

To click or not to click? An experimental study into the effects of personalization, marketing channel, and product type on consumers' attitudes, perceived relevance, and click through intentions towards online advertisements.

Madeline Fulton
University of Twente
P.O. Box 217, 7500 AE Enschede
The Netherlands

ABSTRACT

The use of personalization strategies within the field of marketing are considered to be the main driver of marketing success now and in the future as a main benefit of this personalization is a customer-focused approach. The rise of personalization and related concerns have stimulated the current research interest. Thus far, much of recent research has focused on the effects of personalized advertisements on consumer behavior and attitudes along with privacy concerns related to personalization. However, building on the current knowledge of personalization, more research is needed to identify how personalization, differences in marketing channel, and product types influence this phenomenon and how these may interact. Literature is exceptionally limited and dated in regards to distinguishing differences between product types, principally within the field of marketing. Therefore, the objective of this study is to investigate the extent to which marketing channel, personalization, and product type influence consumer attitudes, perceived relevance, and intention to engage with the advertisement while accounting for privacy concerns. To study the research hypotheses a 2 (good / service) x 2 (email / social media) x 2 (personalized / non-personalized) in between-subjects experimental design was implemented, resulting in eight conditions. An online questionnaire was created and distributed through means of snowball sampling in which a total of 185 valid responses were gathered. The research hypotheses were tested by conducting a two-way MANOVA analysis and mediation analysis using PROCESS MACRO whereby results of the statistical analyses indicated that personalized advertisements influenced attitudes and perceived relevance towards the advertisement, along with intention to engage with the advertisement. In addition, results demonstrated that email marketing is an important channel by which personalized advertisements can be sent to increase engagement intention with consumers. Moreover, the high privacy concerns demonstrated by respondents, but the willingness to engage with personalized advertisements indicate key findings and support for the phenomenon of privacy paradox. This study contributes to literature in the field of marketing and communication by capturing the current state of personalization, marketing channels, and product types, within marketing and communication disciplines.

Keywords: Personalization, marketing, privacy concerns, marketing channel, product type, consumer attitudes

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I. Introduction

For the first time in history, digital advertising spend in the United States surpassed traditional media spending with over \$USD 129 billion being spent on digital advertisements in 2019 (PubMatic, 2019). Professionals in the field of marketing and advertising are increasingly integrating personalization strategies into their advertising campaigns to drive digital engagement with their customers. The phenomenon of personalization is highly influential for marketing professionals as instead of physically changing the product to meet the needs of the consumer, the advertisement or product recommendation is changed or delivered at a specific time (Rust, 2020). The use of personalization strategies within the field of marketing are considered to be the main driver of marketing success *now* and in the *future* (Boudet et al., 2019) as one of the main benefits of this strategy is a customer-focused approach aimed at delivering the right content, to the right person, at the right time, requiring minimum effort on the part of the consumer (Aguirre et al., 2015).

Thanks to large online corporations such as Amazon, Google, and Facebook, consumers are increasingly exposed to and have become familiar with personalized experiences. Amazon, a well-known multinational company with online webshops in countries around the world, is notorious for its personalization and recommendation tactics. For example, each individual visiting the Amazon website is presented with a personalized ‘catalog’ of items based on historical data of their interests, preferences, and behaviors. This personalized catalog is only a small portion of the products that are available on Amazon’s website, but are carefully selected based on the individual’s current and past behaviors (Smith & Linden, 2017). These personalization strategies can include suggesting the right product at the right time to the right consumer and / or including elements of personalization in the recommendation such as the consumers name, or a personalized message that matches their past behavior (Tam & Ho, 2006).

Due to the very nature of personalization, the disclosure of personal information is a necessary prerequisite for personalization to occur, therefore, consumers' attitudes towards personalization tactics range from some seeing the benefits, to some perceiving these strategies as invasive and intrusive (Boerman et al., 2017). Despite the widespread use of personalization strategies, these tactics also pose threats to our online digital privacy (Gutierrez et al., 2018) whereby highly personalized advertisements have been found to lead individuals to perceive a loss of choice, control, or ownership (Boerman et al., 2017). These negative responses to personalization can be explained by theories such as the psychological ownership theory and psychological reactance theory, which propose that despite the benefits of personalization, consumers often feel vulnerable when personalization tactics evoke discomfort, as the consumer comes to the realization that their data is being collected (Aguirre et al., 2015; Boerman et al., 2017).

In principle, personalization cannot occur without information about individuals, however, as technology has advanced and thus become more intrusive, in which consumers possess little to no control over their personal data and how it is used and stored online (Ahmed et al., 2020), personalization systems are required to comply with official privacy regulations.

These preventative measures and policies have been introduced to combat the concerns related to privacy and protect the rights of individuals. In Europe, the General Data Protection Regulation (GDPR) law was passed by the European Union in 2016 as a response to the lack of protection over personal data, empowering the individual to gain control over their personal data and reinforce data protection rights of individuals (Rodrigues et al., 2016). GDPR imposes a specific set of data protection requirements on organizations and businesses of all EU Member States to achieve this goal. These requirements set forth in the GDPR not only provide individuals with more control over their personal data, but also facilitate transparency in data processing activities carried out by these organizations (Ahmed et al., 2020). Specifically in the United States, personalization strategies have received great attention from regulators such as the U.S Federal Trade Commission due to rising privacy concerns related to consumer data collection, distribution, and usage (Boerman, et al., 2017), yet the United States falls far behind on providing adequate legislation for protection of consumer privacy.

The rise of personalization and surrounding concerns in marketing have stimulated the current research interest. Thus far, much of recent research has focused on the effects of personalized advertisements on consumer behavior (e.g. Gazley et al., 2015; Nath & McKechnie, 2016; Nill & Aalberts, 2014) and attitudes along with privacy concerns related to personalization (e.g. Ahmed et al., 2020; Aguirre et al., 2015; Boerman et al., 2017). However, building on the current knowledge of personalization, more research is needed to identify how personalization, differences in marketing channel, and product types influence this phenomenon and how these may interact. For example, literature is exceptionally limited *and* dated, in regards to distinguishing differences between product types, principally within the field of marketing. Therefore, uncovering a strategy to effectively define and address differences between product types would be very valuable within the field of marketing. In addition, few studies (e.g. Kapoor et al., 2018) exist in literature that compare the differences in personalization success amongst different marketing channels. Moreover, as the trend of personalization will continue to develop and advance in the coming years, major shifts impacting both businesses and consumers can be expected to occur. Therefore, understanding the paradox between the benefits of personalization and the potential negative impacts is essential for marketers to have a greater understanding of consumer privacy concerns and attitudes towards personalized advertising. This leads to the following research questions which will be explored in this study:

RQ1: To what extent do personalization, marketing channel, and product type influence (a) consumers' attitudes and (b) perceived relevance towards digital advertisements?

RQ2: How do the aforementioned relationships affect consumers' (c) intention to engage with the advertisement?

RQ3: To what extent is this relationship moderated by privacy concerns?

2. Theoretical Framework

This literature review defines and examines the factors that may influence attitudes towards an advertisement, the perceived relevance of the advertisement, and intention to engage with the advertisement in relation to advertisements of different products displayed on different media channels, while addressing the effect of privacy concerns on this relationship.

2.1 Phenomenon of Personalization

Personalization tends to be regarded as a crucial capability for marketing, whereby scholars and marketers alike must understand the core elements and impacts of personalization in order to capitalize on its capabilities. By definition, personalization entails tailoring an advertisement to fit the needs of consumers on an individualized basis, but nonetheless, several definitions of personalization exist in marketing and communication literature. One definition of personalization refers to the approach taken by firms whereby marketers decide what marketing mix is suitable for the individual based on previously collected customer data (Arora et al., 2008). In the context of this study, the definition from Aguirre et al. (2015) is adopted whereby personalization is described as a marketing strategy that is customer-oriented, aiming to deliver the right message, at the right time, to the right person. Despite the vast number of definitions, a common theme emerges in literature which is that personalization is an adaptation of the marketing mix to an individual customer based on specific information about that customer (Montgomery & Smith, 2009).

A considerable number of studies have been conducted, researching into the benefits and consequences of personalized strategies within the field of marketing and advertising. Personalization allows companies to effectively and accurately target specific customer segments with the ability to create and communicate individualized experiences to customers whereby strong customer-brand relationships can occur through the creation of unique customer experiences (Kietzmann et al., 2018; Kumar et al., 2019; Sujata et al., 2019). Consequently, this often results in higher customer satisfaction and profits for the company (Arora et al., 2008). Research by Chung et al. (2015) indicates that adapting to customers' observed behavior can improve performance of personalized content, corresponding to research conducted by Aguirre et al. (2015), who found that personalization leads to increased intention to click-through on the advertisement. An equally important benefit of personalization for consumers is that irrelevant advertisements can be filtered out, whereby more personalized offerings can be shown to the customer, reducing cognitive load (Sweller, 1988). From a business perspective, personalized advertisements can be implemented by marketing professionals to target specific consumers who they believe will engage with their brand and/or offerings, thus reducing costs (Nath & McKechnie, 2016). Correspondingly, scholars have explored the effectiveness of personalized and non-personalized advertisements, whereby personalized advertisements were found to significantly outperform non-personalized advertisements in regards to product page click-through rates (Campbell et al., 2019; Grbovic et al., 2015) and purchase intentions (Davenport et al., 2019; Gao & Huang, 2019) as a result of a greater customer experience.

Despite the benefits of personalization for both marketers and consumers, which will be further discussed in the following section, personalized marketing has been considered highly controversial whereby the negative effects of personalization must also be accounted for. As technology has advanced and thus become more intrusive, in which consumers possess little to no control over their personal data (Ahmed et al., 2020), several scholars have explored the negative effects of personalization within marketing. The most noteworthy concerns expressed by consumers are related to privacy and the lack of control of personal and private data (Smit et al., 2014; Voorveld et al., 2013). Compelling evidence of these concerns can be found in research conducted by Tsang et al. (2004) which found that unless consumers have consented to personalized advertising, consumers generally display negative attitudes towards receiving personalized advertisements.

Although consumers have expressed concerns and negative attitudes towards personalized advertisements, there exists a dilemma within marketing known as the privacy paradox. The privacy paradox describes the phenomenon that individuals do not behave according to their behavioral intentions in regards to personal information disclosure, whereby a discrepancy exists between consumers' privacy preferences and their demonstrated behavior (Aguirre et al., 2015). Scholars have found that individuals commonly report having high concerns about their individual privacy, yet divulge sensitive personal information rather freely in exchange for perceived benefits (Aguirre et al., 2015; Norberg et al., 2007).

2.2 Effects of Personalization

In addition to the aforementioned discussion of the benefits of personalization, there exist three key concepts that emerge from literature surrounding personalization and marketing. These benefits of personalization include: more positive attitudes towards advertising, an increase in perceived relevance of the advertisement, and a greater intention to engage with the advertisement, which will be further defined and discussed below.

2.2.1 Advertisement Attitude

Research in the field of personalization marketing has found that when an advertisement addresses the motives of the consumer, it has the ability to increase the attitudes towards the advertisement (Boerman et al., 2017). These positive attitudes can be explained by the self-referential effect, which refers to the tendency of individuals to remember information more easily when they perceive it as relevant to them (Rogers et al., 1977) whereby information retention is facilitated by individuals relating information to aspects of themselves. As the very strategies of web personalization include sending cues such as the consumer's name or messages that are relevant to the user, consumers tend to perceive personalized information as more beneficial and are more willing to engage with the personalized content as these concepts are activated and stored in the self-schema (Tam & Ho, 2006).

Despite the extensive definitions of attitude, Fishbein and Ajzen (1975) define attitude as "a learned predisposition to respond in a consistently favorable or unfavorable manner with

respect to a given object” (p. 6). This definition of attitude is made up of three features: attitude is learned, it influences behavioral action, and these actions are constantly favorable or unfavorable in regards to the object. Previous literature have also defined attitude as “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p. 188). In essence, the definition of attitude consists of an individual responding favorably or unfavorably in regards to a specific context of object whereby attitudes are the result of past experiences, which have been found to positively influence behavioral intention, such as clicks and purchases (Boerman et al., 2017).

2.2.2 Perceived Relevance

The adoption of personalization strategies differs from traditional online advertising, as this strategy aims to increase the relevance of the advertisement by using individual consumer information to create advertisements that are perceived by the consumer as more personally relevant (Ham & Nelson 2016; Nill & Aalberts, 2014). Personalization has gained popularity by marketers, as literature has demonstrated that consumers value personalized attention (Adam, Wessel, & Benlian, 2020). For example, consumers tend to seek out more relevant advertisements that fulfill their personal needs (Kumar & Gupta, 2016), fit their lifestyle, or are based on their interests (Gazley et al., 2015) whereby consumers regard messages that reflect their individual needs as more favorable and likeable (Kim & Han, 2014) as personalized advertisements have been found to make the decision-making process easier (Gazley et al., 2015). Jung (2017) describes perceived relevance as products or environments that the product is located in that correspond to an individual’s personal needs or values. Similarly, Zhu and Chang (2016) define relevance as the extent to which consumers perceive a personalized advertisement to be related to personal motives or influential in achieving their personal objectives.

2.2.3 Engagement Intention

To conceptualize engagement is a challenging task, however in the context of this study, engagement intention can be defined as a construct that emerges from an individual’s thoughts and feelings involved in reaching a specific goal (Voorveld et al., 2018). More specific to this study, is that engagement intention with the advertisement will be measured by click-through intentions where it has been found that personalization influences outcomes, such as behavioral intention and click-through rates (Aguirre et al. 2015; Gao & Huang, 2019). In addition, scholars have found that personalized advertising allows consumers to receive advertisements that are relevant to them, leading to a greater likelihood of the consumer eliciting desired responses such as stronger customer-brand relationships and engagement such as purchase intention, or click-through-intention (Bleier & Eisenbeiss 2015; Pavlou & Stewart, 2000). Within marketing and advertising, engagement is often measured through click-through-rate (CTR), which is considered the best metric to measure consumer responses in internet advertising (Briggs & Hollis, 1997) as this metric provides numerical data that can be assessed. CTR is measured by

the number of times the advertisement was viewed divided by the number of times the advertisement was clicked (Drèze & Hussherr, 2003).

The benefits of personalization have been carefully considered and defined and based on results from previous studies, the following hypothesis is proposed:

H1: Designing advertisements that include elements of personalization will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.

2.3 Digital Marketing Channel

Digital marketing channel refers to the online environment by which an advertisement is displayed to its target audience and can include channels such as social media, email, and websites (Kaplan & Haenlein 2010; Voorveld et al., 2018). With the recent growth of social media, studies have shown that social media provide marketers with extensive opportunities to understand and reach their current and potential consumers through the collection of data through online consumer behavior (Arora et al., 2008). Zhu and Chen (2015) elaborate on that notion that different social media platforms cater to different basic human needs, so establishing congruence between the platform and the user needs is essential for the success of marketing campaigns. Despite the lack of studies that directly compare social media platforms, it is thought that individuals engage with the various platforms differently based on the unique characteristics that each offers in terms of functionalities, interface, and content (Voorveld et al., 2018).

In addition to social media channels, email is a profound marketing channel as most business engage in email marketing whereby marketing professionals have access to vast information about their consumers such as their name, what they have added to their shopping basket, and product preferences, which can be incorporated into the email advertisement to personalize it (Grbovic et al., 2015; Sahni et al., 2018; Wattal et al., 2012). However, convincing consumers to actually click the link and exit “email mode” has proved to be a challenging task (Ellis-Chadwick & Doherty, 2011). In recent years, the use of personalization and targeting has become an essential part of tackling this issue, in which the goal is to match the advertisement for each individual consumer, leading to an improved user experience, greater perceived relevance of the advertisement, and greater intentions to click on the advertisement (Grbovic et al., 2015).

Regardless of the lack of studies that directly compare marketing channels, due to the vast nature of digital marketing channels, it can be concluded that individuals actively use and engage with the various platforms differently based on the defining characteristics that each offers in terms of functionality, user interface, and content displayed within the platform (Van Dijck, 2013; Voorveld et al., 2018). In addition, as the very notion of receiving an email is more personal by nature and email marketing has been considered to be a more personal form of communication and less intrusive (White et al., 2008) the following hypothesis is proposed:

H2. Advertisements displayed via email will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance, and (c) a greater intention to engage with the advertisement.

2.4 Product Type

In the competitive business environment today, companies face the challenge of deciding how to advertise their products to their current and potential customers. In mainstream literature, a key construct to distinguish between goods and services is the Tangibility-Intangibility Continuum, also known as the Goods-Services Continuum, which provides marketing professionals with a continuum based on the extent to which a product is tangible or contains aspects of both goods and services. On one side of the continuum completely tangible products can be found, while on the other side of the continuum, completely intangible products can be found, with products that include elements of both in between (Shostack, 1977; Winsor, Sheth, & Manolis, 2004). A good can be conceptualized as a physical item composed of tangible attributes, while a service can be conceptualized as a non physical item composed of intangible attributes (Shostack, 1977). However, a simple dichotomy does not exist, but rather a continuous range of products which can be found in Figure 1.

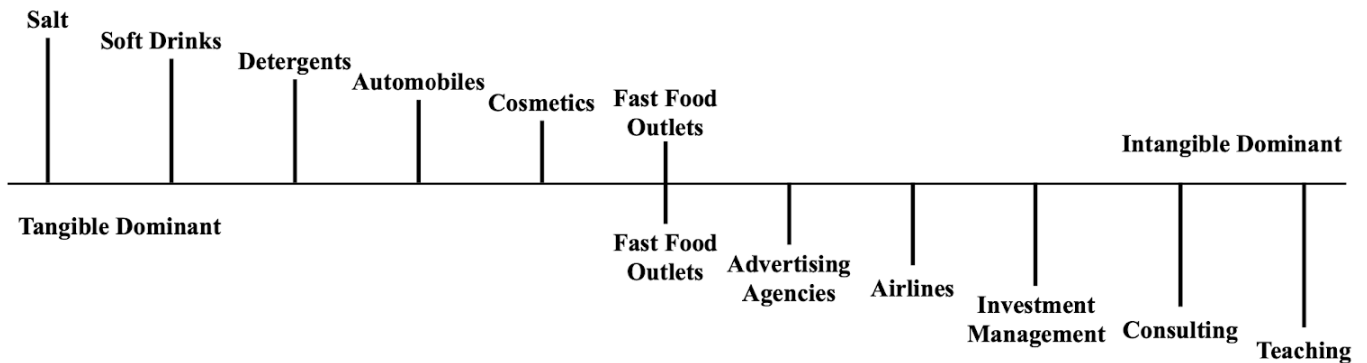


Figure 1: Tangibility-Intangibility Continuum

Source: Shostack (1977), p. 77

When comparing marketing and advertising of goods and services, several differences are apparent. Weinberger and Brown (1977) experimentally explored the consumer perspective of potential distinction in marketing between goods and services. These scholars found that consumers place a greater reliance on product information about services rather than goods, indicating that personalization of services is of importance to marketing professionals since consumers often seek outside information when evaluating services in order to fill the

information void due to the higher risks associated with services (Weinberger & Brown, 1977). In addition, Murray and Schlacter (1990) studied the perceived associated risk with both goods and services in marketing, which was evaluated on six different types of risk: financial, performance, social, convenience, physical, and psychological. It was found that when comparing the perceived risk with both goods and services, consumers perceived services to have a greater overall risk, social risk, convenience risk, physical risk, psychological risk, while also having a greater perceived variability than goods. Moreover, services marketing has often been neglected in the field of marketing research, as researchers face difficulty in conceptualizing services (Grönroos, 2020). Therefore, based on the very nature of both goods and services, the following hypothesis is presented:

H3. Advertisements displaying goods will stimulate (a) a greater perception of relevance and (b) a greater intention to engage with the advertisement.

2.5 Interaction between Marketing Channel and Personalization

Personalization has dissolved traditional boundaries within marketing, bringing businesses and consumers together through online platforms whereby advertisements on these online platforms did not exist until only recently (Zolkepli and Kamarulzaman, 2014). As research has shown that personalization has the ability to stimulate positive attitudes (Boerman et al., 2017), the marketing channel by which the advertisement is displayed should also be considered when using personalized advertisements.

The Uses and Gratifications Theory (UGT), can be helpful in explaining the interaction between personalization and marketing channel as this theory describes the motivational needs of individuals that motivate an individual to select a specific type of media, channel, or content to engage with. UGT assumes that individuals have goal-directed behavior and are aware of their personal needs. Within the social media context, Zolkepli and Kamarulzaman (2014) found that social media adoption is significantly driven by three types of needs: personal needs including enjoyment and entertainment, social needs consisting of social influence and interaction, and tension release needs consisting of belongingness, companionship, playfulness. As the nature of social media seeks to meet the aforementioned needs of consumers, traditional segmentation is likely unsuitable, as social media can be viewed as a content-based platform rather than email, which can be considered an informational-based platform (Zolkepli and Kamarulzaman, 2014).

Moreover, a study conducted by Ellis-Chadwick and Doherty (2011) found that elements included an email such as personalization, interactive features, and hyperlinks were found to be most successful in facilitating engagement. Moreover, when conducting qualitative analyses, they found that managers believed that personalizing emails was important, as they expected personalized emails to outperform non-personalized emails. One way in which personalization can affect the success of marketing through email is bringing attention to the email itself. For example, as people naturally seek out information that is self-relevant, including a consumers' name or specific information about them can draw attention to the email, potentially increasing

the chance that they will open or read the email (Sahni, Wheeler, and Chintagunta, 2018). In addition, Wattal et al. (2012) found that when firms used product-based personalization within email advertisements, consumers responded positively whereas. As the very nature of receiving an email is more personal than receiving an advertisement via social media and email marketing has been considered to be a less intrusive form of communication (White et al., 2008), the following hypothesis is presented:

H4. Personalized advertisements presented via email will stimulate (a) more positive attitudes towards the advertisement and (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.

2.6 Interaction between Personalization and Product Type

Weinberger and Brown (1977) experimentally explored the consumer perspective of the distinction in marketing between goods and services. These scholars found that consumers place a greater reliance on product information about services rather than goods, indicating that personalization of services is of prime importance to marketing professionals as consumers often seek outside information when evaluating services in order to fill the information void. The basis of service marketing lies in the notion that services are intangible, inseparable, and perishable products (Wyckham et al., 1975), but these characteristics must be addressed for marketing professionals to successfully design advertisements displaying services. As consumers typically rely on more information when purchasing services rather than goods, it is suggested that when an advertisement displaying a service is personalized, it will lead to more successful intentions that if there is no interaction between personalization and product type, however, as goods contain more tangible attributes, the following hypothesis is presented:

H5. Personalized advertisements displaying goods will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.

2.7 Moderating effects of Privacy Concerns

From the start, a primary criticism directed towards personalization is that it enables invasion of consumer privacy (Montgomery & Smith, 2009). Although the use of consumer data to create personalized offerings to the consumer has positive benefits for the consumer such as more personalized offerings, customized discounts, and more relevant advertisements (Martin & Murphy, 2017), the negative effects of access to consumer data are a growing concern among companies, governments, and especially consumers. For example, the access to personal consumer information is widespread, and the effects vary from feelings of vulnerability, fraud, privacy invasion, and the potential feelings of obtrusive advertisements (Martin & Murphy, 2017). Greater personalization also may increase customers' feelings of vulnerability, leading to

privacy concerns, resulting in a drop in advertisement engagement when customers are aware that their information is being collected (Aguirre, et al. 2015).

To illustrate the negative effects of personalization, research has shown that privacy concerns are a factor that influences consumer behavioral intention whereby the perception of privacy invasion leads to negative attitudes towards the brand or company (Jung, 2017; Martin & Murphy, 2017; Aguirre, et al., 2015). Therefore, if customers perceive the personalized advertisement as too invasive, they will react negatively towards the ad, reducing the click-through rate intention (Aguirre et al., 2015). Consistent with prior studies, Jung (2017) found that consumers who are conscious and are concerned with advertisers collecting their personal information are more likely to exhibit avoidance behavior towards social media ads, such as not engaging with or clicking the advertisement.

Aguirre et al. (2015) describes the personalization paradox, which states that personalization can be an effective or an ineffective marketing strategy depending on the individual's privacy concerns. This is consistent with the personalization-privacy paradox presented by Awad and Krishnan (2006), which suggests that organizations face the paradox of personalization and privacy with their customers whereby consumers who value information transparency are less likely to participate in personalized offerings. These consumers are known as "privacy fundamentalists" and are unwilling and actively resist online personalization regardless of privacy features outlined by the company. Correspondingly, it has been found that the level of privacy concern moderates the direct effects of personalization on consumers' responses towards advertising (Lee et al., 2015) whereby customers who displayed greater privacy valuation and privacy concerns were less likely to engage with the firm's social media site (Kumar et al., 2016) and individuals with low levels of privacy concern or low levels of privacy valuation typically display more positive attitudes towards personalization (Baek & Morimoto, 2012; Smit, Van Noort, & Voorveld, 2014). This leads to the following hypothesis:

H6. Designing advertisements that include elements of personalization will stimulate (a) more positive attitudes towards the advertisement and (b) a greater intention to engage with the advertisement given that consumers exhibit low privacy concerns.

2.8 Mediating effects of attitude and perceived relevance on engagement intention

In the current research context, perceived relevance and attitude towards the advertisement are assumed to have a mediating role in this relationship. For example, scholars have shown that when consumers have more positive attitudes towards the advertisement, they are more likely to engage with the advertisement (Akar & Topku, 2011). Since the inception of the Theory of Planned Behavior (TPB), TPB has been widely used in literature to understand factors that influence behavior in various contexts. TPB is a fundamental theory related to behavioral intention, as it describes a framework for human action and states that human behavior is guided by three things: behavioral beliefs, normative beliefs, and control beliefs (Ajzen, 2002). In the context of this research, advertisement engagement intention can be

described as an element of behavioral intention that refers to the individual's or consumer's plan to purchase a good or service which has been used to evaluate actual consumer behavior (Hsu et al., 2012). Similar to the Theory of Planned Behavior, the Theory of Reasoned Action by Fishbein and Ajzen (1975) states that an individual's attitude is able to predict behavior, indicating that understanding consumer's attitudes towards the advertisement could help predict behavioral intention to engage with the advertisement.

In addition, research conducted by Zhu and Chang (2016) discuss the importance of relevance in personalized advertisements, whereby it was found that personalized advertisements positively influenced consumers' intention to use and continue to use personalized advertisements. Several researchers have also suggested that the perception of relevance within an advertisement influences consumers' reactions towards the advertisement (Campbell & Wright, 2008; Drossos & Giaglis, 2005), whereby previous studies have indicated that the greater the perceived relevance of the advertisement, the greater intention to engage with the advertisement (Pavlou & Stewart, 2000). Thus, studying the mediating effects of perceived relevance and attitude on the intention to engage with an advertisement is appropriate whereby the following hypotheses will be explored:

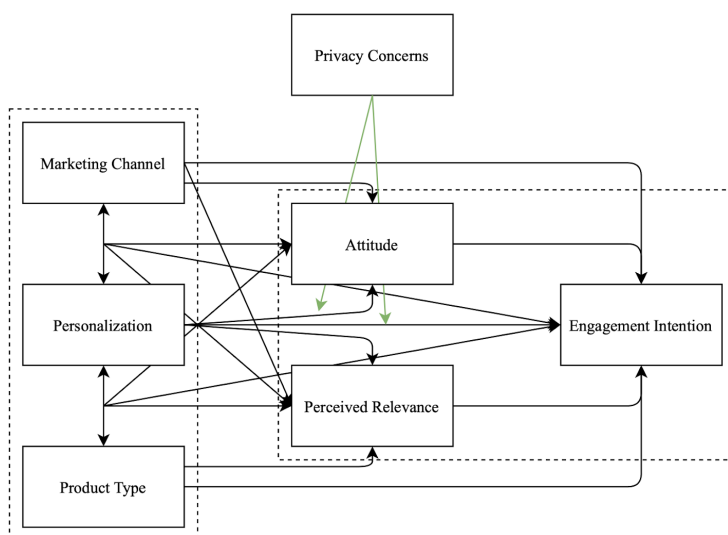
H7. The effect of product type on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.

H8. The effect of marketing channel on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.

H9. The effect of personalization on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.

The research model can be found in Figure 2:

Figure 2: Theoretical research model



3. Methodology

3.1 Research Design

To test the hypotheses, a 2 (good / service) x 2 (email / social media) x 2 (personalized / non-personalized) in between-subjects experimental design was implemented, resulting in eight conditions (Table 1). Each of the eight conditions is presented in Figures 3-11 below.

Table 1

Experimental Conditions

Condition	Marketing Channel	Personalization	Product Type
1	Email	Non-Personalized	Good
2	Email	Non-Personalized	Service
3	Email	Personalized	Good
4	Email	Personalized	Service
5	Social Media	Non-Personalized	Good
6	Social Media	Non-Personalized	Service
7	Social Media	Personalized	Good
8	Social Media	Personalized	Service

3.2 Stimulus Materials

In this experiment, advertisements were designed displaying either goods or services that were presented in an Instagram post layout or an email layout to create a realistic effect for the participant. These two marketing channels were chosen as email was the highest digital channel by which personalized communication was used with 78 percent of all emails including elements of personalization in a study conducted in the United States (Research International, 2020) and social media remains a prominent channel for marketers, whereby 65.8 percent of Instagram users are between the ages of 18 and 34.

Moreover, two different images were used based on product type: one image displaying goods and one image displaying services. The image displaying a good presented a pan set, while the image displaying a service presented a cooking class that could be taken either online or in person. Furthermore, two messages were used; a personalized message and a non-personalized message. The personalized message was manipulated through the storyline paragraph text before the advertisement was shown in addition to the text within the marketing channel subject line / caption box containing a personalized message to match the context of the situation. On the contrary, the non-personalized message was manipulated by having the

storyline paragraph text unmatched from the advertisement and displaying a generic message within the marketing channel. Although the messages differed based on the presence of personalization, they contained the same information about the context of the online shopping experience and can be found in Appendix B. The stimulus materials can be found below in Figures 3 - 10.

Figures 3-10: Stimulus Materials

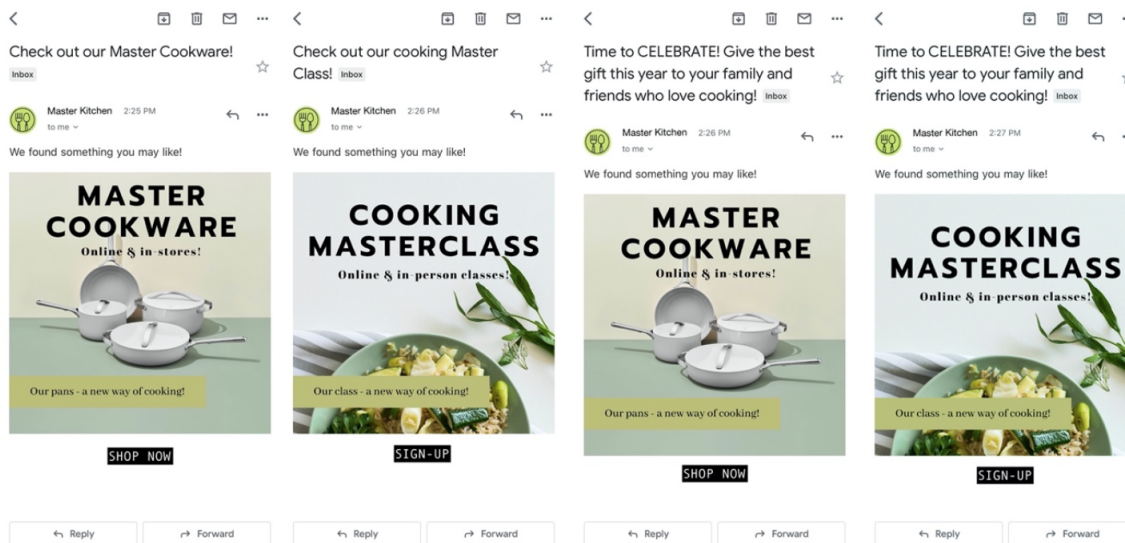


Figure 3: Condition 1

Figure 4: Condition 2

Figure 5: Condition 3

Figure 6: Condition 4



Figure 7: Condition 5

Figure 8: Condition 6

Figure 9: Condition 7

Figure 10: Condition 8

3.3 Procedure

3.3.1 Pre-Test

A pre-test (N=22) of the manipulations was conducted to identify potential problems related to the design of the images and the formulation of the messages in which twelve items were used to measure the manipulation check of the images and messages. In addition, the items measuring the independent and dependent variables were evaluated on their sentence structure clarity. The pretest and manipulation check questions can be found in Appendix A.

In the pre-test, participants were randomly shown one of the eight manipulations and asked to answer the 12 manipulation check items relating to personalization, marketing channel, and product type. Items relating to the personalization included statements such as ‘the advertisement is directed towards the situation presented in the scenario’ and ‘the advertisement takes into account my situation presented in the scenario’. This study included two items relating to marketing channel which included the items, ‘the advertisement is presented on Instagram’ and ‘the advertisement is presented in an email’. To measure product type, items included ‘the product shown in the advertisement is a physical item’ and ‘the product shown in the advertisement is a non-physical item’. Additionally, a pre-test relating to the clarity of the items was conducted. This included all 25 items being evaluated on their clarity by asking participants if the item was “Clear” or “Unclear”. Finally, a comment box was left at the end of the pre-test for any additional comments that respondents had about the pre-test.

The results of this preliminary test indicated that individuals were able to correctly interpret the independent variables based on the definitions of the variables in regards to the present study. To ensure that the manipulations were as similar as possible, the manipulations were changed to have the same colors in the advertisements, as well as changing the product type from a blender to a pan, as pans were seen as one of the top cooking items. Based on this information, the good was changed from a blender to a pan, so that the participant could better connect this product to the situation presented in the questionnaire. Furthermore, the items that respondents rated as “Unclear” were revised based on feedback in the comment box of the pre-test. Overall results of the pre-test indicated few problems, which prompted change in the manipulations, resulting in the eight new conditions as shown in Figures 3-10.

3.3.1 Final Questionnaire

After the revision of the manipulations, resulting in eight new conditions, a final questionnaire was created to carry out the study, which was conducted through an online questionnaire on the program Qualtrics. The questionnaire was distributed by means of snowball sampling through various online media platforms such as iMessage, WhatsApp, Instagram, Gmail, and LinkedIn.

The questionnaire was structured in the following manner: a welcome and informed consent page was provided to all participants. Next, demographic information was collected which included, age, gender, level of education, if the participant was currently living in the United States, nationality, how often they looked for products online, and if they had an

Instagram account and an email address. Since this study is focused on individuals who are currently living in the United States and individuals who have Instagram accounts and email addresses, those responding “I live outside of the United States” or “I do not have an Instagram or email address” to the previous questions were directed to the end of the survey. Next, participants were presented with four items relating to privacy concerns. Following this, participants were randomly assigned to one of the eight conditions and shown the storyline and advertisement in which 12 items, relating to the three dependent variables, were presented on a 5-point Likert scale in which respondents were asked to respond to the best of their ability. Next, participants were shown nine items relating to the personalization, marketing channel, and product type. These nine items were used as manipulation check questions to determine the extent to which the respondent perceived the images and messages as they were intended to be viewed by definition in this study. After completing the questionnaire, respondents were thanked for their participation. The full questionnaire can be found in Appendix B of this paper.

3.3.2 Manipulation Check

A manipulation check was performed using an independent sample t-test to determine success of the manipulations. The manipulation check was performed by all respondents in the final questionnaire and consisted of four items measuring personalization, two items measuring marketing channel, and three items measuring product type, using a 5-point Likert scale (1 = strongly disagree / 5 = strongly agree). Table 2 displays the outcomes of the t-test for personalization, indicating that there is a statistically significant difference between the means of non-personalized ($p < .001$) and personalized advertisements ($p < .001$). This indicates that the manipulations of personalization used in the experiment have been effectively manipulated and that respondents interpreted the manipulations in the way they were intended based on the definition of personalization in the context of this research. Questions used to measure the manipulation check of personalization included statements such as ‘The advertisement is directed towards the situation presented in the scenario’ and ‘The advertisement takes into account my situation presented in the scenario’.

Table 2*Results for Manipulation Check Test of Personalization*

Personalization	Personalized	Non-personalized	Levene's Test for Equal Variances		T-Test		
			F	Sig.	t	df	Sig.
	<i>Mean(SD^{**})</i>	<i>Mean(SD^{**})</i>					
Personalized*	4.50(0.58)	1.39(0.57)	1.79	0.18	-36.50	189.47	< .001
Non-personalized*	1.36(0.52)	4.69(0.67)	0.00	0.96	30.65	190	< .001

*Equal variances assumed.

**SD = standard deviation

Table 3 displays the outcomes of the independent t-test for marketing channel, indicating that there is a statistically significant difference between the means of goods ($p < .001$) and services ($p < .001$). This indicates that the manipulations of marketing channel used in the experiment have been effectively manipulated and that the respondents understand the manipulations in the way they were intended based on the definitions of marketing channel in the context of this study. Questions used to measure the manipulation check of marketing channel included statements such as 'The advertisement is presented on Instagram' and 'The advertisement is presented in an email'.

Table 3*Results for Manipulation Check Test for Marketing Channel*

Marketing Channel	Email	Social Media	Levene's Test for Equal Variances		T-Test		
			F	Sig.	t	df	Sig.
	<i>Mean(SD^{**})</i>	<i>Mean(SD^{**})</i>					
Email*	4.84(0.48)	1.23(0.63)	2.11	0.15	-43.33	180	< .001
Social Media*	1.22(0.59)	4.87(0.54)	1.77	0.19	43.16	181	< .001

*Equal variances assumed.

Table 4 displays the outcomes of the independent t-test for product type, indicating that there is a statistically significant difference between the means of goods ($p < .001$) and services ($p < .001$). This indicates that the manipulations of product type used in the experiment have been effectively manipulated and that the respondents understand the manipulations in the way they were intended based on the definitions of product type in the context of this study. Questions used to measure the manipulation check of product type included statements such as ‘If purchased, I would be able to hold / touch the product shown in the advertisement’ and ‘The product shown in the advertisement is a physical item’.

Table 4

Results for Manipulation Check Test for Product Type

Product Type	Good	Service	Levene’s Test for Equal Variances		t	df	T-Test
			F	Sig.			Sig.
	<i>Mean (sd)</i>	<i>Mean (sd)</i>					
Good*	4.72(0.50)	1.55(0.77)	10.76	0.001	-33.00	150.41	$p < .001$
Service*	1.16(0.36)	4.39(0.67)	41.64	< 0.001	39.04	141.23	$p < .001$

*Equal variances not assumed.

3.4 Respondents

Data were collected through an online, self-administered, questionnaire using the program Qualtrics, resulting in 216 responses. After removing responses with missing data and those who did not consent to the study, the final sample contained a total of 185 completed responses.

The target group of individuals for this study included individuals who were currently living in the United States and between the ages of 18 and 34, as this age group has the highest rates of online presence whereby 50 percent of Internet users fall within this age range (Statista, 2021). Therefore, individuals who were not currently living in the United States were excluded from participating in the experiment. The total sample size of this study was $N = 216$, however, 16 individuals were above the age of 34, 13 individuals reported living outside of the United States and two individuals reported never shopping online, meaning these individuals were excluded from the data analysis.

Additionally, after removing 18 incomplete responses, a total of 185 valid responses were included in the final data analysis. Out of respondents who completed the study, 57.8 percent of respondents identified as female, 40.8 percent of respondents identified as male, and 1.6 preferred not to state their gender. Furthermore, the mean age of the respondents across all four

conditions was 24.9 years. Table 5 displays the number of respondents for each condition, including gender, along with the mean and standard deviation for age. A complete table of demographic information is presented in Appendix C.

Table 5

Descriptive Statistics by Condition

Condition	N	Gender <i>N Female / Male</i>	Mean Age(SD)*
Condition 1	21	12 / 8**	24.55(3.46)
Condition 2	25	12 / 13	23.29(2.85)
Condition 3	23	15 / 8	24.78(3.47)
Condition 4	23	14 / 8**	25.70(3.93)
Condition 5	26	14 / 12	25.12(4.92)
Condition 6	22	12 / 10	25.41(3.79)
Condition 7	24	10 / 14	24.96(3.27)
Condition 8	21	13 / 7**	25.40(4.32)
Total	185	102 / 80**	24.89(3.71)

*SD = standard deviation

**Three respondents indicated preference to not answer.

3.5 Measures

All scales in this study were pre-defined constructs that had been found reliable and valid and were adapted to the context of this research. Responses to all measurement items were evaluated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). The four constructs used in this study were measured with a total of 16 items; four items within each construct. All items were presented in English and had been pretested to identify potential issues with the formulation of the items.

3.5.1 Perceived Relevance

The first independent variable, ‘perceived relevance’, was measured with four items, derived from the scale of Chen et al., 2016 and adapted to the context of the current study. Items used to measure the variable include ‘The ad is relevant to the situation presented in the scenario’ and ‘the advertised product fits my needs presented in the scenario’.

3.5.2 Attitude Towards the Advertisement

‘Attitude towards the advertisement’ was measured using the scale by Taylor and Todd (1995). Items used to measure the variable include ‘The advertisement appeals to me’ and ‘I have favorable feelings towards the advertisement’.

3.5.3 Engagement Intention

The third dependent variable, ‘intention to engage with the advertisement’, measured by click-through-rate, derived from the scale of Aguirre et al., 2015 and adapted to the context of this research. Items used to measure the variable include ‘The advertisement appeals to me’ and ‘I have favorable feelings towards the advertisement’.

3.5.4 Privacy Concerns

The moderator variable, ‘privacy concern’, was derived from the scale by Smith et al., 1996 and included items such as ‘It bothers me when online companies ask me for personal information’ and ‘I’m concerned that online companies are collecting too much personal information about me’.

3.6 Measurement Validity and Reliability

To measure the validity of the constructs, a factor analysis was performed with varimax rotation on the 16 items measuring the four variables using the program IBM SPSS Statistics 27.0. A suppressor value of .50 was used to increase the predictive power of other variables, as factor loadings above .50 are considered the border of acceptability (Kaiser, 1974).

The factor analysis resulted in three components, relating to the three dependent variables and one moderator variable in which all 20 items loaded into the construct in which they were intended to measure, with all items loading above the .50 threshold. After the factor analysis was conducted, the construct reliability of each of the three constructs was tested using Cronbach’s Alpha (α). A Cronbach’s Alpha with a value higher than $\alpha = .70$, can be considered as reliable (Tavakol & Dennick, 2011). The results of the factor analysis along with Cronbach’s Alpha and the mean scores and standard deviation of all three constructs can be found in Table 6.

Table 6*Results of Factor Analysis and Reliability Analysis*

Construct	α	Mean(SD)	Item*	Component			
				1	2	3	4
Privacy Concerns	.95	3.56(1.06)	It bothers me when online companies ask me for personal information.	.94			
			When online companies ask me for personal information, I sometimes think twice before providing it.	.88			
			It bothers me to give personal information to online companies.	.95			
			I'm concerned that online companies are collecting too much personal information about me.	.91			
Perceived Relevance	.98	2.83(1.55)	The ad is relevant to the situation presented in the scenario.		.89		
			The ad is related to the concerns presented in the scenario.		.89		
			The advertised product fits my needs presented in the scenario.		.90		
			The advertised product is important to me based on the scenario.		.83		
Attitude	.95	2.82(1.07)	The advertisement appeals to me.			.79	
			I have favorable feelings towards the advertisement.			.82	
			I have positive feelings towards the advertisement.			.88	
			The advertisement does not appeal to me.**			.83	
Engagement Intention (CTR)	.97	2.38(1.30)	I am inclined to click on the advertisement.				.86
			There is a high probability that I would click on the advertisement.				.84
			I would likely ignore this advertisement without clicking on it.**				.83
			It is unlikely that I would click on the advertisement.**				.86

*All items measured on a 5-point Likert Scale (1 = Strongly Disagree / 5 = Strongly Agree).

** Item was reverse recoded.

3.7 Correlations

Before data analysis began, the constructs were assessed for *multicollinearity*, the linear relation among two or more variables, which can cause serious issues with the reliability of the model parameters, leading to unreliable coefficients (Alin, 2010). To assess if multicollinearity existed between the constructs, a linear regression analysis was performed, using the Variance Inflation Factor (VIF) as a basis to determine if there was multicollinearity. According to Alin (2010), the VIF should be below 10 whereby the lower the VIF number, the lower the collinearity. Results showed that all VIF numbers were below 1.1, indicating that multicollinearity was not a concern for personalization (Product Type; Tolerance = .996, VIF = 1.004; Marketing Channel, Tolerance = .996, VIF = 1.004), product type (Marketing Channel; Tolerance = 1.000, VIF = 1.000, Personalization, Tolerance = 1.000, VIF = 1.000), or marketing channel (Product Type; Tolerance = 1.000, VIF = 1.000, Personalization, Tolerance = 1.000, VIF = 1.000).

Furthermore, Pearson's Correlation Analysis was conducted to create a correlation matrix, measuring the relationship between the constructs, which can be found in Table 7. Results of this analysis indicate that there is only a slight correlation between the constructs, with all of the correlations being below 0.5, further suggesting that there were no multicollinearity issues with the variables.

Table 7

Correlations between the constructs

Measures	Construct	1	2	3	4
1	Privacy Concerns	1			
2	Perceived Relevance	-0.05	1		
3	Attitude	-0.28**	0.48**	1	
4	Engagement Intention	-0.25	0.24**	0.38**	1

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

4. Results

In the following section, the results of the data analysis that were performed will be presented. The proposed hypotheses were tested using multivariate analysis of variance (MANOVA) through the IBM SPSS Statistics 27.0 program. A two-way MANOVA test was used as MANOVA tests if the independent variables can explain a statistically significant amount of variance in the dependent variables. In the context of this research, a two-way MANOVA allows for the support or lack of support for the 22 hypotheses presented in this study. Furthermore, Wilks' Lambda was used to test if the MANOVA test was statistically significant. In this section, the main effects and interaction effects of the MANOVA tests will be discussed. Table 8 presents the outcome of the two-way MANOVA test.

Table 8

Results of Multivariate Analysis of Variance (MANOVA)

Multivariate Tests		F-value	Sig.
Wilks' Lambda			
	Personalization	0.09	< .001
	Marketing Channel	0.95	0.200
	Product Type	0.96	0.057
	Personalization * Marketing Channel	0.95	0.024
	Personalization * Product Type	0.95	0.040
Test of Between-Subjects Design Effects			
Personalization			
	Perceived Relevance	1699.87	< .001*
	Attitude	114.32	< .001*
	Engagement Intention	140.42	< .001*
Marketing Channel			
	Perceived Relevance	0.35	0.556
	Attitude	1.09	0.297
	Engagement Intention	7.51	0.007*

Product Type	Perceived Relevance	7.53	0.007*
	Engagement Intention	1.64	0.202
Personalization * Marketing Channel	Perceived Relevance	0.00	0.984
	Attitude	3.43	0.066
	Engagement Intention	8.28	0.004*
Personalization * Product Type	Perceived Relevance	7.53	0.007*
	Attitude	3.62	0.059
	Engagement Intention	3.13	0.079

*Significant at .05.

4.1 Main Effects

4.1.1 Personalization

Furthermore, the results of the two-way MANOVA test indicate that the personalization has a statistically significant main effect on perceived relevance ($\Lambda = F(3, 179) = 1699.87$; $P < 0.001$), attitude towards the advertisement ($\Lambda = F(3, 179) = 114.32$; $P < 0.001$), and intention to engage with the advertisement ($\Lambda = F(3, 179) = 140.42$; $P < 0.001$). Through comparing the observed means and standard deviations (Table 9) of the dependent variables for the manipulations of personalization, it is concluded that intention to engage with the advertisement are significantly higher for advertisements that are personalized ($M=3.24$, $SD=1.28$) than advertisements that are non-personalized ($M=1.55$, $SD=0.60$). In addition, perceived relevance of the advertisement is significantly higher for advertisements that are personalized ($M=4.31$, $SD=0.54$) than advertisements that are non-personalized ($M=1.39$, $SD=0.45$). It is also found that attitude towards the advertisement is more positive for advertisements that are personalized ($M=3.50$, $SD=0.98$) than advertisements that are non-personalized ($M=2.17$, $SD=0.70$). Based on the results of the two-way MANOVA, hypotheses 1a, 1b, and 1c were supported. Table 9 provides an overview of the observed means and standard deviations for the dependent variables for the manipulations of personalization.

Table 9*Descriptive Statistics for the Main Effects of Personalization*

Personalization	Relevance		Attitude		Engagement Intention	
	<i>Mean</i>	<i>SD*</i>	<i>Mean</i>	<i>SD*</i>	<i>Mean</i>	<i>SD*</i>
Personalized	4.31	0.54	3.50	0.98	3.24	1.28
Non-personalized	1.39	0.45	2.17	0.70	1.55	0.60

*SD = standard deviation

4.1.2 Marketing Channel

Additionally, the results of the two-way MANOVA test indicate that marketing channel has a statistically significant main effect on intention to engage with the advertisement ($\Lambda = F(3, 179) = 7.51$; $P = 0.007$). Through comparing the observed means and standard deviations (Table 10) of the dependent variables for the manipulations of marketing channel, it is concluded that intention to engage with the advertisement are significantly higher for advertisements displayed via email ($M=2.58$, $SD=1.42$) than via social media ($M=2.18$, $SD=1.14$). Moreover, Table 8 shows that marketing channel has no main effect on perceived relevance of the advertisement or attitude towards the advertisement. Based on the results of the MANOVA test, hypotheses 2a and 2b are not supported, while hypothesis 2c is supported. Table 10 provides an overview of the observed means and standard deviations for the dependent variables for the manipulations of marketing channel.

Table 10*Descriptive Statistics for the Main Effects of Marketing Channel*

Marketing Channel	Relevance		Attitude		Engagement Intention	
	<i>Mean</i>	<i>SD*</i>	<i>Mean</i>	<i>SD*</i>	<i>Mean</i>	<i>SD*</i>
Email	2.87	1.55	2.90	1.12	2.58	1.42
Social Media	2.79	1.55	2.75	1.02	2.18	1.14

*SD = standard deviation

4.1.3 Product Type

Results of the two-way MANOVA test indicate that product type has a statistically significant main effect on perceived relevance ($\Lambda = F(3, 179) = 0.35$; $P = 0.007$). Furthermore, by comparing the observed means and standard deviations (Table 11) of the dependent variables

for the manipulations of product type, it is concluded that perceptions of relevance are significantly higher for goods ($M = 2.94$, $SD = 1.64$) than services ($M = 2.71$, $SD = 1.44$). Moreover, Table 8 shows that product type has no main effect on attitude towards the advertisement or intention to engage with the advertisement. Based on the results of the two-way MANOVA, hypothesis 3a is supported, while 3b and 3c are not supported. Table 11 provides an overview of the observed means and standard deviations for the dependent variables for the manipulations of product type.

Table 11

Descriptive Statistics for the Main Effects of Product Type

Product Type	Relevance		Attitude		Engagement Intention	
	Mean	SD*	Mean	SD*	Mean	SD*
Good	2.94	1.64	2.92	1.14	2.47	1.37
Service	2.71	1.44	2.73	1.00	2.28	1.23

*SD = standard deviation

4.2 Interaction Effects

4.2.1 Marketing Channel \times Personalization

A two-way MANOVA test was also performed to measure the statistical significance of the interaction effects of marketing channel and personalization on perceived relevance, advertisement attitude, and engagement intention. Results of the MANOVA test indicate that there is a statistically significant interaction effect between marketing channel and personalization on engagement intention ($\Lambda = F(3, 179) = 8.28$; $P = 0.004$), but no statistically significant interaction effect on perceived relevance or attitude towards the advertisement. By comparing the observed means and standard deviations of the dependent variables, it is concluded that personalized advertisements presented via email ($M=3.62$, $SD=1.30$) are more successful in increasing engagement intention than non-personalized advertisements displayed via social media ($M=1.65$, $SD=0.71$). Thus, hypotheses 4a and 4b are not supported, while hypothesis 4c is supported. Table 12 provides an overview of the observed means and standard deviations for the interaction effects of marketing channel and personalization.

Table 12*Descriptive Statistics for the Interaction Effects of Marketing Channel * Personalization*

	<i>Personalized</i>		<i>Non-personalized</i>	
	Mean	SD*	Mean	SD*
<i>Email</i>				
Perceived Relevance	4.33	0.60	1.41	0.40
Attitude	3.67	1.04	2.12	0.50
Engagement Intention	3.62	1.30	1.54	0.46
<i>Social Media</i>				
Perceived Relevance	4.30	0.46	1.37	0.49
Attitude	3.32	0.88	2.22	0.85
Engagement Intention	2.84	1.14	1.56	0.71

*SD = standard deviation

4.2.2 Personalization x Product Type

A two-way MANOVA test was also performed to measure the statistical significance of the interaction effects of marketing channel and personalization on perceived relevance, advertisement attitude, and engagement intention. Results of the MANOVA test show that there is a statistically significant interaction effect between personalization and product type on perceived relevance ($\Lambda = F(3, 179) = 7.53$; $P = 0.007$), but no statistically significant interaction effect on attitude towards the advertisement or intention to engage with the advertisement. By comparing the observed means and standard deviations of the dependent variables, it is concluded that personalized advertisements displaying goods ($M=4.50$, $SD=0.55$) are more successful in stimulating feelings of perceived relevance than non-personalized advertisements displaying services ($M=1.39$, $SD=0.47$). Thus, hypothesis 5a is supported, while hypotheses 5b and 5c are not supported. Table 13 provides an overview of the observed means and standard deviations for the interaction effects of personalization and product type.

Table 13*Descriptive Statistics for the Interaction Effects of Personalization * Product Type*

	<i>Good</i>		<i>Service</i>	
	Mean	SD*	Mean	SD*
<i>Non-personalized</i>				
Perceived Relevance	1.38	0.43	1.39	0.47
Attitude	2.14	0.69	2.20	0.71
Engagement Intention	1.52	0.45	1.59	0.72
<i>Personalized</i>				
Perceived Relevance	4.50	0.55	4.11	0.44
Attitude	3.69	0.96	3.30	0.96
Engagement Intention	3.43	1.30	3.03	1.23

*SD = standard deviation

4.3 Mediation Effects

As depicted in Figure 2, the effect of personalization, marketing channel, and product type on the dependent variable, engagement intention, is hypothesized to be mediated by two variables; perceived relevance and attitude. To investigate the hypothesized mediating effects, the approach by Hayes was conducted using the PROCESS macro extension for SPSS, version 3.5.3 by Andrew F. Hayes using Model 4, which tests for mediation effects (Hayes, 2013).

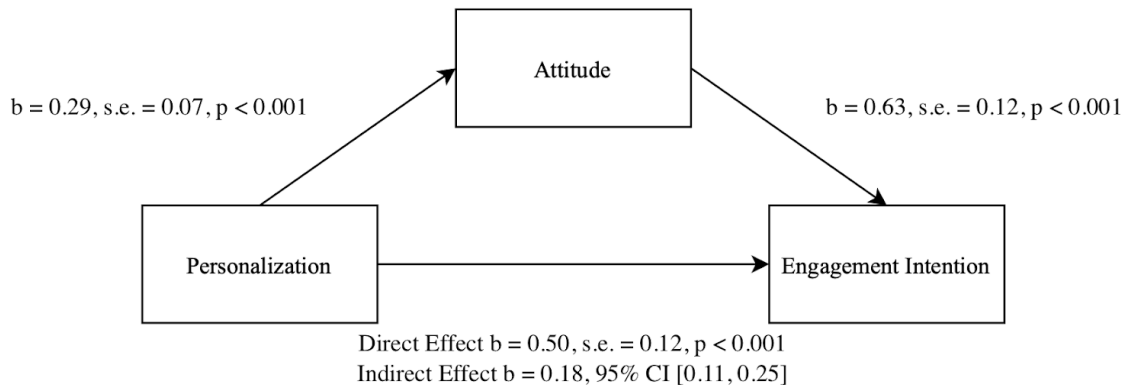
It should be noted that although mediation effects were hypothesized to emerge for the main effect of marketing channel on attitude and perceived relevance, the MANOVA results indicated no statistically significant main effects, indicating that there is no need to test the interaction effect mediation for personalization based on the four identified steps in establishing mediation (Baron & Kenny, 1986; Judd & Kenny, 1981; James and Brett, 1984). Therefore, the mediation analyses are limited to the manipulation of personalization and product type. As indicated by the MANOVA test, it is concluded that hypotheses 8a and 8b can not be supported as there is no effect to be mediated. In addition, product type had a statistically significant main effect on perceived relevance, but not on attitude towards the advertisement, so a mediation analysis was only conducted for relevance in regards to product type, rejecting hypothesis 7a.

4.3.1 The mediating effect of attitude

Personalization was hypothesized to positively influence intention to engage with the advertisement through more positive attitudes towards the advertisement. The direct effect path

from personalization to attitude was positive and statistically significant ($b = 0.29$, $s.e. = 0.07$, $p < 0.001$), indicating that advertisements that are personalized are more likely to stimulate more positive attitudes towards the advertisement compared to advertisements that are non-personalized. The direct effect path of perceived relevance on engagement intention is positive and significant ($b = 0.63$, $s.e. = 0.12$, $p < 0.001$), indicating that more positive attitudes towards the advertisement, the more likely to engage with the advertisement than those who had more negative attitudes towards the advertisement. The direct effect path from personalization to engagement intention is positive and statistically significant ($b = 0.50$, $s.e. = 0.12$, $p < 0.001$), indicating that when the advertisement is personalized, there is greater intention to engage with the advertisement. When analyzing the indirect effect of personalization on engagement intention, non-parametric bootstrapping is used in which if the null of 0 lies below the lower and upper bound of the 95 percent confidence intervals, then the inference that can be made is that the indirect effect is zero. When accounting for perceived relevance, the indirect effect of product type on engagement intention is not statistically significant ($b = 0.18$ 95% CI [0.11, 0.25]), supporting hypothesis 9a. Figure 11 provides a more detailed explanation of the individual path coefficients.

Figure 11: Mediating effect of attitude towards the advertisement

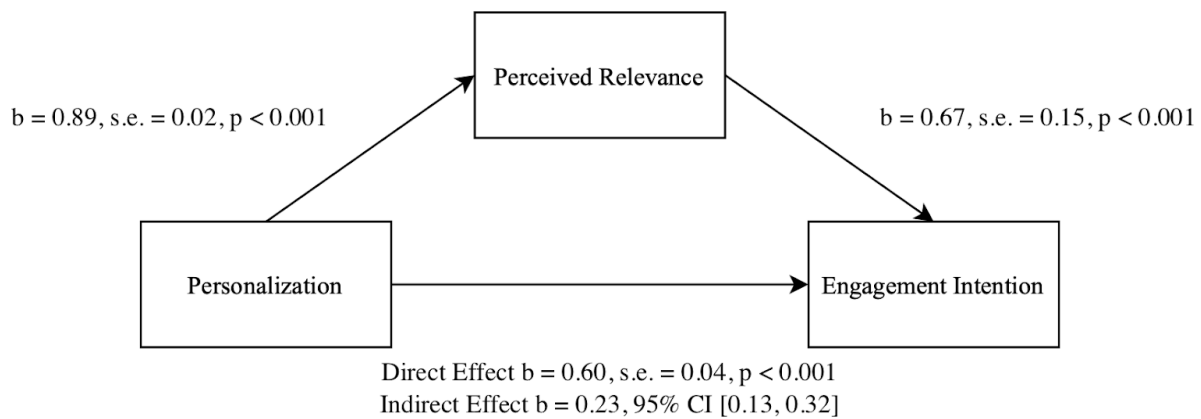


4.3.2 The mediating effect of perceived relevance

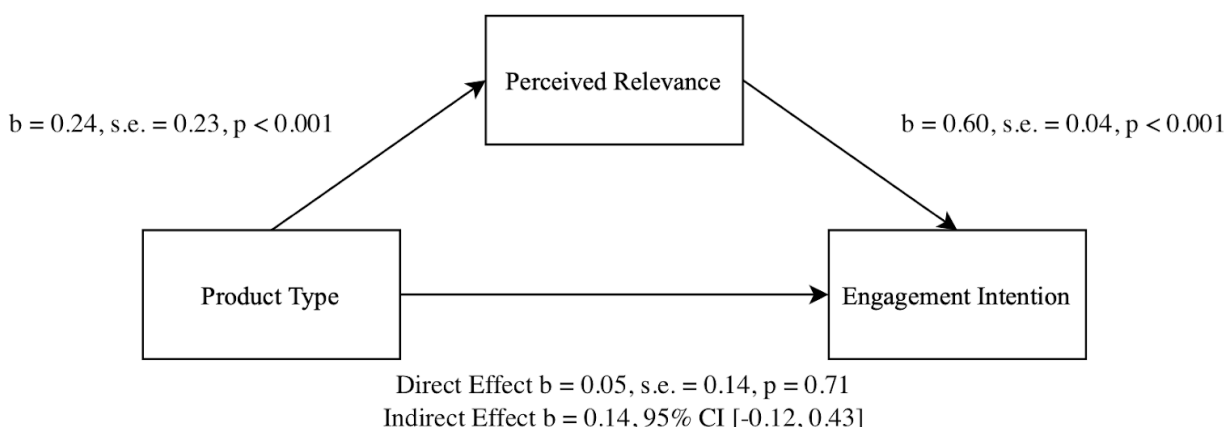
Personalization was hypothesized to positively influence intention to engage with the advertisement through higher levels of perceived relevance of the advertisement. Personalization was hypothesized to positively influence intention to engage with the advertisement through higher levels of perceived relevance of the advertisement. The direct effect path from level of personalization to perceived relevance was positive and statistically significant ($b = 0.89$, $s.e. = 0.02$, $p < 0.001$), indicating that advertisements that are personalized are more likely to stimulate higher levels of perceived relevance towards the advertisement compared to advertisements that are non-personalized. The direct effect path of perceived relevance on engagement intention is positive and significant ($b = 0.67$, $s.e. = 0.15$, $p < 0.001$), indicating that higher the level of perceived relevance towards the advertisement, the more likely to engage with the advertisement than those who perceive the advertisement as less relevant. The direct effect path from

personalization to engagement intention is positive and statistically significant ($b = 0.60$, $s.e. = 0.04$, $p < 0.001$), indicating that when the advertisement is personalized, there is greater intention to engage with the advertisement. When analyzing the indirect effect of product type on engagement intention, non-parametric bootstrapping is used in which if the null of 0 lies below the lower and upper bound of the 95 percent confidence intervals, then the inference that can be made is that the indirect effect is zero. When accounting for perceived relevance, the indirect effect of personalization on engagement intention is not statistically significant ($b = 0.23$ 95% CI [0.13, 0.32]), supporting hypothesis 9b. Figure 12 provides a more detailed explanation of the individual path coefficients.

Figure 12: Mediating effect of perceived relevance



Product type was hypothesized to positively influence intention to engage with the advertisement through higher levels of perceived relevance of the advertisement. The direct effect path from product type to perceived relevance was positive and statistically significant ($b = 0.24$, $s.e. = 0.23$, $p < 0.001$), indicating that advertisements containing goods are more likely to stimulate higher levels of perceived relevance towards the advertisement compared to advertisements that contained services. The direct effect path of perceived relevance on engagement intention is positive and significant ($b = 0.60$, $s.e. = 0.04$, $p < 0.001$), indicating that higher the level of perceived relevance towards the advertisement, the more likely to engage with the advertisement than those who perceive the advertisement as less relevant. The direct effect path from product type to engagement intention is positive and not statistically significant ($b = 0.05$, $s.e. = 0.14$, $p = 0.71$), indicating that when the product displayed in the advertisement has no statistically significant main effect on engagement intention. When analyzing the indirect effect of product type on engagement intention, non-parametric bootstrapping is used in which if the null of 0 lies below the lower and upper bound of the 95 percent confidence intervals, then the inference that can be made is that the indirect effect is zero. When accounting for perceived relevance, the indirect effect of product type on engagement intention is not statistically significant ($b = 0.14$ 95% CI [-0.12, 0.41]), not supporting hypothesis 7b. Figure 13 provides a more detailed explanation of the individual path coefficients.

Figure 13: Mediating effect of perceived relevance

4.4 Moderating Effects

In this research, privacy concern was hypothesized to moderate the strength of relationship between the independent variables, marketing channel and personalization, on attitude and intention to engage with the advertisement. However, as the median score for privacy concern was 4.00 with a standard deviation of 1.059, indicating that moderation analysis could not be conducted, therefore hypotheses 6a and 6b were found to be inconclusive. This will be further discussed in the conclusion and discussion section of this report.

4.5 Overview of Hypotheses

Following the discussion of the main effects, interaction effects, mediation effects, and moderation effects, a summary of the results of the four hypotheses can be found in Table 14 based on the statistical analyses performed in this study.

Table 14

Summary of Results of the Tested Hypotheses

Result

Hypothesis

H1: Designing advertisements that include elements of personalization will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.

(1a) Supported.
(1b) Supported.
(1c) Supported.

H2: Advertisements displayed via email will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance, and (c) a greater intention to engage with the advertisement.

(2a) Not supported.
(2b) Not supported.
(2c) Supported.

H3: Advertisements displaying goods will stimulate (a) a greater perception of relevance and (b) a greater intention to engage with the

(3a) Supported.
(3b) Not supported.

advertisement.

H4. Personalized advertisements presented via email will stimulate (a) more positive attitudes towards the advertisement and (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.	(4a) Not supported. (4b) Not supported. (4c) Supported.
H5. Personalized advertisements displaying goods will stimulate (a) more positive attitudes towards the advertisement (b) a greater perception of relevance and (c) a greater intention to engage with the advertisement.	(5a) Supported. (5b) Not supported. (5c) Not supported.
H6. Designing advertisements that include elements of personalization will stimulate (a) more positive attitudes towards the advertisement and (b) a greater intention to engage with the advertisement given that consumers exhibit low privacy concerns.	(6a) Inconclusive. (6b) Inconclusive.
H7. The effect of product type on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.	(7a) Not supported. (7b) Not supported.
H7. The effect of marketing channel on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.	(8a) Not supported. (8b) Not supported.
H9. The effect of personalization on engagement intention is mediated by (a) attitude towards the advertisement and (b) perceived relevance of the advertisement.	(9a) Supported. (9b) Supported.

5. Discussion

5.1 Discussion of Results

The increasing value of personalization, whether that be for its benefits or consequences, will remain an ever-present strategy in the field of marketing and communication. Studies have been conducted, examining the effects of personalization, but where the research is limited is in the context of products and how product attributes may influence consumers' feelings and perceptions of the advertisement. Therefore, the research model used in this study adds valuable knowledge to the field of marketing and the results of this study can be used as a foundation for future research.

5.1.1 Personalization

This study found a statistically significant main effect of personalization on perceived relevance of the advertisement, attitude towards the advertisement, and intention to engage with the advertisement. By comparing the observed means of the personalized and non-personalized advertisements, the conclusion that advertisements containing elements of personalization were more successful in stimulating positive attitudes towards the advertisement, increasing perceived relevance of the advertisement, and stimulating intention to engage with the advertisement than non-personalized advertisements could be made, which is consistent with prior research (Campbell et al., 2019; Gao & Huang, 2019).

These results can be attributed to the very nature of personalization and can be explained by the self-referential effect which refers to the tendency of individuals to remember information more easily when they perceive it as relevant to them (Rogers et al., 1977). In this phenomenon, information retention is facilitated by individuals relating information to aspects of themselves. Correspondingly, in the context of web personalization, self reference refers to online personalized content that is associated with the user or past experiences of the user (Tam & Ho, 2006). In marketing, it is common to use cues such as including the consumer's name in a message, posting messages that are relevant to the user, such as advertisements congruent with the user's browsing history, and websites that frequently place products under a category such as "recommendations for you" to activate concepts that are stored in the self-schema. As a result of this, consumers tend to perceive personalized information as more beneficial and are more willing to engage with the personalized content. This, in turn, has the potential to reduce the cognitive information overload of the individual and help with decision making (Tam & Ho, 2006).

An imperative consequence of personalization to consider are high levels of privacy concerns that results from this phenomenon. In this study, privacy concern was hypothesized to have a moderating effect between marketing channel and attitude and marketing channel and intention to engage with the advertisement, however these relationships were unable to be studied due to the high levels of privacy concerns indicated among respondents and inability to split privacy concern into two groups: low privacy concern and high privacy concern. Scholars have shown that in recent years, consumers have displayed greater concerns regarding

personalization practices such as personalization and target marketing (Anton et al., 2010). One explanation for the findings that although respondents displayed high privacy concerns, they still found personalization to be beneficial, is the notion of the privacy paradox, which describes the relationship between an individual's intention to disclose personal information and their actual behaviors. Privacy paradox is commonly used as a concept to describe the disconnect between consumers' stated privacy preferences and their actual behavior. Scholars have found that individuals commonly report having high concerns about their individual privacy, yet divulge sensitive personal information rather freely (Aguirre et al., 2015; Norberg et al., 2007). The inability to decipher exactly when consumers decide to disclose their personal information makes it difficult for marketers to understand how to proceed with personalization.

5.1.2 Marketing Channel

The results of this study show that marketing channel has a statistically significant main effect on intention to engage with the advertisement, but has no statistically significant effect on attitude towards the advertisement or perceived relevance of the advertisement. By comparing the observed means of advertisements displayed via email and social media, it can be concluded that advertisements displayed via email were more successful in stimulating intention to engage with the advertisement for individuals who currently shop for products online than advertisements displayed via social media. These findings are supported by the prior study by Kumar et al. (2016) which found that email marketing had a positive effect on intention to engage with the advertisement, leading to increased purchase intentions and that email advertisements have been found to be a more personal means of communication between a business and a consumer (Ellis-Chadwick & Doherty, 2011). For marketing professionals, this indicates that when attempting to increase the perceived relevance of the advertisement or attitude towards the advertisement, the marketing channel by which the advertisement displayed is not of utmost importance.

One explanation of the lack of a main effect on perceived relevance and attitude towards the advertisement can be explained by one of the prominent theories used to explain social media adoption. The Uses and Gratifications Theory (UGT), explains the motivational needs of individuals that motivate an individual to select a specific type of media, channel, or content to engage with. UGT assumes that individuals have goal-directed behavior and are aware of their personal needs. The key notion in this theory is that individuals make choices when consuming media that is motivated by their desire to gratify a range of specific needs. In relation to the findings of the present study, Zolkepli and Kamarulzaman (2014) found that that social media adoption is significantly driven by three types of needs: personal needs including enjoyment and entertainment, social needs consisting of social influence and interaction, and tension release needs consisting of belongingness, companionship, playfulness. As the nature of social media entails the aforementioned needs, but has dissolved traditional boundaries, bringing businesses and consumer together through online platforms, traditional segmentation is likely unsuitable, as

social media can be viewed as a content-based platform rather than email, which can be considered an informational-based platform (Zolkepli & Kamarulzaman, 2014).

5.1.3 Product Type

This study found a statistically significant main effect of product type on perceived relevance of the advertisement, but not on intention to engage with the advertisement. By comparing the observed means, it was found that advertisements displaying goods are more likely to be perceived as relevant compared to advertisements displaying services. This is consistent with prior research by Weinberger and Brown (1977) and Murray and Schlacter (1990) who found that consumers place a greater reliance on product information about services rather than goods in addition to perceiving services to have higher levels of associated risk and greater perceived variability than goods. As the respondents in this study were only presented with an advertisement displaying a good or service, they were unable to seek out external online information about the product, leading to the conclusion that consumers rely on less information when interacting with products with tangible attributes than products with more intangible attributes.

The lack of a statistically significant main effect on engagement intention indicates that the difference product type does not influence consumers' intention to engage with the advertisement, meaning that when displaying product types, it is not necessary to provide extra information simply because the advertisement is a service, when attempting to influence engagement with the advertisement. This finding can be explained by the study conducted by Winsor, Sheth, and Manolis (2004) whereby the scholars critique the Intangibility-Tangibility Spectrum and the traditional distinction between goods and services, with the main concern being the use of intangibility as a basis for categorizing products. In the present study, the two distinct product forms were evaluated based on four attributes: intangibility, insperaribility, variability, and perishability. In response, the authors present a retail utility schema which is used as a guide for firms whereby a more beneficial distinction of utilities provided to consumers should include time, place, form, and possession, which may better suit advertisements in the current marketing ecosystem. Despite the findings of the present study, there remains limited literature into the categorization of product types, most notably in the field of marketing.

5.1.4 Interaction Effects

This study found that personalization had an interaction effect with both marketing channel and product type. By comparing the observed means of personalization and marketing channel, it was found that advertisements containing elements of personalization that were displayed via email were more successful in stimulating intentions to engage with the advertisement than non-personalized advertisements via social media, which is consistent with prior research (Ellis-Chadwick & Doherty, 2011; Wattal et al., 2012). In addition, this study found that personalization and product type interacted such that advertisements displaying goods containing elements of personalization were more successful in stimulating intentions to engage

with the advertisement than non-personalized advertisements displaying services, which is consistent with research regarding the continuum by which products are evaluated (Shostack, 1977; Weinberger & Brown, 1977). Based on the results of the MANOVA test and by comparing the observed means, it was found that if the advertisement is non-personalized, the marketing channel by which the advertisement is sent is unimportant when attempting to influence consumers' attitudes towards the advertisement, perceived relevance of the advertisement, or intention to engage with the advertisement. These findings suggest that when attempting to influence engagement with an advertisement, it is important to consider both the marketing channel and the personalization content in addition to assessing the product type when including personalized information.

5.2 Practical Implications

This research has contributed to the field of marketing and communication by providing valuable implications on how marketing and advertising professionals conduct business and engage with their customers. The present study contributes to marketing research in several ways. First, one important implication of the results of this study is the importance of personalization in online advertisements. Consistent with prior research, personalization was found to increase intention to engage with the advertisement, measured by click-through intentions (Bleier & Eisenbeiss, 2015; Boerman et al., 2017; Campbell et al., 2019). This indicates that marketing and advertising professionals should include elements of personalization when designing and displaying advertisements online to younger consumers. Additionally, such applications should also consider the role of privacy concerns in moderating this relationship and therefore be aware when designing advertisements, notably with the ever-evolving technology environment.

Secondly, in regards to marketing channel, this study found that when the advertisement is personalized, it is more beneficial to send the advertisement via email than social media, however if the advertisement is non-personalized, the marketing channel does not influence intention to engage with the advertisement, indicating that when choosing a channel to display a non-personalized campaign, it is not required that a specific digital marketing channel is selected. As email marketing remains one of the most frequently used mediums and an important medium for companies seeking to build and maintain relationships with customers, marketing and advertising professionals should not overlook the importance of email marketing despite the growth of social media advertising. Moreover, in regards to product type, this research has found that products containing tangible attributes are more successful in increasing perceived relevance of the advertisement than products containing intangible attributes. This is valuable knowledge for marketers, as choosing which elements to highlight about the product can make a difference in the outcome of perceived relevance by the consumer. For example, as shown by Weinberger and Brown (1977), consumers often seek external information when presented with an advertisement of a service. This knowledge should be utilized when designing an advertisement,

as when displaying services, it may be useful to show or link to additional information that may help the consumer ease their concerns.

The identification of the benefits of personalization and high privacy concerns exhibited by respondents, allows marketers to optimize the probability of effectively advertising to consumers in a proper practice based on consumer preferences and potential to stimulate a much closer relationship between the brand and online customers (Appel et al., 2019). Previously, the area of marketing personalization has traditionally dealt with segmenting the consumer market based on basic behavioral data, whereby targeting and minimal personalization tactics are used. However, for marketers to successfully reach consumers, privacy concerns must be addressed, largely due to the continuous advancement of technologies within the marketing and advertising ecosystem.

5.3 Limitations and Future Research Directions

The current study is one of few studies that has investigated the effects of personalization in combination with marketing channel and product type. Although the present research is not fully comprehensive, the findings indicate principal gaps in the literature and new areas of future research. As personalized advertising and target advertisements will continue to be the future of advertising, the concept and use of personalization is far from perfect, but will remain ever-present in today's world. Nonetheless, for personalization to demonstrate its success, several considerations will need to be researched.

The limitations of this study largely originate from the experimental context of this study. One impediment of the current research was the inability to investigate the moderating effects of privacy concern due to the high levels of privacy concern exhibited among respondents. The high privacy concerns expressed by respondents, yet the finding that personalization was found to increase the perceived relevance of the advertisement, attitude towards the advertisement, and intention to engage with the advertisement, indicates the existence of the privacy paradox. As a result, additional research could delve into the perceptions of privacy invasion of various marketing channels, as privacy concerns remain a persistent downside of the effectiveness of personalization, typically among consumers who exhibit high privacy concerns. For example, having respondents rank their perceptions of privacy invasion between different online marketing channels, would allow for a more comprehensive analysis. In addition, it would be beneficial to study the elements of personalized advertising that consumers like and dislike to account for those consumers who feel that personalized advertising violates their personal privacy. As the current study did not explore this phenomenon, research in this area could provide useful information for marketers as to how personalized advertisements can be designed to accommodate those individuals who are concerned about their privacy. As advances in technology are constantly pushing the boundaries of acceptance towards information collection, it would be beneficial to conduct a longitudinal study to obtain a better understanding of how consumers respond to changes in the personalization ecosystem and what they deem acceptable.

A second limitation of the current study was the continuum for which products were defined. Despite the considerable evolution of marketing methods, online technologies, and theories, the distinction between physical and nonphysical products remains undeveloped in the field of marketing. From theoretical foundations to practical applications in marketing, products are frequently thought of in terms of goods and services, rather than in terms of a continuum between the two. Thus, a final limitation of this study is that product type was only manipulated to products that were seen as fully goods and fully services. However, as indicated in the Tangibility-Intangibility spectrum, there lies a range of products with various attributes that remain to be investigated. Therefore, it would be beneficial to increase the scope of this study to evaluate the differences between products that lie on various points on the Tangibility-Intangibility spectrum.

For studies examining consumer behavior, researchers must be aware of the motivations to adopt and engage in different media depending on culture (Chiu & Huang, 2015). As the current study was conducted in the United States, and privacy is a culturally dependent variable with data sensitivity varying across cultures (Hofstede, 2011; Markos et al., 2017), the results are relatively limited in their generalizability to other countries. For example, consumers, specifically in European countries where policies are more defined about protecting personal privacy, (Rodrigues et al., 2016) may have different reactions towards the use of personalized advertisements. Therefore, it would be beneficial to replicate this study in various countries with different policies surrounding data privacy to explore and reveal new patterns.

Lastly, future research could explore the effects of organization size, industry type, or origin of the company within the field of marketing and advertising. Literature has discussed the country of origin effect (COE), which states that consumers use the country of origin as a cue that may influence their perceptions towards the product, purchase intentions, or actual behavior (Maier & Wilken, 2017) which often influences feelings of trust (Rosenbloom & Haefner, 2009), evaluating associated risks, and perceived quality (Peng Cui et al., 2014). A similar concept is what is known as the “home country bias” which is the notion that consumers often prefer domestic products over foreign ones (Acharya & Elliott, 2003). Future research might consider the role that the country of origin of the organization has on consumer attitudes towards the organization, product, and advertisement.

6. Conclusion

This study contributes to literature in the field of marketing and communication by capturing the current state of personalization, marketing channels, and product types, within marketing and communication disciplines. By understanding individuals' perceptions towards the usage of personalization and acknowledging privacy concerns in relation to personalization practices, marketing and advertising professionals can better understand and reach their consumers. Nonetheless, what is important to note is that despite the expressed benefits of personalization, there remains high privacy concerns surrounding personalization practices. Therefore, empowering consumers to align their online privacy behavior to their personal intention to disclose information is of paramount importance in understanding how to react and change personalization strategies to meet the attitudes of consumers. This study must be extended to fully understand the evolving marketing ecosystem, whereby future research can account for new marketing channels, privacy concerns between different marketing channels, and how different age groups are influenced by personalization tactics. In the far future, or maybe even the near future, we may be seeing personalized advertisements in our own homes on our refrigerators, toasters, watches, and even mirrors if personalization practices continue to progress at the exponential rate we are today.

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Appendix A: Pre-Test

Informed Consent

Dear participant,

I am a MSc Communication Science student specializing in Digital Marketing and Communication at the University of Twente in the Netherlands. As part of my graduate school requirement, I am conducting an experiment into the effects of various digital marketing strategies. Therefore, I kindly ask you to participate in this study. Your participation will substantially contribute to the success of my research and the field of marketing and communication.

This study will take approximately 8 - 10 minutes of your time. Your participation is completely voluntary and you may withdraw from this study at any time and may decide not to answer any specific question without reason or consequences. Your responses are anonymous and confidential and the data collected will only be used for the current research.

If you have any questions about this questionnaire, don't hesitate to contact via email: m.a.fulton@student.utwente.nl.

I appreciate your time and thank you for your participation!

Madeline Fulton
University of Twente, The Netherlands

Please click the box if you consent to participate in this study. You may withdraw from this study at any time.

- I agree to voluntarily participate in this study.

Manipulation check constructs

Construct	Items (1 = strongly disagree, 5 = strongly agree)
<i>Personalization</i>	
	The advertisement is directed towards the situation presented in the scenario.
	The advertisement takes into account my situation presented in the scenario.

The product presented in the advertisement would be a good gift for my family member based on the scenario.

The advertisement is tailored to the specific product(s) I am looking for based on the scenario.

Marketing Channel

The advertisement is presented on Instagram.

The advertisement is presented in an Email.

Product Type

If purchased, I would be able to hold / touch the product shown in the advertisement.

The product shown in the advertisement is a physical item.

The product shown in the advertisement is a non-physical item.

Please answer if the following statements are clear. For example, is the sentence structure logical / is it understandable / do you understand the words? You do not need to answer the questions in relation to the image or scenario; answer if the question is understandable or not. Your feedback will be used to improve the study.

Item Clarity Check (Clear vs Unclear)

I am sensitive to the way companies handle my personal information.

It is important to keep my privacy intact from online companies.

Personal online privacy is very important.

I am concerned about threats to my personal privacy online.

The ad was relevant to the situation presented in the scenario.

The ad related to the concerns presented in the scenario.

The advertised good/service fits my needs presented in the scenario.

The advertised good/service is important to me based on the scenario.

I would be inclined to click on the advertisement based on the scenario.

There is a high probability that I would click on the advertisement, based on the scenario.

I would ignore this advertisement without clicking on it.

I would click on the advertisement to get further information, based on the scenario.

The advertisement appeals to me when placing myself in the scenario.

When placing myself in the scenario, I have favorable feelings towards the advertisement.

When I imagine myself in the scenario, I have positive feelings towards the advertisement.

When I place myself in the scenario, the advertisement seems unappealing.

Text Box: If you have any additional comments for improvements regarding the survey, please write down your thoughts here. Thank you!

Appendix B: Final Questionnaire

Informed Consent

Dear participant,

I am a MSc Communication Science student specializing in Digital Marketing and Communication at the University of Twente in the Netherlands. As part of my graduate school requirement, I am conducting an experiment into the effects of various digital marketing strategies. Therefore, I kindly ask you to participate in this study. Your participation will substantially contribute to the success of my research and the field of marketing and communication.

This study will take approximately 8 - 10 minutes of your time. Your participation is completely voluntary and you may withdraw from this study at any time and may decide not to answer any specific question without reason or consequences. Your responses are anonymous and confidential and the data collected will only be used for the current research.

If you have any questions about this questionnaire, don't hesitate to contact via email: m.a.fulton@student.utwente.nl.

I appreciate your time and thank you for your participation!

Madeline Fulton
University of Twente, The Netherlands

Please click the box if you consent to participate in this study. You may withdraw from this study at any time.

- I agree to voluntarily participate in this study.

Demographic Information

How old are you?

Which gender do you identify with?

What is your nationality?

In which state do you live?

What is your current (or highest) level of education?

How frequently do you shop online or look for products online?

Do you have an Instagram account?

Do you have an email address?

Manipulation check constructs

Construct	Items (1 = strongly disagree, 5 = strongly agree)
<i>Personalization</i>	
	The advertisement is directed towards the situation presented in the scenario.
	The advertisement takes into account my situation presented in the scenario.
	The product presented in the advertisement would be a good gift for my family member based on the scenario.
	The advertisement is tailored to the specific product(s) I am looking for based on the scenario.
<i>Marketing Channel</i>	
	The advertisement is presented on Instagram.
	The advertisement is presented in an Email.
<i>Product Type</i>	
	If purchased, I would be able to hold / touch the product shown in the advertisement.
	The product shown in the advertisement is a physical item.
	The product shown in the advertisement is a non-physical item.

Personalized Message

Imagine that you are celebrating the birthday of one of your family members next week and you want to buy them a gift. You know that they love cooking, so you open your phone and begin looking for the best gifts you could buy for their birthday - you want to make this birthday extra special!

You start with a quick Google search for "cooking gifts" and come across several different options. You first come across several cookware sets that you think they may like. You look at a few, but you're not sure if you want to get a cookware set or a different gift, so you keep looking on Google and see that there are places that offer online and in-person cooking classes! You start reading reviews about both the cookware sets and the cooking classes, but you want to discuss

with your family first before you make a decision, since you want to get the perfect gift. The next morning you open your (Email / Instagram) and see the following advertisement:

Non-Personalized Message

Imagine that you are celebrating the birthday of one of your family members next week and you want to buy them a gift. You know that they love photography, so you open your phone and begin looking for the best gifts you could buy for their birthday - you want to make this birthday extra special!

You start with a quick Google search for "photography gifts" and come across several different options. You first come across several photography books that you think they may like. You look at a few books, but you're not sure if you want to get a book or a different gift, so you keep looking on Google and see that there is also software to edit photos! You start reading reviews about both photography books and the photo editing software, but you want to discuss with your family first before you make a decision, since you want to get the perfect gift. The next morning you open your (Email / Instagram) and see the following advertisement:

Constructs measuring the dependent variables

Construct	Items (1 = strongly disagree, 5 = strongly agree)
<i>Privacy Concerns</i> (Smith et al., 1996)	<p>It bothers me when online companies ask me for personal information.</p> <p>When online companies ask me for personal information, I sometimes think twice before providing it.</p> <p>It bothers me to give personal information to online companies.</p> <p>I'm concerned that online companies are collecting too much personal information about me.</p>
<i>Perceived Relevance</i> (Chen et al., 2016)	<p>The ad is relevant to the situation presented in the scenario.</p> <p>The ad is related to the concerns presented in the scenario.</p> <p>The advertised product fits my needs presented in the scenario.</p> <p>The advertised product is important to me based on the scenario.</p>
<i>Attitude</i> (Taylor & Todd, 1995).	

The advertisement appeals to me.

I have favorable feelings towards the advertisement.

I have positive feelings towards the advertisement.

The advertisement does not appeal to me.

Engagement Intention
(Aguirre et al., 2015)

I am inclined to click on the advertisement.

There is a high probability that I would click on the advertisement.

I would likely ignore this advertisement without clicking on it.

It is unlikely that I would click on the advertisement.

Appendix C: Demographic Information of Respondents

*Demographic Information of Respondents**

	N	%		N	%
Age			Online Shopping Frequency		
Under 18	2	1.0	Daily	63	38.1
18 - 22	51	26.3	Weekly	77	36.8
23 - 26	76	39.2	Monthly	62	29.7
27 - 30	41	21.1	Yearly	7	3.3
31 - 34	8	4.1	Total	209	100
Over 34	16	8.23	Gender		
Total	194	100	Female	122	57.8
Level of Education			Male	86	40.8
Elementary / Primary	1	0.5	Prefer not to say	3	1.4
High school diploma or equivalent	25	11.8	Total	211	100
Trade School	1	0.5	Nationality		
Bachelor's Degree	134	63.5	United States	198	93.8
Master's Degree	47	22.3	Other	13	6.2
Doctoral Degree	2	0.9	Total	211	100
Professional Degree	1	0.5			
Total	211	100			

*Missing values excluded from data.

Total numbers vary due to filter-out questions.