha, J. R. (2022). *Exploring the Impact of Social Media Marketing Features on Purchase Intention in the Fast-Food Industry*. India: SAGE Publications.

Hayes, J. L., Brinson, N. H., Bott, G. J., & Moeller, C. M. (2021). *The Influence of Consumer–Brand Relationship on the Personalized Advertising Privacy Calculus in Social Media*. USA: Elsevier.

Innovid. (2020). *As Brands Continue to Navigate Change, 43% of Consumers Say Digital Ads Should be Personalized*. Retrieved 02 23, 2023, from https://www.globenewswire.com/news-release/2020/07/14/2061942/0/en/STUDY-As-Brands-Continue-to-Navigate-Change-43-of-Consumers-Say-Digital-Ads-Should-be-Personalized.html

Kirk, E. (2022). *The Attention Economy: Standing Out Among the Noise*. Retrieved 02 23, 2023, from https://www.forbes.com/sites/forbesbusinessdevelopmentcouncil/2022/03/23/the-attention-economy-standing-out-among-the-noise/?sh=334e8a777fda

Krosnick, A. J. (2017). *The Palgrave Handbook of Survey Research*. Switzerland: Springer Nature.

Laroche, M., Reza, H. M., & Richard, M.-O. (2012). *To Be or Not To Be in Social Media: How Brand Loyalty is Affected by Social Media?* Canada: Elsevier.

Lietz, P. (2010). *Research into Questionnaire Design*. Australia: The Market Research Society.

Madadi, R., Torres, M. I., Fazli-Salehi, R., & Ángel, Z. M. (2020). *The Impact of Hispanic-Targeted Advertising on Consumers' Brand Love in Services*. USA: Routledge.

Mason, N. A., Brown, M., Mason, K., Narcum, J., & Corona, G. C. (2021). *Pandemic Effects on Social Media Marketing Behaviors in India*. India: Cogent.

McKinsey & Company. (2021). *The Value of Getting Personalization Right—or Wrong—is Multiplying*. Retrieved 03 09, 2023, from https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/the-value-of-getting-personalization-right-or-wrong-is-multiplying

Mehta, R., & Kulkarni, U. (2020). *Impact of Personalized Social Media Advertisements on Consumer Purchase Intention*. India: EAI.

Mellens, M., Dekimpe, G. M., & Steenkamp, M. E. (1996). *A Review of Brand-Loyalty Measures in Marketing*. Belgium: NFWO.

Osborne, W. J., & Walters, E. (2002). *Multiple Regression Assumptions*. *ERIC Digest*. USA: ERIC Publications.

Pasquali, M. (2023, 09 01). *Digital Shopping Behavior in Europe - Statistics & Facts*. Retrieved from Statista: https://www.statista.com/topics/8610/digital-shopping-behavior-in-europe/#topicOverview

Patton, R. C., & Holstius, K. (2015). *Unilever: A Marketing Giant*. USA: Academy of Marketing Science.

Petty, E. R. (2011). *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer.

Pieters, R. (2023). *Samplewiser*. Retrieved from Shinyapps: https://rik.pieters.shinyapps.io/samplewiser/

Shanahan, T., Tran, P. T., & Taylor, C. E. (2019). *Getting to Know You: Social Media Personalization as a Means of Enhancing Brand Loyalty and Perceived Quality*. USA: Elsevier.

Sreejesh, S., Justin, P., Strong, C., & Piuse, J. (2020). *Consumer Response Towards Social Media Advertising: Effect of Media Interactivity, Its Conditions and the Underlying Mechanism*. India, USA, UK: Elsevier.

Statista. (2023). *Consumer behavior based on customer service experience worldwide 2022*. Retrieved 04 28, 2023, from https://www.statista.com/statistics/1323488/consumer-behavior-customer-service-worldwide/

Statista. (2023). *Digital Advertising - Worldwide*. Retrieved 04 28, 2023, from https://fr.statista.com/outlook/dmo/digital-advertising/worldwide

Statista. (2023). *Influence of marketing personalization on consumer loyalty worldwide 2021-2022*. Retrieved 04 28, 2023, from https://www.statista.com/statistics/1332284/marketing-personalization-consumer-loyalty/

Statista. (2023). *Number of global social network users 2017-2027*. Retrieved 04 26, 2023, from https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users/

Statista. (2023). *What keeps consumers loyal to brands globally 2020*. Retrieved 04 28, 2023, from https://www.statista.com/statistics/1077882/why-consumers-are-loyal-to-brands-worldwide/

Statista Research Department. (2023). *Attitudes to ad data ethics in the UK & the U.S. 2022*. Retrieved 04 28, 2023, from https://www.statista.com/statistics/1327307/attitudes-advertising-data-ethics/

Stephen, T. A. (2015). *The Role of Digital and Social Media Marketing in Consumer Behavior*. UK: Elsevier.

The Economist. (2021, April 29th). *A New Type of Ad is Heading for your iPhone*. Retrieved 02 21, 2023, from https://www.economist.com/business/2021/04/29/a-new-type-of-ad-is-heading-for-your-iphone

The Economist. (2022). *The Online-Ad Industry is Being Shaken Up*. Retrieved 02 03, 2023, from https://www.economist.com/business/2022/07/28/the-online-ad-industry-is-being-shaken-up

Thoumrungroje, A. (2014). *The Influence of Social Media Intensity and EWOM on Conspicuous Consumption*. Thailand: Elsevier.

Tittle, R. C., & Hill, J. R. (1967). *Attitude Measurement and Prediction of Behavior: An Evaluation of Conditions and Measurement Techniques*. USA: American Sociological Association.

Tran, P. T., Muldrow, A., & Ngoc Bich Ho, K. (2020). *Understanding Drivers of Brand Love - The Role of Personalized Ads on Social Media*. USA: Emerald Publishing Limited.

Walrave, M., Poels, K., Antheunis, M. L., van den Broeck, E., & van Noort, G. (2016). *Like or Dislike? Adolescents' Responses to Personalized Social Network Site Advertising*. US and EU: Taylor & Francis group.

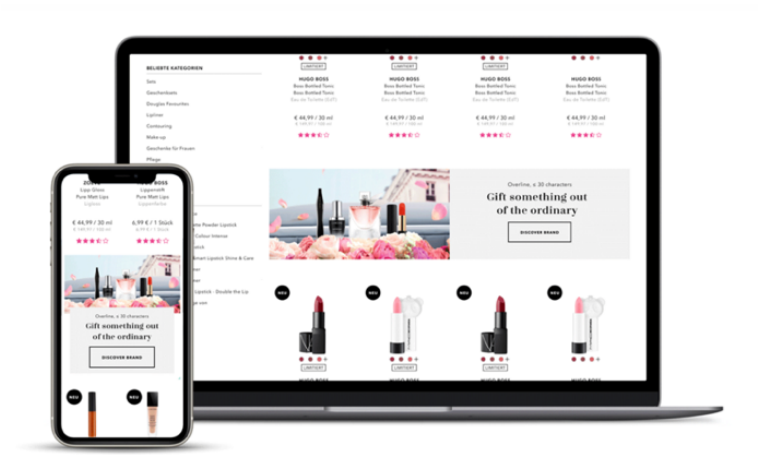
Zaki, O. H., Kamarulzaman, Y., & Mohtar, M. (2021). *Cognition and Emotion: Exploration on Consumers Response to Advertisement and Brand*. Malaysia: Jurnal Pengurusan.

Zhang, J., Hassandoust, F., & and Williams, J. E. (2020). *Online Customer Trust in the Context of the General Data Protection Regulation (GDPR)*. New Zealand: AIS.

Ziyadin, S., Doszhan, R., Borodin, A., Omarova, A., & Ilyas, A. (2019). *The Role of Social Media Marketing in Consumer Behaviour*. Kazakhstan, Russia: EDP Sciences.

# Appendix I

***Figure 1: Douglas' Audience Ads***



## Appendix II

### *Table 1: Brand Loyalty Measures Framework*

| Table 1: Brand Loyalty Measurements Framework | | |
|---|---|---|
| | **Attitudinal** | **Behavioral** |
| **Brand-Oriented** | A1. Stated purchase intentions<br>A2. Commitment measures | C1. Measures based on aggregated data.<br>C1a. Measures based on aggregated switching matrices.<br>C1b. Measures based on market share.<br>C2. Measures based on individual-level data. |
| **Individual-Oriented** | B1. Measures on product category level.<br>B2. General measures | D1. Proportion-of-purchase measures.<br>D2. Sequence-of-purchase measures. |

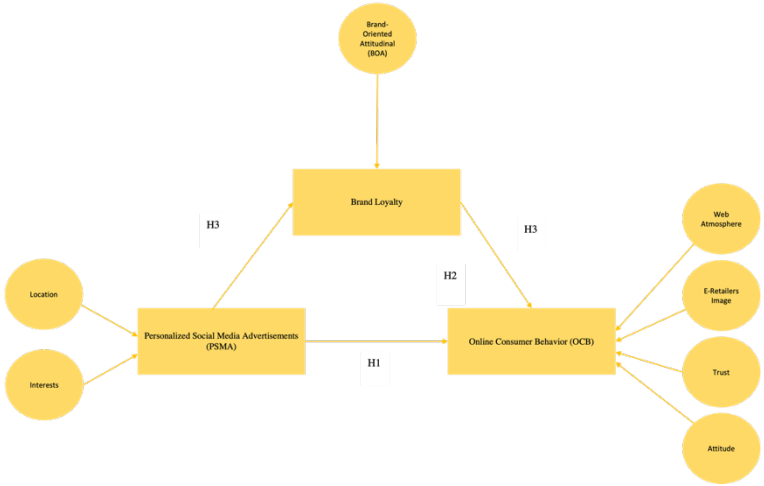
### *Table 2: Literature Review*

| **Representative studies** | **Methodology** | **Mediation(s)** | **Moderator(s)** | **Outcome** |
|---|---|---|---|---|
| (Duangruthai & Klieb, 2018) | Based on the EBM model, a survey was conducted among 158 respondents. In this study, the p-value was < 0.05. | Stage 1: Search, Stage 2: Evaluation, Stage 3: Decision | - | Consumer satisfaction is influenced by social media usage before and after information search and alternative evaluation, with satisfaction amplified as the consumer reaches the final purchase decision and evaluation phase. |
| (Tran, Muldrow, & Ngoc Bich Ho, 2020) | Two studies were conducted (surveys) based on the OM-model. In these studies, the p-values are <0.01 with N=275 and K=5. | Consumer-brand engagement and brand self-expressiveness | - | Consumer-brand engagement and brand self-expression mediate the relationship between personalization and consumer-brand connection. |
| (Ćatić & Poturak, 2022) | Based on the Brand Equity model, a questionnaire was conducted. In this study, the p-value was <0.05 with N=200 and K=4. | Brand loyalty | Brand loyalty factors: Age, education, income level) | Brand loyalty has a significant impact on consumer purchase behavior and there is a significant difference between brand loyalty and the brand loyalty factors. |

| Representative studies | Methodology | Mediation(s) | Moderator(s) | Outcome |
|---|---|---|---|---|
| (Mehta & Kulkarni, 2020) | Based on the Belch and Belch (2012) tricomponent model, a survey was conducted among 110 respondents. In this study, the p-value was <0.05. | - | Social media platforms | Consumer perception and subsequent purchase intentions are significantly affected by factors such as frequency of exposure to personalized ads, perceived relevance and utility of ads, privacy concerns, cognitive and affective attitudes. |
| (Walrave, Poels, Antheunis, van den Broeck, & van Noort, 2016) | Based on the ELM and persuasion knowledge model, a survey was conducted (after a pretest). In this study, the p-value was <0.05 with N=40 and K=4. | - | Attitude toward the ad, Brand engagement, Intention to forward the ad, Privacy Concerns | It was found that the most positive response was generated by the highest personalization condition, and that privacy concerns had no influence on the effects of personalization. |
| (Madadi, Torres, Fazli-Salehi, & Ángel, 2020) | Based on the ELM model three studies were done. | Perceived similarity | Service type | In hedonic services, perceived similarity partially mediates the effect of SEI on attitude toward the advertisement (Aad), but not utilitarian services. A more ethnic tone in ads for hedonic services was more effective than utilitarian services for developing brand loyalty. Additionally, SEM results support Hispanic-targeted ads' effectiveness in developing brand love and increasing brand loyalty and positive word-of-mouth (WOM). |
| (Zaki, Kamarulzaman, & Mohtar, 2021) | Based on the ANTME and the ELM model, four experimental studies via the purposive sampling method were done. | - | - | According to study 1, individuals evaluate ads and brands differently depending on their cognitive needs. Study 2 found that neither positive nor negative moods successfully increased evaluations of ads and brands. Regarding study 3, only intense positive moods influence brand evaluations. Study 4 shows that, humor only affects ad evaluation after exposure. |

| Representative studies | Methodology | Mediation(s) | Moderator(s) | Outcome |
|---|---|---|---|---|
| (Hayes, Brinson, Bott, & Moeller, 2021) | Based on Xu et al.'s (2011) model and SET theory, a study is done(overt/covert). In this study, the p-value was <0.01 with N=112 and K=3. | - | CBR (Consumer Brand Relations) | A consumer's and a brand's perception of information disclosure is based on perceived benefits and perceived risks, whereas perceived risks predominate when there is no strong relationship between the consumer and the brand. |
| (Laroche, Reza, & Richard, 2012) | Based on the Customer Centric Model, a survey-based empirical study was conducted. In this study, the p-value was <0.05 with N=441 and K=7. | Brand trust | - | It was found that brand communities established on social media improve customer relationships with products, brands, companies, and other customers, which in turn boosts brand trust, and trust enhances brand loyalty. Enhanced relationships within the brand community lead to brand loyalty when brand trust plays a mediating role. |
| (de Keyzer, van Noort, & Kruikemeijer, 2022) | Based on the privacy calculus theory and the social exchange theory a survey was conducted. | Source type, perceived creepiness, perceived relevance | - | Personalization perceptions are negatively influenced by perceived creepiness. Moderate (versus low) levels of personalization increase perceived creepiness, but high levels of personalization do not. |

***Figure 2: Conceptual Model***



## Appendix III

### *Table 3: Scale Measurements*

| Variable | References of Scale | Code | Statements |
|---|---|---|---|
| Personalized Social Media Advertisements | (de Keyzer, Dens, & de Pelsmacker, 2022) | PSI1 (Personalized Social Media Advertisements *Interests*) | I am more likely to buy products if the advertisements are personalized to my interests. |
| | | PSL1 (Personalized Social Media Advertisements *Location*) | I am more likely to buy a product if the online advertisement is personalized to my location. |
| Online Consumer Behavior | (Ansari, 2018) | OCW1 (Online Consumer Behavior *Web Atmosphere*) | I am more likely to buy products after seeing a social media advertisement that looks attractive to me. |
| | | OCI1 (Online Consumer Behavior *Atmosphere E-Retailers Image*) | I am more likely to buy a product after seeing a social media advertisement from a brand that has a good image. |
| | | OCT1 (Online Consumer Behavior *Trust*) | I am more likely to buy from a brand I already have a positive experience with. |
| | | OCA1 (Online Consumer Behavior *Attitude*) | I prefer personalized social media advertisements more than non-personalized social media advertisements. |
| Brand Loyalty | (Mellens, Dekimpe, & Steenkamp, 1996) | BLA1 (Brand Loyalty *Attitudinal*) | I intend to keep purchasing this brand. |
| | | BLB1 (Brand Loyalty *Brand Oriented*) | I am committed to this brand |
| | | BLB2 (Brand Loyalty *Brand Oriented*) | I would be willing to pay a higher price for this brand over other brands |

### *Table 4: Cronbach's Alpha Dependent Variable*

| Cronbach's Alpha | N of Items |
|---|---|
| 0.790 | 4 |

### *Table 5: Cronbach's Alpha Independent Variable*

| Cronbach's Alpha | N of Items |
|---|---|
| 0.802 | 3 |

### *Table 6: Cronbach's Alpha Mediating Variable*

| Cronbach's Alpha | N of Items |
|---|---|
| 0.452 | 9 |

# Appendix IV

## *Figures 3 and 4: Survey Introduction and Control Questions 1 and 2*

Dear participant,

Thank you for taking the time to participate in this study, which is part of my Master's degree at Erasmus School of Economics. By taking the following survey, you will be encouraged to take action and complete a certain task. Keep in mind that there are no right or wrong answers.

Please make sure that you read the instructions carefully, as your response will have a significant impact on the outcome of this study. Do not be alarmed by the timer that appears on some of the longer format questions (30 seconds) before moving to the next stage in the survey. Approximately **10-12 minutes** will be required to complete the survey.

No third parties will be notified or notified of any of the information, as it will be kept strictly anonymous and used only for this study. Your response can be withdrawn at any time. Whenever you have questions or concerns, feel free to contact me at 655033co@eur.nl.

Your honesty and consideration are greatly appreciated!

→

How many hours a day do you spend on average on social media?

- 0-2 hours
- 2-4 hours
- 4-6 hours
- More than 6 hours

Which social media platform(s) do you use most?

- Facebook
- Instagram
- Twitter
- Snapchat
- Youtube
- Other

→

## *Figures 5 and 6: Survey Questions 3 and 4*

To what extent do you agree with the following statements?

'I am more likely to buy products that have been promoted in social media advertisements.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

'I am more likely to buy a product that has been promoted on social media, if the brand has a good image.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

'I am more likely to buy products if the advertisements are personalized to my age.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

'I am more likely to buy products if the advertisements are personalized to my interests.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

***Figures 7 and 8: Survey Question 5 and Douglas Advertisements***

'I am more likely to buy a product that has been promoted on social media from a brand I already have a positive experience with.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

'I am more likely to buy a product if the online advertisement is personalized to my location.'

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

→

Take a look at the two advertisements from Douglas below:


**Advertisement A**


**Advertisement B**

→

## *Figures 9 and 10: Survey Questions 6 and 7*

The questions below are about the social media advertisements from the previous page.

What is your relationship with Douglas?

- I do not know the brand, so I've never bought their products
- I know the brand, but I've never bought their products
- I often buy products from this brand
- I buy from this brand on a regularly basis
- I prefer this brand over its competitors

Do you think the advertisements on the previous page look attractive?

- No, the advertisements do not look attractive at all to me
- Only advertisement A looks attractive to me
- Only advertisement B looks attractive to me
- Yes, both advertisements A and B look attractive to me
- I have no opinion on this

How likely are you to buy products from Douglas by seeing advertisement B from the previous page?

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

Would you be willing to pay a higher price for this brand over other brands?

- No, I am not willing to pay a higher price for this brand over other brands
- Yes, I would be willing to pay a higher price for this brand over other brands
- I have no opinion on this

What do you remember most about advertisement B from the previous page?

→

***Figures 11 and 12: Survey Attention Check question and Axe Advertisements***

This is just an attention check: Please indicate answer option C.

A

B

C

→

Take a look at the two advertisements from Axe below:


Advertisement A


Advertisement B

→

## *Figures 13 and 14: Survey Questions 8 and 9*

The questions below are about the social media advertisements from the previous page.

What is your relationship with Axe?

- I do not know the brand, so I've never bought their products
- I know the brand, but I've never bought their products
- I often buy products from this brand
- I buy from this brand on a regularly basis
- I prefer this brand over its competitors

Do you think the advertisements on the previous page look attractive?

- No, the advertisements do not look attractive at all to me
- Only advertisement A looks attractive to me
- Only advertisement B looks attractive to me
- Yes, both advertisements A and B look attractive to me
- I have no opinion on this

How likely are you to buy products from Axe by seeing advertisement B from the previous page?

- Not likely at all
- Somewhat unlikely
- Somewhat likely, somewhat unlikely
- Somewhat likely
- Likely at all

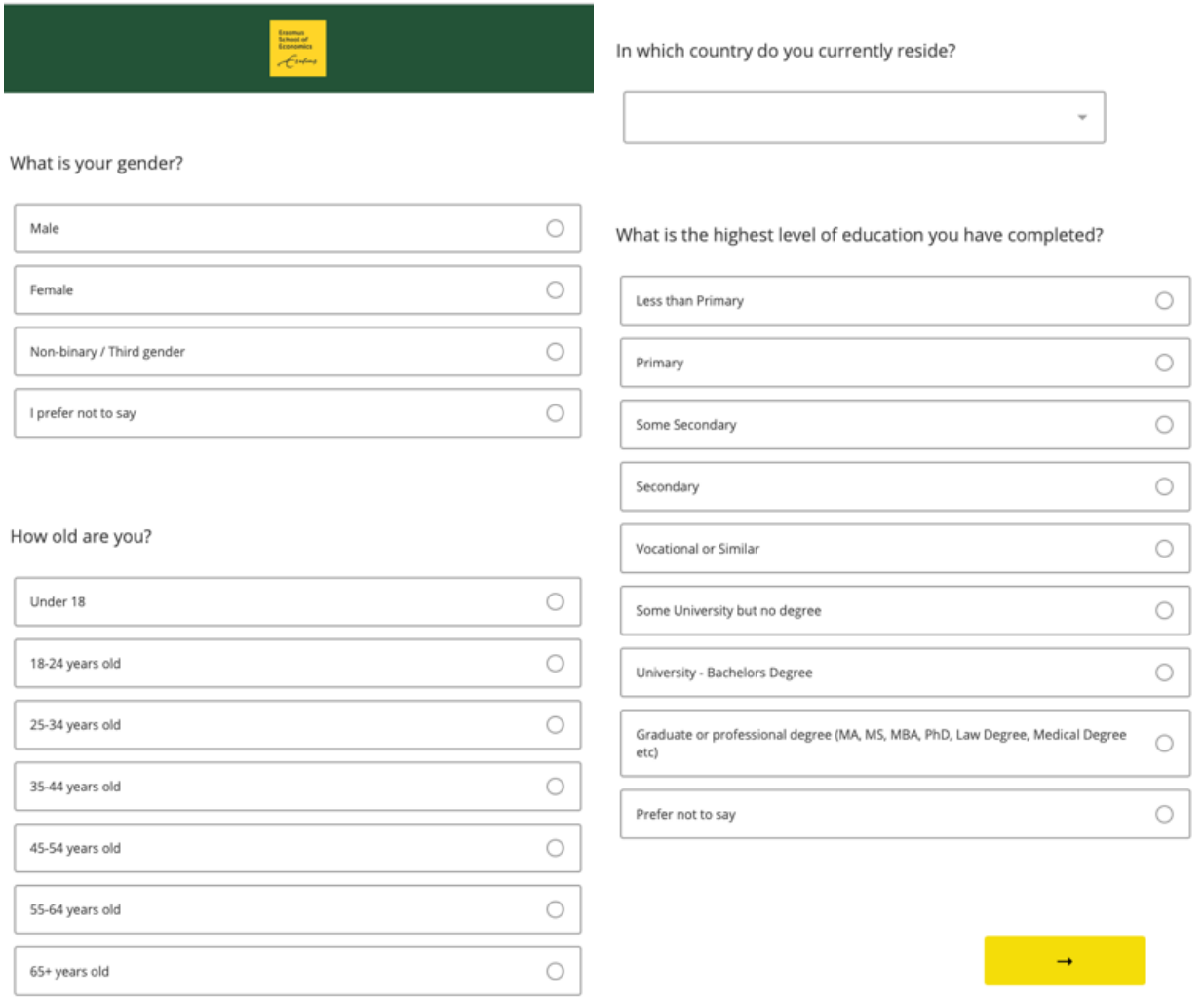
Would you be willing to pay a higher price for this brand over other brands?

- No, I am not willing to pay a higher price for this brand over other brands
- Yes, I would be willing to pay a higher price for this brand over other brands
- I have no opinion on this

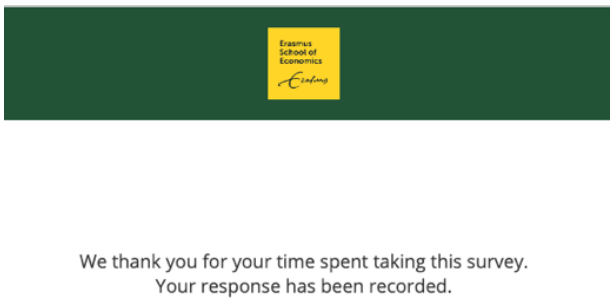
What do you remember most about advertisement B from the previous page?

→

## *Figures 15 and 16: Survey Control Questions 3 and 4*




## *Figure 17: Survey Ending*



We thank you for your time spent taking this survey.
Your response has been recorded.

# Appendix V

## *Figure 18: Result of Pieters' Tool (2023)*

```
Tue Feb 14 16:13:58 2023
Sample size estimation with 'samplewiser'.

Comparison type 1 (default):
Compare Predicted Effect Size to a correlation of zero.

==============================================================================
Summary:
------------------------------------------------------------------------------
Significance (alpha)                    = 0.05
Power (1 - beta)                        = 0.8
------------------------------------------------------------------------------
Input 1: Predicted Effect Size
  Correlations                          = 0.156 0.114 0.325
  Sample sizes                          = 275 200 40
  User-weights                          = 50 50 100

  Number of correlations                = 3
  Total unweighted sample size          = 515
  Number of user-weights                = 3
  Sum of user-weights                   = 200
  Total weighted sample size            = 278
------------------------------------------------------------------------------
Output 1: Predicted Effect Size
  Required sample size for |r1| > 0     = 287 with 95% CI [98; 3306]
------------------------------------------------------------------------------
```

## *Table 7: Age of the Respondents*

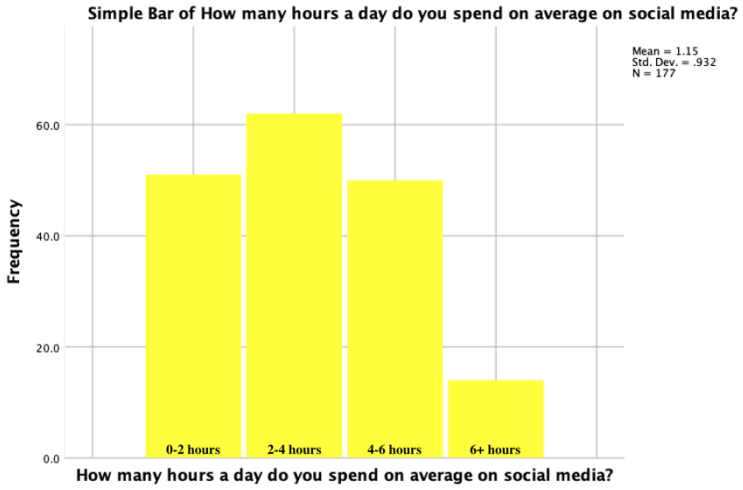
| | Age | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 18-24 years old | 78 | 44.1 | 44.1 | 44.1 |
| | 25-34 years old | 56 | 31.6 | 31.6 | 75.5 |
| | 35-44 years old | 12 | 6.8 | 6.8 | 82.5 |
| | 45-54 years old | 15 | 8.5 | 8.5 | 91.0 |
| | 55-64 years old | 15 | 8.5 | 8.5 | 99.4 |
| | 65+ years old | 1 | 0.6 | 0.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

## *Table 8: Gender of the Respondents*

| | Gender | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 48 | 27,1 | 27,1 | 27,1 |
| | Female | 129 | 72,9 | 72,9 | 100,0 |
| | Total | 177 | 100,0 | 100,0 | |

## *Table 9 and Figure 19: Social Media Usage on Average per Day*

| | 'How many hours a day do you spend on average on social media?' | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 0-2 hours | 51 | 28.8 | 28.8 | 28.8 |
| | 2-4 hours | 62 | 35.0 | 35.0 | 63.8 |
| | 4-6 hours | 50 | 28.2 | 28.2 | 92.1 |
| | More than 6 hours | 14 | 7.9 | 7.9 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |




## *Table 10 and Figure 20: Usage of Social Media Platforms*

| Which social media platform(s) do you use most? | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Facebook | 61 | 34.5 | 100.0 | 100.0 |
| Instagram | 138 | 78.0 | 100.0 | 100.0 |
| Twitter | 37 | 20.9 | 100.0 | 100.0 |
| Snapchat | 81 | 45.8 | 100.0 | 100.0 |
| Youtube | 24 | 13.6 | 13.6 | 97.7 |
| Other | 58 | 32.8 | 100.0 | 100.0 |
| Total | 177 | 100.0 | | |

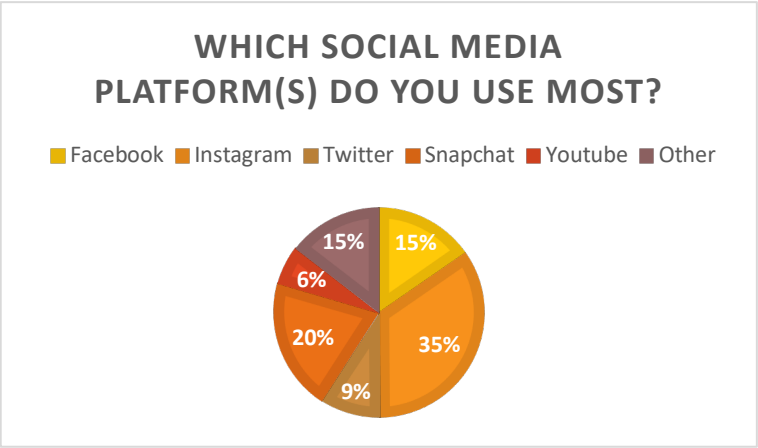



***Table 11: Highest Level of Education Completed***

| | Highest level of education completed | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Primary | 2 | 1.1 | 1.1 | 1.1 |
| | Secondary | 16 | 9.0 | 9.0 | 10.2 |
| | Some University but no degree | 18 | 10.2 | 10.2 | 26.0 |
| | University – Bachelor's Degree | 103 | 58.2 | 58.2 | 84.2 |
| | Graduate or professional degree (MA, MS, MBA, phD, Law Degree, Medical Degree, etc.) | 24 | 13.6 | 13.6 | 97.7 |
| | Prefer not to say | 4 | 2.3 | 2.3 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

***Table 12: Other Frequencies***

| | 'I am more likely to buy a product if the online advertisement is personalized' | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Not likely at all | 49 | 27.7 | 27.7 | 27.7 |
| | Somewhat unlikely | 10 | 5.6 | 5.6 | 33.3 |
| | Somewhat likely, somewhat unlikely | 20 | 11.3 | 11.3 | 44.6 |
| | Somewhat likely | 62 | 35.0 | 35.0 | 79.7 |
| | Likely at all | 36 | 20.3 | 20.3 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

| | **'I am more likely to buy a product that has been promoted on social media, if the brand has a good image'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | Not likely at all | 12 | 6.8 | 6.8 | 6.8 |
| | Somewhat unlikely | 19 | 10.7 | 10.7 | 17.5 |
| | Somewhat likely, somewhat unlikely | 25 | 14.1 | 14.1 | 31.6 |
| | Somewhat likely | 88 | 49.7 | 49.7 | 81.4 |
| | Likely at all | 33 | 18.6 | 18.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'I am more likely to buy products if the advertisements are personalized to my age'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | Not likely at all | 14 | 7.9 | 7.9 | 7.9 |
| | Somewhat unlikely | 22 | 12.4 | 12.4 | 20.3 |
| | Somewhat likely, somewhat unlikely | 35 | 19.8 | 19.8 | 40.1 |
| | Somewhat likely | 79 | 44.6 | 44.6 | 84.7 |
| | Likely at all | 27 | 15.3 | 15.3 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'I am more likely to buy products if the advertisement is personalized to my interests'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | Not likely at all | 6 | 3.4 | 3.4 | 3.4 |
| | Somewhat unlikely | 12 | 6.8 | 6.8 | 10.2 |
| | Somewhat likely, somewhat unlikely | 26 | 14.7 | 14.7 | 24.9 |
| | Somewhat likely | 86 | 48.6 | 48.6 | 73.4 |
| | Likely at all | 47 | 26.6 | 26.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

| | **'I am more likely to buy a product that has been promoted on social media from a brand I already have a positive experience with'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | Not likely at all | 5 | 2.8 | 2.8 | 2.8 |
| | Somewhat unlikely | 8 | 4.5 | 4.5 | 7.3 |
| | Somewhat likely, somewhat unlikely | 21 | 11.9 | 11.9 | 19.2 |
| | Somewhat likely | 74 | 41.8 | 41.8 | 61.0 |
| | Likely at all | 69 | 39.0 | 39.0 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'I am more likely to buy a product if the online advertisement is personalized to my location** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | Not likely at all | 24 | 13.6 | 13.6 | 13.6 |
| | Somewhat unlikely | 44 | 24.9 | 24.9 | 38.4 |
| | Somewhat likely, somewhat unlikely | 45 | 25.4 | 25.4 | 63.8 |
| | Somewhat likely | 41 | 23.2 | 23.2 | 87.0 |
| | Likely at all | 23 | 13.0 | 13.0 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'I am more likely to buy products that have been promoted in social media advertisements'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | Not likely at all | 28 | 15.8 | 15.8 | 15.8 |
| | Somewhat likely, somewhat unlikely | 33 | 18.6 | 18.6 | 34.5 |
| | Somewhat likely | 103 | 58.2 | 58.2 | 92.7 |
| | Likely at all | 13 | 7.3 | 7.3 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

| | 'What is your relationship with Douglas?' | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | I do not know the brand, so I've never bought their products | 3 | 1.7 | 1.7 | 1.7 |
| | I know the brand, but I've never bought their products | 38 | 21.5 | 21.5 | 23.2 |
| | I buy from this brand on a regularly basis | 41 | 23.2 | 23.2 | 46.3 |
| | I prefer this brand over its competitors | 9 | 5.1 | 5.1 | 51.4 |
| | I often buy products from this brand | 86 | 48.6 | 48.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'Do you think the advertisements on the previous page look attractive?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | No, the advertisements do not look attractive at all to me | 28 | 15.8 | 15.8 | 15.8 |
| | Only advertisement A looks attractive to me | 41 | 23.2 | 23.2 | 39.0 |
| | Only advertisement B looks attractive to me | 42 | 23.7 | 23.7 | 62.7 |
| | Yes, both advertisements A and B look attractive to me | 52 | 29.4 | 29.4 | 92.1 |
| | I have no opinion on this | 14 | 7.9 | 7.9 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

| | **'How likely are you to buy products from Douglas by seeing advertisement B from the previous page?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | Not likely at all | 44 | 24.9 | 24.9 | 24.9 |
| | Somewhat unlikely | 44 | 24.9 | 24.9 | 49.7 |
| | Somewhat likely, somewhat unlikely | 35 | 19.8 | 19.8 | 69.5 |
| | Somewhat likely | 45 | 25.4 | 25.4 | 94.9 |
| | Likely at all | 9 | 5.1 | 5.1 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'Would you be willing to pay a higher price for this brand over other brands?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | No, I am not willing to pay a higher price for this brand over other brands | 44 | 24.9 | 24.9 | 24.9 |
| | Yes, I would be willing to pay a higher price for this brand over other brands | 44 | 24.9 | 24.9 | 49.7 |
| | I have no opinion on this | 35 | 19.8 | 19.8 | 69.5 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'This is just an attention check: Please indicate answer option C'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | C | 177 | 100.0 | 100.0 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

| | **'What is your relationship with Axe?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | I do not know the brand, so I've never bought their products | 11 | 6.2 | 6.2 | 6.2 |
| | I know the brand, but I've never bought their products | 117 | 66.1 | 66.1 | 72.3 |
| | I buy from this brand on a regularly basis | 22 | 12.4 | 12.4 | 84.7 |
| | I prefer this brand over its competitors | 3 | 1.7 | 1.7 | 86.4 |
| | I often buy products from this brand | 24 | 13.6 | 13.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'Do you think the advertisements on the previous page look attractive?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | No, the advertisements do not look attractive at all to me | 25 | 14.1 | 14.1 | 14.1 |
| | Only advertisement A looks attractive to me | 33 | 18.6 | 18.6 | 32.8 |
| | Only advertisement B looks attractive to me | 53 | 29.9 | 29.9 | 62.7 |
| | Yes, both advertisements A and B look attractive to me | 52 | 29.4 | 29.4 | 92.1 |
| | I have no opinion on this | 14 | 7.9 | 7.9 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

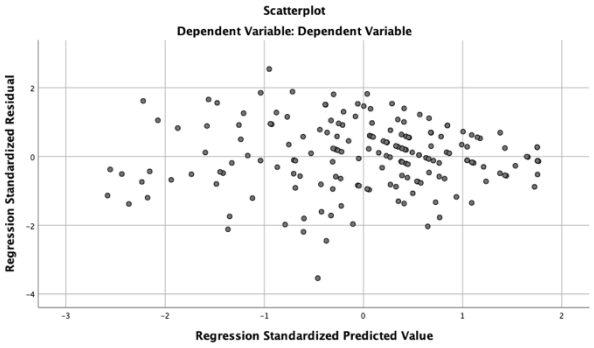
| | **'How likely are you to buy products from Axe by seeing advertisement B from the previous page?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
|---|---|---|---|---|---|
| Valid | Not likely at all | 73 | 41.2 | 41.2 | 41.2 |
| | Somewhat unlikely | 25 | 14.1 | 14.1 | 55.4 |
| | Somewhat likely, somewhat unlikely | 38 | 21.5 | 21.5 | 76.8 |
| | Somewhat likely | 36 | 20.3 | 20.3 | 97.2 |
| | Likely at all | 5 | 2.8 | 2.8 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |
| | **'Would you be willing to pay a higher price for this brand over other brands?'** | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | No, I am not willing to pay a higher price for this brand over other brands | 127 | 71.8 | 71.8 | 71.8 |
| | Yes, I would be willing to pay a higher price for this brand over other brands | 26 | 14.7 | 14.7 | 86.4 |
| | I have no opinion on this | 24 | 13.6 | 13.6 | 100.0 |
| | Total | 177 | 100.0 | 100.0 | |

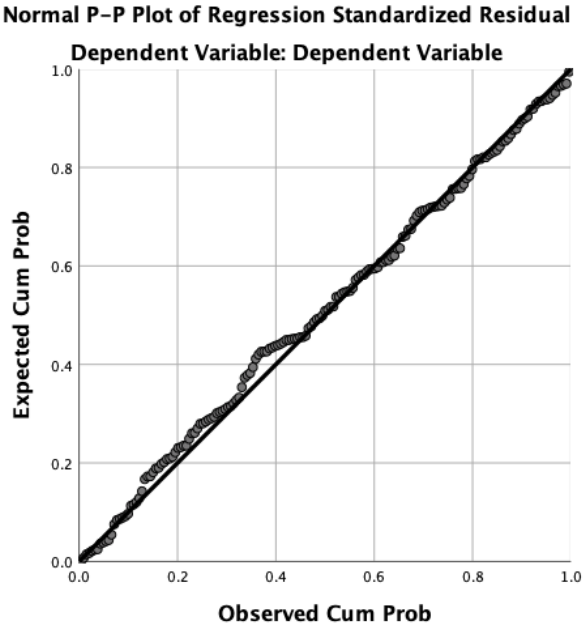
## Appendix VI

### *Table 13: Assumptions of Multiple Regression*

| Type of assumption: | Test: | R1 Satisfied Yes/No | R2 Satisfied Yes/No | R3 Satisfied Yes/No |
|---|---|---|---|---|
| Linearity | Scatterplot | Yes | Yes | Yes |
| Normality | Normal P-P Plot | Yes | Yes | Yes |
| Reliability | Cronbach's Alpha | No | No | No |
| Homoscedasticity | Scatterplot | Yes | Yes | No |

### *Figures 21 and 22: R1 Assumptions of Linearity and Normality*

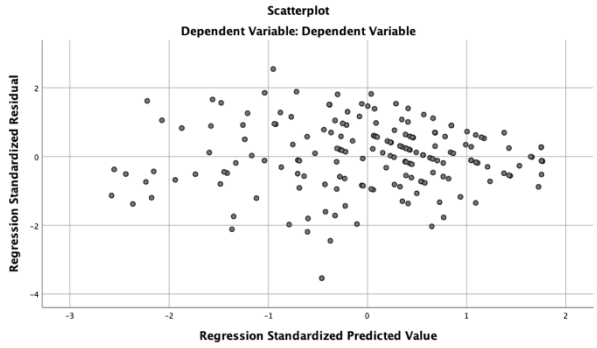


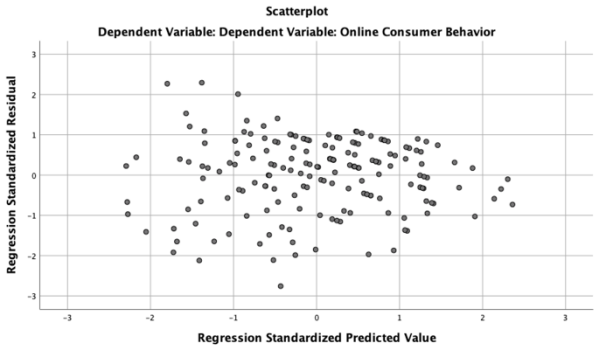

### *Table 14: R1 Assumption of Reliability*

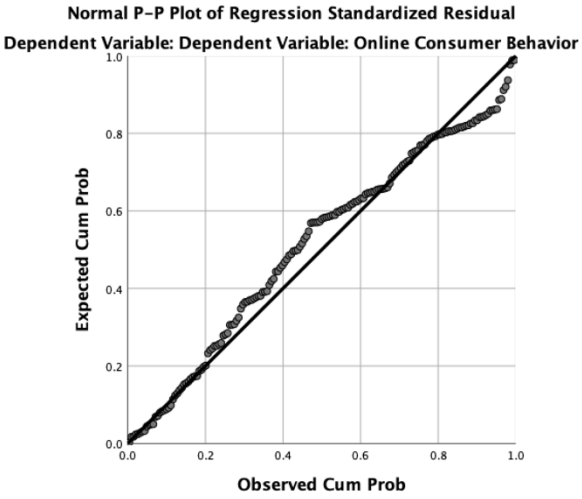
| Cronbach's Alpha | N of Items |
|---|---|
| 0.319 | 15 |

### *Table 15: R1 Assumption of Homoscedasticity*



## *Figures 23 and 24: R2 Assumptions of Linearity and Normality*

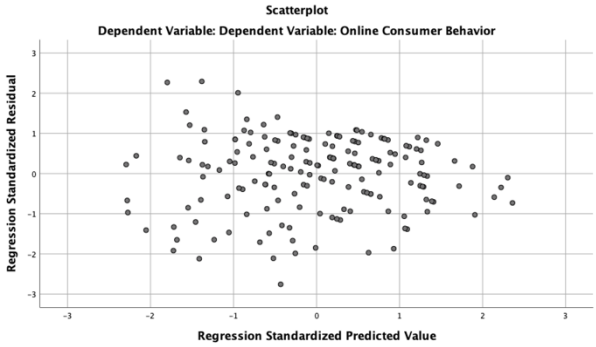


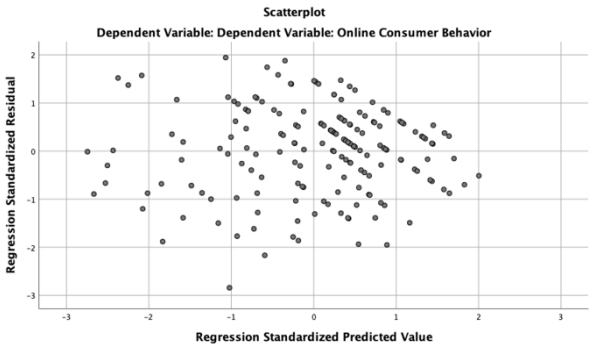

## *Table 16: R2 Assumption of Reliability*

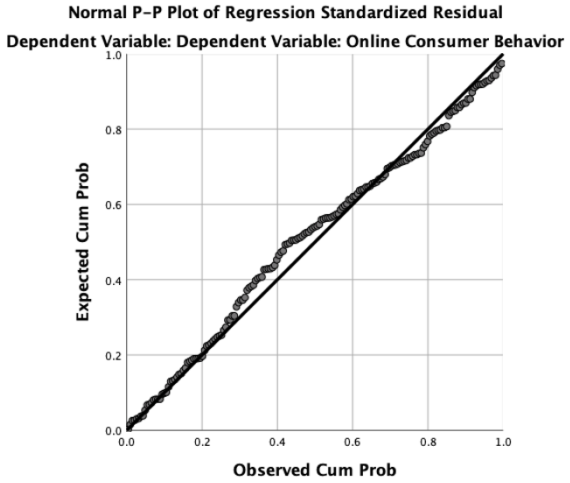
| Cronbach's Alpha | N of Items |
|---|---|
| -.388 | 40 |

## *Table 17: R2 Assumption of Homoscedasticity*



## *Figures 25 and 26: R3 Assumptions of Linearity and Normality*

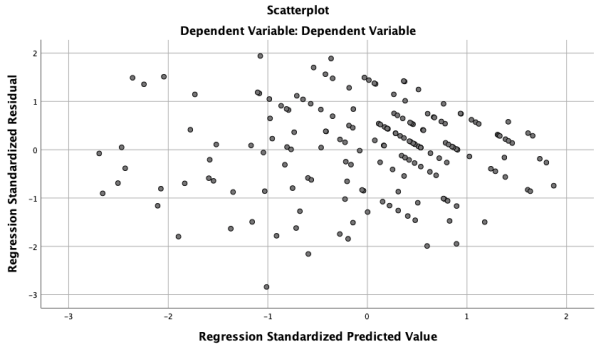



## *Table 18: R3 Assumption of Reliability*

| Cronbach's Alpha | N of Items |
|---|---|
| .056 | 42 |

## *Figure 27: R3 Assumption of Homoscedasticity*



## Appendix VII

### *Table 19: H1 Coefficients[a]*

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .094 | .800 | | .118 | .907 |
| Instagram users | -.108 | 0.135 | -.048 | -.804 | .422 |
| Twitter users | .030 | .158 | .013 | .192 | .848 |
| Snapchat users | -.005 | .113 | -.003 | -.045 | .965 |
| Youtube users | .006 | .108 | .003 | .058 | .965 |
| Facebook users | .094 | .110 | -.047 | .857 | .393 |
| Other platform users | .067 | .117 | .033 | .570 | .569 |
| Gender: Female | .232 | .113 | .110 | 2.042 | .043 |
| How many hours a day do you spend on average on social media? | .095 | .065 | .090 | 1.460 | .146 |
| Age | -.100 | .044 | -.138 | -2.268 | .025 |
| Highest level of education completed | .025 | .041 | .033 | .605 | .546 |
| Independent variable: Personalized Social Media Advertisements | .681 | .057 | .687 | 12.005 | .000 |

a. Dependent variable: Online Consumer Behavior

### *Table 20: H1 ANOVA*

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 93.126 | 11 | 8.466 | 21.660 | .000[b] |
| | Residual | 64.491 | 165 | .391 | | |
| | Total | 157.617 | 176 | | | |

a. Dependent Variable: Online Consumer Behavior

b. Predictors: (Constant), What is the highest level of education you have completed?, Instagram users, Youtube users, Facebook users, Independent Variable: Personalized Social Media Advertisements, Gender: Female, How many hours a day do you spend on average on social media?, Other platform users, Snapchat users, How old are you?, Twitter users

***Table 21: H1 Model Summary[b]***

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .769[a] | .591 | .564 | .62518 | .591 | 21.660 | 11 | 165 | .000 | 1.872 |

a. Predictors: (Constant), What is the highest level of education you have completed?, Instagram users, Youtube users, Facebook users, Independent Variable: Personalized Social Media Advertisements, Gender: Female, How many hours a day do you spend on average on social media?, Other platform users, Snapchat users, How old are you?, Twitter users

b. Dependent Variable: Online Consumer Behavior

## Appendix VIII

***Table 22: H2 Coefficients[a] Considering both Douglas and Axe***

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | 3.521 | 1.064 | | 3.311 | .001 |
| Instagram users | -.142 | .195 | -.062 | -.727 | .468 |
| Twitter users | .264 | .253 | .114 | 1.040 | .300 |
| Snapchat users | -.181 | .159 | -.095 | -1.136 | .258 |
| Youtube users | -.117 | .156 | -.062 | -.749 | .455 |
| Facebook users | .257 | .155 | .130 | 1.660 | .099 |
| Other platform users | .026 | .175 | .013 | .150 | .881 |
| Gender: Male | -.166 | .192 | -.079 | -.863 | .390 |
| How many hours a day do you spend on average on social media? | .091 | .089 | .089 | 1.021 | .309 |
| Age | -.238 | .067 | -.328 | -3.568 | .000 |
| Highest level of education completed | .026 | .060 | .035 | .439 | .662 |
| BLB1_Douglas: I do not know the brand, so I've never bought their products | .251 | .581 | .034 | .0432 | .666 |
| BLB1_Douglas: I buy from this brand on a regularly basis | .061 | .223 | .027 | .272 | .786 |
| BLB1_Douglas I prefer this brand over its competitors | -.103 | .356 | -.024 | -.289 | .773 |
| BLB1_Douglas: I often buy products from this brand | .136 | .189 | .072 | .722 | .472 |
| BLA1_1_Douglas: No, the advertisements do not look attractive at all to me | -.418 | .283 | -.162 | -1.478 | .141 |
| BLA1_1_Douglas: Only advertisement A looks attractive to me | -.266 | .270 | -.119 | -.983 | .327 |
| BLA1_1_Douglas: Yes, both advertisements A and B look attractive to me | -.136 | .251 | -.066 | -.541 | .589 |
| BLA1_1_Douglas: I have no opinion on this | -.339 | .334 | -.097 | -1.013 | .313 |
| BLB2_Douglas: No, I am not willing to pay a higher price for this brand over other brands | -.134 | .197 | -.070 | -.679 | .498 |
| BLB2_Douglas: I have no opinion on this | -.134 | .271 | -.050 | -.494 | .622 |
| BLB1_Axe: I do not know the brand, so I've never bought their products | .167 | .300 | .043 | .556 | .579 |
| BLB1_Axe: I buy from this brand on a regularly basis | -.174 | .259 | -.061 | -.672 | .503 |
| BLB1_Axe: I prefer this brand over its competitors | .372 | .559 | .051 | .665 | .507 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Axe: I often buy products from this brand | -.218 | .207 | -.079 | -1.054 | .294 |
| BLA1_1_Axe: No, the advertisements do not look attractive at all to me | -.634 | .282 | -.234 | -.2.247 | .026 |
| BLA1_1_Axe: Only advertisement A looks attractive to me | -.614 | .258 | -.254 | -2.379 | .019 |
| BLA1_1_Axe: Yes, both advertisements A and B look attractive to me | -.529 | .232 | -.255 | -2.279 | .024 |
| BLA1_1_Axe: I have no opinion on this | -419 | .323 | -.120 | -1.299 | .196 |
| BLB2_Axe: Yes, I would be willing to pay a higher price for this brand over other brands | .084 | .232 | .031 | .360 | .719 |
| BLB2_Axe: I have no opinion on this | .234 | .231 | .085 | 1.014 | .312 |

a. Dependent variable: Online Consumer Behavior

***Table 23: H2 ANOVA Considering both Douglas and Axe***

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 53.189 | 30 | 1.773 | 2.479 | .000[b] |
| | Residual | 104.428 | 146 | .715 | | |
| | Total | 157.617 | 176 | | | |

a. Dependent Variable: Online Consumer Behavior

b. Predictors: (Constant), I have no opinion on this, Yes, both advertisements A and B look attractive to me, I have no opinion on this, Youtube users, Facebook users, I prefer this brand over its competitors, I do not know the brand, so I've never bought their, I prefer this brand over its competitors, I often buy products from this brand, I buy from this brand on a regularly basis, What is the highest level of education you have completed?, No, the advertisements do not look attractive at all to me, Instagram users, I have no opinion on this, I buy from this brand on a regularly basis, I do not know the brand, so I've never bought their products, Only advertisement A looks attractive to me, No, the advertisements do not look attractive at all to me, Other platform users, No, I am not willing to pay a higher price for this brand over other brands, How old are you?, Snapchat users, How many hours a day do you spend on average on social media?, Gender: Male, Yes, I would be willing to pay a higher price for this brand over other brands, I have no opinion on this, I often buy products from this brand, Twitter users, Yes, both advertisements A and B look attractive to me, Only advertisement A looks attractive to me

***Table 24: H2 Model Summary[b] Considering both Douglas and Axe***

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .581[a] | .337 | .201 | .84573 | .337 | 2.479 | 30 | 146 | .000 | 1.906 |

a. Predictors: (Constant), I have no opinion on this, Yes, both advertisements A and B look attractive to me, I have no opinion on this, Youtube users, Facebook users, I prefer this brand over its competitors, I do not know the brand, so I've never bought their, I prefer this brand over its competitors, I often buy products from this brand, I buy from this brand on a regularly basis, What is the highest level of education you have completed?, No, the advertisements do not look attractive at all to me, Instagram users, I have no opinion on this, I buy from this brand on a regularly basis, I do not know the brand, so I've never bought their products, Only advertisement A looks attractive to me, No, the advertisements do not look attractive at all to me, Other platform users, No, I am not willing to pay a higher price for this brand over other brands, How old are you?, Snapchat users, How many hours a day do you spend on average on social media?, Gender: Male, Yes, I would be willing to pay a higher price for this brand over other brands, I have no opinion on this, I often buy products from this brand, Twitter users, Yes, both advertisements A and B look attractive to me, Only advertisement A looks attractive to me

b. Dependent Variable: Dependent Variable: Online Consumer Behavior

## Appendix IX

***Table 25: H3 Coefficients[a] Considering both Douglas and Axe***

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| (Constant) | .625 | .842 | | .742 | .459 |
| Instagram users | -.167 | .146 | -.074 | -.1.146 | .254 |
| Twitter users | -.063 | .192 | -.027 | -.327 | .744 |
| Snapchat users | -.010 | .120 | -.005 | -.079 | .937 |
| Youtube users | .117 | -.042 | -.676 | .500 | .522 |
| Facebook users | .085 | .117 | .043 | .725 | .470 |
| Other platform users | .055 | .131 | .027 | .415 | .678 |
| Gender: Male | -.063 | .144 | -.030 | -.434 | .665 |
| How many hours a day do you spend on average on social media? | .092 | .067 | .091 | 1.386 | .168 |
| Age | -.097 | .052 | -.133 | -1.870 | .064 |
| Highest level of education completed | .040 | .045 | .052 | .877 | .382 |
| Independent Variable: Personalized Social Media Advertisements | .686 | .064 | .692 | 10.715 | .000 |
| BLB1_Douglas: I do not know the brand, so I've never bought their products | -.087 | .436 | -.012 | -.200 | .842 |
| BLB1_Douglas: I buy from this brand on a regularly basis | .181 | .168 | .081 | 1.077 | .283 |
| BLB1_Douglas: I prefer this brand over its competitors | .161 | .268 | .038 | .601 | .549 |
| BLB1_Douglas: I often buy products from this brand | .222 | .142 | .118 | 1.566 | .120 |
| BLA1_1_Douglas: No, the advertisements do not look attractive at all to me | -.147 | .213 | -.057 | -.689 | .492 |
| BLA1_1_Douglas: Only advertisement A looks attractive to me | .122 | .206 | .055 | .595 | .593 |
| BLA1_1_Douglas: Yes, both advertisements A and B look attractive to me | .073 | .189 | .035 | .389 | .698 |
| BLA1_1_Douglas: I have no opinion on this | -.153 | .251 | -.044 | -.611 | .542 |
| BLB2_Douglas: No, I am not willing to pay a higher price for this brand over other competitors | -.047 | .148 | -.025 | -.321 | .748 |
| BLB2_Douglas: I have no opinion on this | .024 | .204 | .009 | .117 | .907 |
| BLB1_Axe: I do not know the brand, so I've never bought their products | -.127 | .227 | -.032 | -.559 | .577 |

| Model 1 | Unstandardized Coefficients B | Unstandardized Coefficients Std. Error | Standardized Coefficients B | t | Sig. |
|---|---|---|---|---|---|
| BLB1_Axe: I buy from this brand on a regularly basis | -.099 | .194 | -.034 | -.508 | .613 |
| BLB1_Axe: I prefer this brand over its competitors | .115 | .420 | .016 | .275 | .784 |
| BLB1_Axe: I often buy products from this brand | -.199 | .155 | -.072 | -1.280 | .202 |
| BLA1_1_Axe: No, the advertisements do not look attractive at all to me | -.247 | .215 | -.091 | -1.150 | .252 |
| BLA1_1_Axe: Only advertisement A looks attractive to me | -.177 | .199 | -.048 | -.585 | .559 |
| BLA1_1_Axe: Yes, both advertisements A and B look attractive to me | -.230 | .176 | -.111 | -1.306 | .194 |
| BLA1_1_Axe: I have no opinion on this | .015 | .245 | .004 | .059 | .953 |
| BLB2_Axe: Yes, I would be willing to pay a higher price for this brand over other brands | -.020 | .174 | -.008 | -.115 | .909 |
| BLB2_Axe: I have no opinion on this | .152 | .173 | .055 | .880 | .380 |

a. Dependent Variable: Online Consumer Behavior

***Table 26: H3 ANOVA Considering both Douglas and Axe***

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 99.338 | 31 | 3.204 | 7.973 | .000[b] |
| | Residual | 58.279 | 145 | .402 | | |
| | Total | 157.617 | 176 | | | |

a. Dependent Variable: Dependent Variable: Online Consumer Behavior

b. Predictors: (Constant), I have no opinion on this, Yes, both advertisements A and B look attractive to me, I have no opinion on this, Youtube users, Facebook users, I prefer this brand over its competitors, I do not know the brand, so I've never bought their, I prefer this brand over its competitors, I often buy products from this brand, I buy from this brand on a regularly basis, What is the highest level of education you have completed?, No, the advertisements do not look attractive at all to me, Instagram users, I have no opinion on this, Independent Variable: Personalized Social Media Advertisements, I buy from this brand on a regularly basis, I do not know the brand, so I've never bought their products, No, the advertisements do not look attractive at all to me, Only advertisement A looks attractive to me, Other platform users, How many hours a day do you spend on average on social media?, How old are you?, No, I am not willing to pay a higher price for this brand over other brands, Snapchat users, Gender: Male, Yes, I would be willing to pay a higher price for this brand over other brands, I often buy products from this brand, I have no opinion on this, Twitter users, Yes, both advertisements A and B look attractive to me, Only advertisement A looks attractive to me

***Table 27: H3 Model Summary[b] Considering both Douglas and Axe***

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .794[a] | .630 | .551 | .63398 | .630 | 7.973 | 31 | 145 | .000 | 1.898 |

a. Predictors: (Constant), I have no opinion on this, Yes, both advertisements A and B look attractive to me, I have no opinion on this, Youtube users, Facebook users, I prefer this brand over its competitors, I do not know the brand, so I've never bought thei, I prefer this brand over its competitors, I often buy products from this brand, I buy from this brand on a regularly basis, What is the highest level of education you have completed?, No, the advertisements do not look attractive at all to me, Instagram users, I have no opinion on this, Independent Variable: Personalized Social Media Advertisements, I buy from this brand on a regularly basis, I do not know the brand, so I've never bought their products, No, the advertisements do not look attractive at all to me, Only advertisement A looks attractive to me, Other platform users, How many hours a day do you spend on average on social media?, How old are you?, No, I am not willing to pay a higher price for this brand over other brands, Snapchat users, Gender: Male, Yes, I would be willing to pay a higher price for this brand over other brands, I often buy products from this brand, I have no opinion on this, Twitter users, Yes, both advertisements A and B look attractive to me, Only advertisement A looks attractive to me

b. Dependent Variable: Dependent Variable: Online Consumer Behavior

## Appendix X

***Table 28: Hypotheses Conclusions Overview***

| # | Hypotheses | Result |
|---|---|---|
| 1 | Personalized social media advertisements positively affect online consumer behavior. Where personalized social media advertisements are measured on two different levels: Location and Interest and online consumer behavior is measured on four different levels: Web Atmosphere, E-Retailers Image, Trust, and Attitude. Assumed is that consumers are more inclined to buy products after seeing a personalized advertisement. | Supported |
| 2 | Brand loyalty positively affect online consumer behavior. Where brand loyalty is measured on two different levels: Brand Oriented and Attitudinal. The term Brand Orientation refers to the respondents' brand orientation, whereas Attitudinal refers to their attitude toward the brand. Assumed is here that respondents who have loyalty towards a brand, are more inclined to buy products. | Not supported |
| 3 | Brand loyalty mediates the effect of personalized social media advertisements on consumer behavior. In this regard, brand loyalty is measured on two different levels: Brand Oriented and Attitudinal. Assumed is here that brand loyalty explains the effect of personalized social media advertisements on online consumer behavior, where respondents who have loyalty towards a brand, are more inclined to buy products after seeing a personalized social media advertisement. | Not supported |

***Table 29: Comparison of Key Findings of the Literature Review and Empirical Research***

| | Key findings Literature Review | | Key findings Empirical Research |
|---|---|---|---|
| # | Source(s) | Findings | Findings |
| 1 | (Bond, Ferraro, Luxton, & Sands, 2010) (Duangruthai & Klieb, 2018) | Multichannel communication involving social media advertising can significantly affect brand loyalty and engagement. | After seeing advertisements, online consumer behavior is not significantly influenced by brand loyalty. However, BLA partially does have a significant effect. |
| 2 | (Laroche, Reza, & Richard, 2012) | Social media was positively affecting customers' relationships with certain products, brands, and companies | Brand loyalty does not explain the effect of personalized social media advertisements on online consumer behavior. |
| 3 | (Tran, Muldrow, & Ngoc Bich Ho, 2020) | Personalized advertisements on social media improve customer engagement | Personalized social media advertisements have a significant positive effect on online consumer behavior. |

| | Key findings Literature Review | Key findings Empirical Research | Key findings Literature Review |
|---|---|---|---|
| 4 | (Zaki, Kamarulzaman, & Mohtar, 2021) | Consumers that are exposed to emotions that induce a positive feeling before they see an advertisement are more likely to take the central route (ELM). | Testing emotions goes Beyonce the findings of this study. Therefore, this study tested brand loyalty as a measurement in the ELM. It turns out that consumers who take the central route, have a negative effect on their online consumer behavior. This is not statistically significant. |
| 5 | (Hayes, Brinson, Bott, & Moeller, 2021) | Consumers and brands perceive information disclosure as a combination of perceived benefits and risks. As a result, perceived risks dominated privacy calculus decisions when there was little or no relationship between the consumer and the brand. | This goes beyond the findings of this study. Therefore, before starting the empirical research it was assumed that perceived risks dominated privacy calculus decisions when there was little or no relationship between the consumer and the brand. |