

THE INFLUENCE OF CONSUMER-BRAND RELATIONSHIP STRENGTH  
AND PLATFORM CONTEXT ON THE PRIVACY CALCULUS  
IN PERSONALIZED ADVERTISING

by

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## ABSTRACT

To an advertiser, personalized advertising means shrinking the purchase decision funnel - delivering relevant content to the right user at the right time. However, personalized advertising is a double-edged sword for consumers. This tension between consumers wanting relevant advertisements yet feeling discomfort when faced with a personalized advertisement that used their data without their consent has been labeled as the personalization privacy paradox (Aguirre, Mahr, Grewal, de Ruyter, & Wetzels, 2015; Awad & Krishnan, 2006). In this scenario, through the privacy calculus lens, consumers behave as if they are performing a risk-benefit analysis in assessing the result of information disclosure (Xu, Luo, Carroll, & Rosson, 2011). This research explored the relationship between advertising personalization and privacy by examining the impact of two previously unconsidered factors influencing the risk-benefit analysis: the consumer-brand relationship between the ad recipient and the brand being advertised and the platform context, Facebook vs. Twitter, wherein the ads are delivered. We found no effects for platform context on the consumer's perceived benefits and risks of information disclosure. We also found that when strong brand relationships are present, if perceived benefit is high, then perceived risk minimally alters the consumer's perceived value. Furthermore, with weaker brand relationships, perceived risk has a stronger effect on perceived value even when the perceived benefit is high.

## LIST OF ABBREVIATIONS AND SYMBOLS

$a$	Cronbach's index of internal consistency
CBR	Consumer-brand relationship
$df$	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
$\bar{M}$	Mean: the sum of a set of measurements divided by the number of measurements in the set
$r$	Pearson product-moment correlation
SNS	Social networking site
SNSs	Social networking sites
$t$	Computed value of t test
<	Less than
=	Equal to

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## INTRODUCTION

Social media has permeated human interaction. In 2018, over 80% of Americans reported using at least one social medium (Smith & Anderson, 2018). Not surprisingly, advertisers have followed suit following consumers to social media platforms seeking to take advantage of new, unique opportunities to reach and interact with them. One such area of growing interest is personalized advertisements - ads that are tailored to consumers based on knowledge about their preferences and behaviors gained through the use of gathering personal information (Adomavicius & Tuzhilin, 2005). Social media offers particularly important potential for personalized advertising. Unlike most online platforms (e.g., Google, Yahoo) that track users' digital behavior to create relevant messages for ad recipients, social media advertising also employs user's personal information including opinions, demographics, hobbies and activities shared through their profiles on online social networks (Christofides, Muise, & Desmarais, 2009; Livingstone, Ólafsson, & Staksrud, 2011). This has led to an estimated \$19.3 billion in social media advertising spending in 2018 (Statistica, 2019) as 97% of marketers plan to maintain or increase ad personalization budgets (Researchscape International, 2018).

Personalization is critically dependent on two factors: advertisers' ability to acquire and process consumer information and consumers' willingness to share information and interact with personalization ads (Chellappa & Sin, 2005). To an advertiser, personalized ads mean shrinking the purchase decision funnel - delivering relevant content to the right user at the right time. However, personalized advertising is a double-edged sword for consumers. On one hand, consumers benefit from personalized product and brand information through messages

customized by activity, location, interests and/or time (Beales, 2010; Junglas & Watson, 2006). On the other hand, they forfeit some level of privacy by disclosing personal information (Chellappa & Sin, 2005). This tension between consumers wanting relevant advertisements yet feeling discomfort when faced with a personalized ad that used their data has been labeled as the personalization privacy paradox (Aguirre, Mahr, Grewal, de Ruyter, & Wetzels, 2015; Awad & Krishnan, 2006).

Extant literature on the personalization privacy paradox addresses a broad range of situations, platforms and factors. While some works hold that privacy takes precedence over all other values including personalization benefits (Culnan & Armstrong, 1999; Phelps, D'Souza, & Nowak, 2001), others report that privacy concerns should not prevent access to the benefits of personalized advertising (Grossklags & Acquisti, 2007; Hann, Hui, Lee, & Png, 2002). Dinev and Hart (2006) claim that the decision to provide personal information or access to personalized services is rational and the result of a "privacy calculus." This calculus states that consumers can be expected to behave as if they are performing a risk-benefit analysis in assessing the outcomes they will receive as a result of information disclosure (Xu, Luo, Carroll, & Rosson, 2011). The objective of this research is to explore the relationship between advertising personalization and privacy by examining the impact of two previously unconsidered factors influencing the risk-benefit analysis: the consumer-brand relationship between the ad recipient and the brand being advertised and the platform context wherein the ads are delivered.

Consumer-brand relationships (CBRs) are based on and evolve through multiple satisfactory exchanges between the consumer and the brand; (Fournier, 1998); trust, utilitarian and affective value is ascribed to the brand as a result (Hess & Story, 2005; Lawler, Thye, & Yoon, 2000). Trust is a key factor influencing the risk-benefit analysis when deciding to disclose

private information (Aguirre et al., 2015). With social media, brands interact with consumers more than ever in initiating and maintaining relationships. As such, brand exchanges too are viewed as risk-benefit analyses wherein consumers look to maximize benefit and minimize risks through committing to a trusted brand (Hayes & King, 2014; Hayes, King, & Ramirez, 2016; Morgan & Hunt, 1994).

In the personalized ad context, the strength of the relationship between the brand and the consumer may influence the risk-benefit analysis of the personalization privacy paradox; stronger brand relationships may lead to less perceived risk and more positive advertising outcomes. A 2015 Accenture personalization survey said, “If retailers approach advertising personalization as a value exchange and are transparent in how the data will be used, consumers will likely be more willing to engage and trade their personal data” (Turow & Hennessy, 2015). In the mobile marketing context, Xu et al. (2011) illustrated how consumers weigh perceived risks and benefits to assess the value of personalized ads in deciding their willingness to disclose their personal information and, subsequently, purchase intention. However, Xu and colleagues approached the risk-benefit analysis from a purely cognitive perspective not recognizing that potential role of emotion in the analysis as a result of the CBR involved.

The platform context in which personalized ads are delivered likely influence consumer reaction, specifically when comparing social networking sites (hereafter SNSs) (Child, Haridakis, & Petronio, 2012). Furthermore, SNSs facilitate online, social interaction, therefore they differ in their services, intentions and focus from websites, which likely leads to differential responses to personalized advertising (Hughes, Rowe, Batey, & Lee, 2012). Due to the unique design and purpose of SNSs, results from studies about personalized advertising conducted in other environments may offer limited insights in this setting (Taylor, Lewin, & Strutton, 2011).

In examining the effects of trust and risk on individual behavior towards social media platforms, Wang et. al concluded that trust is found to have a stronger relationship with individual behavior on social media platforms than perceived risk. This study concluded that the more individuals are inclined to trust the social media platform, the less the individual would feel their information was at risk (Wang, Min, & Han, 2016). Further, differences may be present across platforms considering variance in user motivations (Phua, Jin, & Kim, 2017). We specifically look at Facebook vs. Twitter through the expectancy value lens to better understand the uses and gratifications for the user and that effect on their perception of an in-site, personalized ad. Expectancy value theory extends to the uses and gratification for why people use certain social media sites over the other, in this case, Facebook vs. Twitter. The user's behavior intentions should be consistent with this theory that holds that individuals will behave in a way that maximize positive outcomes and minimize negative outcomes. Different traits have been found to be influential in explaining social and informational use between Facebook and Twitter and that the uses for each site are driven by the type of information sought (Hughes et al., 2012). Although Facebook is the largest SNS, Twitter's focus seems to be on the sharing of opinion and information (Kwak, Lee, Park, & Moon, 2010) rather than on social interaction (Huberman, Romero, & Wu, 2008). For instance, information sought from Facebook may be obtained socially whereas the information sought on Twitter might be more cognitively based (Alhabash & Ma, 2017; Hughes et al., 2012). Meanwhile, recent research on native advertising has found that people on Twitter may not care that an ad has been personalized to them. They will like and share it anyway (Hayes, Golan, Britt, & Applequist, 2019). The question then becomes do the differences across Facebook and Twitter moderate the effects of data collection methods such that the perceived risk and perceived benefit will vary between the two platforms.

Due to these blurring lines between social media platforms and digital advertising, the effects of personalized advertising through social networking sites warrant specific academic attention (Kim et al., 2019, Taylor et al., 2011).

By integrating social exchange theory and privacy calculus, we seek to advance the understanding of the personalization privacy paradox, decision processes and advertising outcomes by taking consumer-brand relationships, expectancy value theory and social media platform contexts into consideration. The proposal will proceed as follows. First, relevant literature will be reviewed. Next, the conceptual model will be explicated. Then, hypotheses will be proffered. Methodology will be laid out. Finally, a discussion of the findings and limitations of the study will be explained.

## LITERATURE

### **Personalized Advertising**

For the purpose of this research, we define personalized advertising as “the ability to provide content and services that are tailored to individuals based on knowledge about their preferences and behaviors” (Adomavicius & Tuzhilin, 2005). The collective understanding is that “personalization tailors certain offerings such as content, services, product recommendations, communications and e-commerce interactions by providers to consumers based on knowledge about them, with certain goals in mind” (Adomavicius & Tuzhilin, 2005). Furthermore, personalized ads are aimed at specific consumers: delivering the right content to the right person at the right time to maximize advertising returns (Aguirre, Mahr, Grewal, de Ruyter, & Wetzels, 2015). When online consumers click on ads, they leave a cookie trail - a digital record marking search movement on consumers' computer systems. These cookie trails follow people's behaviors on sites and remain on systems allowing advertisers to recognize users on return visits and adapt ads to their interests (Montgomery & Smith, 2008; Purcell, Brenner, & Rainie, 2012). Advertisers can also buy information from database firms to create data profiles about individual customers, track people's location on their mobile devices without explicit permission and collect data from information on a website, app or SNS page in order to create personalized ads (Turow & Hennessy, 2015).

Advertising targeting can be placed on a continuum ranging from no personalization, to minor personalization (e.g., using one to three aggregated data points), to highly personalized (addressed to a particular individual based on four or more data points, such as name, previous

search behavior, web page visits, viewed content, or friends with connections to specific pages, groups, or applications). Personalization agents are used to develop this high personalization. A personalization agent is a collection of software modules that collects and analyzes individual user data at a granular level to adapt to the context of the ad interaction (Baek & Morimoto, 2012; Goldfarb & Tucker, 2011; Tam & Ho, 2006). Advertisers access and combine data points through these personalization agents to amass consumer profiles across potentially thousands of websites and partnerships (Palmer, 2005; Purcell et al., 2012; Turow & Hennessy, 2015; Turow, King, Hoofnagle, Bleakley, & Hennessy, 2009).

Murthi and Sarkar (2003) specify three personalization stages: learning, matching and evaluation. In the learning stage, advertisers collect and analyze customer data to understand their needs, behaviors and actions. The matching stage involves applying this information to personalize a customer's experience; for our study context, it implies presenting a customer with a personalized advertisement. Finally, evaluating the effectiveness of the personalization strategy stage translates into evaluating metrics, such as click-through rates (Murthi & Sarkar, 2003). Li and Liu (2017) extended these three personalization stages by outlining that advertisers must understand consumer-brand involvement and personalize the advertising message depending on the context.

Personalized advertising has been controversial since its creation due to concerns about invasion of individual privacy (Awad & Krishnan, 2006; Xu, Luo, Carroll, & Rosson, 2011). Privacy is defined as "the ability of the individual to control the terms under which personal information is acquired and used" (Westin, 1967). Information privacy, then, refers to "the ability of the individual to personally control information about one's self" (Stone, Gueutal, Gardner, & McClure, 1983). Previous research has suggested that the consumer's informational

control is necessary in creating favorable consumer responses towards offering their online information (Awad & Krishnan, 2006). As for perceived information control, a Pew Research survey in 2107 concluded that nine percent of respondents believe they have “a lot of control” over the information that is collected about them, even as the vast majority (74%) say it is very important to them to be in control of who can get information about them (Kenneth Olmstead & Smith, 2017). Boyles, Smith, and Madden (2012) looked at the effectiveness of mobile advertising and found that more than half of app users have uninstalled or decided to not install an app due to concerns about their personal information (Boyles et al., 2012); these apps can include SNSs such as Facebook and Twitter.

Laufer and Wolfe (1977) was one of the first to research what factors affected privacy concerns in what they called a calculus of behavior and concluded that perceived control over various uses of information resulted in less consumer concerns. This helped influence future privacy research by demonstrating that one way to decrease the level of perceived privacy risk for the online consumer is to increase the level of perceived control over personal information.

Following Laufer and Wolfe (1977), Culnan and Armstrong (1999) argued that in the context of purchasing products, the individual decision processes prior to the disclosure of personal information involved a privacy calculus. Dinev and Hart (2006) then extended this privacy calculus to include individual’s willingness to provide personal information online. Consumers can be expected to behave as if they are performing a calculus, risk-benefit analysis, in assessing the outcomes they will receive as a result of online information disclosure. Similarly, a 2016 Pew Research Center study on privacy and information sharing explained that information disclosure “is a decision process that includes assessing the terms of the deal, the circumstances of their lives, whether they consider the company or organization involved to be

trustworthy, what happens to their data after they are collected and how long the data will be retained” (Rainie & Duggan, 2016).

Extant research notes that personalization is dependent upon consumers' willingness to share their personal information as a result of the tradeoff between their desire and value for personalization vs. their concern for privacy (Baek & Morimoto, 2012; Chellappa & Sin, 2005).

Personalization vs. privacy epitomizes this complicated situation regarding the effects of personalized advertising (Baek & Morimoto, 2012; Brinson & Eastin, 2016; Madden & Rainie, 2013; McDonald & Cranor, 2010). The tension between consumers wanting relevant advertisements yet feeling discomfort when faced with a personalized ad that used their personal data has been labeled as the personalization privacy paradox (Aguirre et al., 2015). The personalization privacy paradox concludes that effective use of customer information is a critical success factor for advertising online (Bulgurcu, 2010). The challenge for advertisers, then, becomes collecting and using the information in such a way that consumers feel comfortable. Awad and Krishnan (2006) examined, from the consumer perspective, whether information transparency features are associated with consumer willingness to take part in online information disclosure. They found that the consumers who valued information transparency features were also less likely to participate in personalized offerings.

However, when examining trust in the context of online personalized advertising, Brinson and Eastin (2016) concluded that concerns over identity theft, while significant, did not impact online behavior as they predicted and found that the user's higher levels of concern actually increased engagement. Baek and Morimoto (2012) attempted to identify potential underlying factors of personalized advertising avoidance. They found that when advertisements were personalized to specific customers, skepticism toward the ads tended to be lower. Baek and

Morimoto (2012) also suggested that personalization may create a sense of connection between in the brand and the consumer which could, in turn, mitigate negative perceptions about advertising in general.

So, despite this evidence that the consumer's skepticism is lower with a highly personalized ad, as the personalization paradox shows, these efforts could also increase consumer's privacy concerns and lead to negative reactions that would decrease or possibly hurt the effectiveness of the ad. As Aguirre et al. (2015) concluded, consumers that realized their data was covertly collected to create a highly personalized ad had negative reactions, such as lower click-through intentions. They also found that "if advertisers inform consumers about how and why their data is being collected, the negative consequence from the consumer disappears" (Aguirre et al., 2015). Having a thorough understanding of the consumer's perception of personalized advertising and how privacy concerns can impact, positively or negatively, the consumer journey will enable advertisers to better understand these contextual situations.

### **Overt vs. Covert Data Collection**

To offer these personalized services to consumers, automatic personalization systems gather user browsing behavior data in two ways - overt and covert (Aguirre et al., 2015; Murthi & Sarkar, 2003; Sundar & Marathe, 2010). This data can be gathered by directly asking users for their name, gender, birthday, ethnicity, phone numbers and zip codes (otherwise known as first party data). Others can gather data by covertly observing and tracking user behavior with cookies in browsers (otherwise known as third party data). Data partnership across multiple advertisers and publishers allow for data collection and aggregation that create rich, personalized advertisements. With this combined data, personalization systems tailor the interface for every unique user (Sundar & Marathe, 2010). Most of these services are automatic and are done with

little to no direct involvement by the user (Xu et al., 2011). For covert-based advertising, a user may perceive higher levels of personalization value when the content adapts itself automatically based on the user's profile, or they may be faced with the realization that their data was collected without their consent. (Aguirre et al., 2015; Xu et al., 2011).

Generally, research has shown that consumers respond more positively to overt information collection methods wherein consumers approve the use of their personal information than covert information collection methods (Aguirre et al., 2015, Brinson, Eastin & Cicchirillo, 2018). Overtly collecting data so that consumers understand that an ad has been targeted to them based on their behavior has been shown to increase the perceived person-product fit which, ultimately, increases the ad's value (Summers, Smith, & Reczek, 2016).

Overt vs. covert data collection has been studied as a way to inform users of how their data is being used to see if it would mitigate negative consumer reactions. When advertisers take the overt approach and openly inform their users that data collection has taken place, users find the content of the personalized advertisements more useful and their behavioral intentions have been shown to improve (Brinson & Eastin, 2016; Tam & Ho, 2006). When consumers are not informed though, customers have rejected the personalized content and exhibit lower behavioral intentions to click-through or purchase the advertised product or service (Baek & Morimoto, 2012; White, Zahay, Thorbjørnsen, & Shavitt, 2008).

Given the invasiveness of current personalized advertising practices, many consumers have voiced their need for more ad transparency practices (Greiff, 2016; Ramirez et al., 2014; Turow et al., 2009). Just last year, Facebook voluntarily instituted such practices and implemented a feature that allowed users to find out why any given ad was being shown to them (Kim et al., 2019).

Tsang, Ho, and Liang (2004) found that consumers generally had negative attitudes towards personalized mobile advertising unless they had specifically consented to their data being collected. More recently, Aguirre et al. (2015) concluded that when firms practice covert strategies, click-through intentions do not change, potentially because respondents who were previously unaware of the information collection felt more vulnerable in the face of a highly personalized advertisement. However, when the user was given control and choice over their information by overtly asking for consent, they reported greater click-through intentions (Aguirre et al., 2015). This study helped outline the impact of ad transparency for users by testing overt and covert data collection strategies and used click through rate as a measurement for the user's perceived vulnerability. However, it does not account for the user's perception of the brand that is advertising or the platform in which the ad is delivered.

### **Risks and Benefits of Information Disclosure**

McDonald and Cranor (2010) concluded that personalized advertising can violate consumer expectations and is understood as a source of privacy harm. In the same study, nearly two-thirds of the participants agreed or strongly agreed that "someone keeping track of my activities online is invasive," with only 4% disagreeing or strongly disagreeing. Other perceived privacy risks identified in literature and McDonald and Cranor (2010) include the following:

1. Being labeled by advertisers in ways the user considers unfair (Turow et al., 2009)
2. Multiple companies having access to the user's data (Aguirre et al., 2015)
3. Data collected being used for purposes outside of advertising (Malheiros, Jennett, Patel, Brostoff, & Sasse, 2012)

Further, Purcell et al. (2012) found that many consumers have concerns about providing personal information online, with 68% reporting an unfavorable view of personalized advertising

in general. Baek and Morimoto (2012) identified two key triggers for consumers' negative attitudes toward personalized advertisements: (1) when the message is not relevant to the consumers interests or activities (2) when the message raises issues of privacy concern. Most consumers are unaware of how their private information will be handled and used. Milne et al. (2006) found that privacy concerns are negatively related to purchase behavior and trust and perceived information control.

Consumers may employ a decision calculus that weighs potential risks and benefits associated with passing along private information against the perceived value of the content available. In general, individuals are less likely to perceive information collection methods as privacy-invasive when (1) the information is collected from an existing relationship, (2) they perceive that they have the ability to the use of the information and (3) the information collected is relevant (Culnan & Armstrong, 1999). Customers will continue to participate in this social contract as long as the perceived benefits exceed the risks. If the value perceived as a result of the risk-benefit analysis is positive, then people will be willing to have their personal information used.

### **Personalized Advertising Outcomes**

Personalization services can be mutually beneficial to both advertisers and consumers. In an online advertising context, agencies also benefit from their consumer's having greater recall of their product or service, consumers seeing the content as more relevant and more purchases (Tam & Ho, 2006); personalized advertisements appear twice as effective as similar, impersonal versions (Tucker, 2014).

Personalized advertising has provided opportunities for advertisers to build their consumer relationships because of the one to-one capabilities, segmentation/targeting of

audiences and the ability to measure responses in advertising campaigns (Kim et al., 2019). Consumers experience relevant products and services, a better preference match, reduced cognitive overload and convenience from personalized advertising (Ansari & Mela, 2003). Advertisers are able to target the right consumer at the right time which can increase customer satisfaction (Rust & Chung, 2006) and loyalty (Ansari & Mela, 2003). They might gain competitive advantages against other competing products (Murthi & Sarkar, 2003) and improve their bottom line (Rossi, McCulloch, and Allenby 1996; Zhang and Wedel 2009). Click-through rates (CTR) of an ad have been shown to improve by as much as 670% by properly segmenting users for targeted advertising (Yan et al., 2009). Compared with traditional advertising, mobile advertising can offer personalized and interactive messages that adapts to the consumer's unique location and environment (Eastin, Brinson, Doorey, & Wilcox, 2016).

### **Platform Effects on Overt and Covert Data Collection**

Are the uses and trust in online sites universal for consumers? Research shows that the determinants of online trust are different across site categories and consumers (Bart, Shankar, Sultan, & Urban, 2005).

A 2018 Pew Research survey of U.S. adults outlined the platform differences between Facebook and Twitter. According to this study, Facebook remains the primary platform for most Americans. Roughly two-thirds of U.S. adults (68%) now report that they are Facebook users, and roughly three-quarters of those users access Facebook on a daily basis. With the exception of those 65 and older, a majority of Americans across a wide range of demographic groups now use Facebook. Facebook remains the most widely used social media platform by a relatively healthy margin, states the 2108 study. Along with being the most popular social media site, Facebook users also frequency visit the site. Fully 74% of Facebook users say they visit the site daily, with

around half (51%) saying they do several times a day. On Facebook, content comes mostly through family and friends, but on Twitter, people tend to get news and content from outside recommendations that aren't directly involved in their network. Another 19% say they get recommendations via Facebook somewhat often and only 4% via Twitter somewhat often (Smith & Anderson, 2018). Twitter's newsfeed design allows for content to be shared and reshared from brand pages and users can also follow brand pages, so their content is integrated into the same feed as their friends and family's content.

Different traits have been found to be influential in explaining social and informational use and personality differences between the use of Facebook and Twitter suggesting that Facebook and Twitter are used for different reasons (Whiting & Williams, 2013; Smith & Anderson, 2018). Further, these differences are categorized by the type of information sought. For instance, information sought from Facebook may be obtained socially (i.e. by asking other users), whereas the information sought on Twitter might be more cognitively based, such as academic or political information, that is best gained by reading 'tweets' (Hughes et al., 2012).

Phua, Jin, and Kim (2017) illustrated that social networking sites differ in terms of platform trust; further, those differences lead to differences in brand participation. Therefore, in the same way that differences in consumer-brand relationship strength could affect personalized ad decisions and outcomes, the social network platform may influence decisions and outcomes.

### **Consumer-brand Relationship's Influence on Perceived Value of Information Disclosure**

Researchers have noted that consumers differ not only in how they perceive brands but also in how they relate to brands (Fournier, 1998). The relational view of consumers and brand sees consumers as using the principle of relationship to guide their interactions with the brand and as a lens to evaluate the actions of the brand (Aggarwal, 2004; Fournier, 2008). Strong

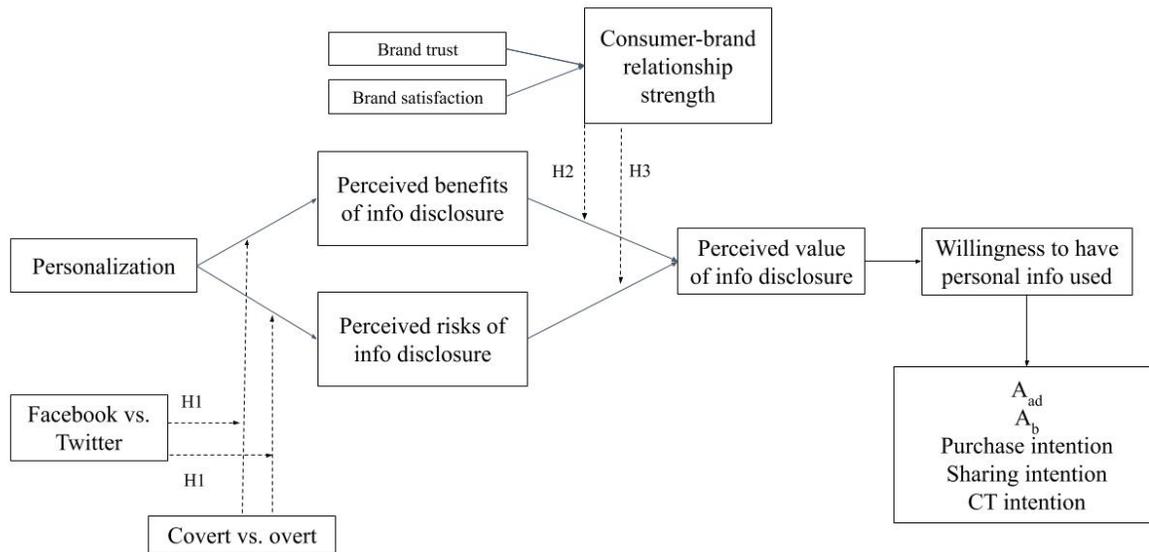
consumer-brand relationships (CBRs) made up of high levels of brand trust have proven to significantly influence advertising acceptance and positive brand outcomes in online advertising contexts (Hayes, King, & Ramirez, 2016; Hayes, Shan, & King, 2018). The content must be valued by consumer to maintain equitable, committed relationships (Hsu and Lin, 2008). Through this reciprocal act, emotional attachment to the brand emerges, just as a personal relationship would, as consumers assign intrinsic and expressive value to the relationship (Lawler et al., 2000).

Understanding the brand's influence is essential in studying personal advertising on social media because the brand is the original message source (Faber, Lee, & Nan, 2004). On Facebook and/or Twitter, brands are actively building relationships with their consumers by frequently communicating with their followers. Consumers can like, comment, share, reshare, message, tweet and retweet the brand page's content, often with real time feedback by the brand. Through these interactions, brand trust and commitment can be developed (Hayes & King, 2014). Fournier and Alvarez (2012) suggest that the CBR combines these cognitive, emotional and behavioral processes in which trust and commitment are developed between brands and consumers.

## **THEORY**

This study seeks to adapt and build upon Xu et al.'s (2011) model of personalized advertising decision-making by (1) extending the model to the social media context and (2) investigating how platform effects and CBRs may influence the decision process (see Figure 1). As it stands in the model, we examine personalization in terms having a direct effect on the perceived benefits and risks of information disclosure. The platform in which the ad is delivered on, in this case Facebook and Twitter, may have moderating effects on these perceived benefits and risks of information disclosure. Additionally, depending on how the information from the user was collected, either covertly or overtly, could potentially moderate these benefits and risks as well. Furthermore, we see the perceived benefits and risks of information disclosure as having a direct effect on the overall perceived value of the information disclosure which will, in turn, impact the user's willingness to have their personal information used for an ad. We predict that the perceived value will be moderated by the strength of the preexisting brand relationship the user may or may not have. The framework, a modification of Xu (2011), enables us to examine the effects of personalization in the interactions between a social media platform, consumer-brand relationship and how the information was obtained.

**Figure 1: Conceptual model**



Social exchange theory conceptualizes each social interaction between one or more actors as risk-benefit analyses. Consumers determine whether the expected outcome of the potential exchange will outweigh the cost of the exchange - cost may be tangible or intangible (e.g., Frenzen and Nakamoto, 1993). Consumers come to trust partners that consistently return positive results and continue to exchange with them, even if other partners might yield more desired results, to reduce uncertainty and mitigate risk. As trust develops between partners, so does emotional attachment. So, decisions to interact become both pragmatic, economic decisions and emotional decisions (Lawler et al., 2000). Social exchange theory provides a useful lens for examining personalized advertising decision processes because of its application across three key areas: (1) privacy calculus lens, (2) consumer-brand relationships and (3) expectancy value theory.

The privacy calculus postulates that a person's disclosure of personal information is predicated on the person's perceived benefits, privacy concerns and trust. Previous research provides applicability of this theory in the online advertising space. Krasnova et al. (2010) used focus group results into a privacy calculus framework, to demonstrate the role of privacy risks in defining willingness to disclosure information decisions on Facebook. Focusing on the overwhelming privacy concerns on the online context, Featherman and Pavlou (2003) added privacy risk as an important facet of risk, defining it as "the degree to which an individual believes that a high potential for loss is associated with the release of personal information." The notion of the privacy calculus suggests that consumers, when requested to provide personal information to advertisers, perform an analysis that accounts for the risks and benefits of information disclosure (Xu et al., 2011). The outcome of this calculus is considered to be the cumulative effect of risks and benefits, which, for the purpose of this study, is defined as perceived value. Adapting Xu et al. (2011) definition of the perceived value of information disclosure, the individual's overall assessment is based on perceptions of privacy risks incurred and benefits received.

For the purpose of this study, we apply the privacy calculus lens to the personalization privacy paradox. Within the body of consumer privacy research, it has been found that the calculus perspective of privacy is a useful approach to analyzing contemporary consumer privacy concerns; it is evident in previous literature (Lawler et al., 2000; Lee & Rha, 2016; Xu et al., 2011). These studies affirm the belief that consumers can be expected to behave as if they are performing a calculus (risk-benefit analysis) in assessing the outcomes they will receive as a result of the information disclosure. Xu's 2011 study used the privacy calculus model to explore the personalization privacy paradox in mobile advertising (Xu et al., 2011). Their results

concluded that the influences of personalization on the risk-benefit analysis vary upon the type of personalization systems, covert and overt, and that personal characteristics moderate the privacy calculus model.

Yet, the privacy calculus conceptualizes decisions as purely cognitive, a conscious weighing of the risks and benefits. Individuals make “privacy-sensitive decisions based on multiple factors, including - but not limited to - what they know, how much they care and how costly their actions they believe can be” (Acquisti & Grossklags, 2005). In the same study, although the participants displayed privacy attitudes and a certain level of privacy-consistent behavior, their decision processes were affected by incomplete information and psychological deviations from rationality. Acquisti and Grossklags (2005) therefore concluded that they do not support a model of strict rationality to describe individual privacy behavior. Knowing this, we extend the privacy calculus in the context of the social exchange decision process to incorporate emotions as an explicit, central feature of social exchange processes. This conceptualizes individual actors as feeling as well as thinking and treating emotions as internal reinforcements or punishments (Lawler et al., 2000).

Social exchange theory conceptualizes how relationships are constructed and maintained (Hayes & King, 2014). Drawing from this theory, the consumer-brand relationship perspective argues that consumers treat their brands much like human relationships; they develop trust and emotional attachment to brands over several positive exchanges with the brand. As a result, consumers commit to using that brand over competitive brands (Fournier, 2008). Hess and Story (2005) outlined how these relationships develop. Their first assertion is that satisfaction with the brand, product or service is just a start to understanding the status of a relationship with the individual customer - “satisfaction alone provides scant information about how customers will

respond to competitive offers, product availability price competition or even product failure.”

The stage beyond satisfaction and trust is connection, and this connection is either functional or personal (Hess & Story, 2005). The personal relationship has been built and maintained throughout a series of net positive interactions and relies on trust and confidence between the two parties rather than satisfaction alone.

These commitments between consumers and brands relationships can be developed through various engagement between consumers, their friends and brands (Kaplan & Haenlein, 2010, Mangold & Faulds, 2009). Just as the privacy calculus uses the perceived risk-benefit ratio to determine value, interactions with brands also involve analysis based upon previous interactions wherein the consumer seeks to maximize their perceived benefit and reduce uncertainty (Morgan & Hunt, 1994). By continuing exchange with a brand with whom they have a relationship, they reduce the uncertainty of exchanging with a new brand - thus, they avoid the possible cost of unsatisfactory exchanges with a different brand (Hayes & King, 2014).

In the personalized ad context, then, the strength of the relationship between the brand and the consumer may influence the risk-benefit analysis of the personalization privacy paradox; stronger brand relationships may lead to less perceived vulnerability and more positive advertising outcomes. Thus, if the consumer trusts the brand (e.g., strong brand relationship), they may be less concerned about how the data was collected and perceive the ad as having more benefit.

Lastly, in the process, expectancy value theory can also be included for its relationship to social exchange theory such that uses, and gratifications work on why and how people use Facebook and Twitter - the benefits they seek to derive. Palmgreen and Rayburn adopted Fishbein's expectancy value theory (Fishbein & Ajzen, 1975) in 1985. Palmgreen and Rayburn

formulated that gratifications sought from some media are a result of both the individual's beliefs (expectations) about the media and one's evaluations (value judgments) of media attributes (Palmgreen & Rayburn, 1985). This can be extended to the uses and gratification for why people use certain social media sites over the other, in this case: Facebook vs. Twitter. Palmgreen and Rayburn (1985) suggests that consumers will not seek a particular gratification from the media source if the media source is not believed to contain their desired attribute.

Present research integrates social exchange theory to understand the personalization privacy paradox through the calculus lens and uses the consumer-brand relationship perspective and expectancy value theory to examine the intertwining effects of personal information collection method, online platforms and brand relationships on outcomes of personalized advertising. We test brand relationship and platform effects to better understand this calculus of risks vs. benefits that consumers enter into when confronted with personalized ads.

## HYPOTHESES

Differences may be present across platforms considering variance in user motivations (Phua, Jin, & Kim, 2017). We specifically look at Facebook vs. Twitter through the expectancy value lens to better understand the uses and gratifications for the user and that effect on their perception of a personalized ad. Different traits have been found to be influential in explaining social and informational use between Facebook and Twitter and that the uses for each site are driven by the type of information sought (Hughes et al., 2012). Thus, the following hypothesis is proposed:

H1: Social media platform will moderate the effects of data collection method such that the perceived risk and perceived benefit will vary between Facebook and Twitter.

Consumer-brand relationships endowed with higher levels of brand trust have proven to significantly influence advertising acceptance and subsequent brand outcomes in other online advertising contexts (Hayes, King, & Ramirez, 2016; Hayes, Shan, & King, 2018). Therefore, we predict that preexisting brand relationships are positively related to perceived benefits of personalized advertising. Similarly, we predict that the high level of CBR strength will offset the negative reactions to privacy concerns regarding the perceived risk of information disclosure.

The consumer-brand relationship perspective conceptualizes brands as social entities taking on human characteristics and fostering relationships with consumers (Hayes & King, 2014). Satisfactory exchanges with the brand lead to brand trust, which subsequently leads to commitment to the brand relationship (Hess & Story 2005). In the process of CBR construction, consumers ascribe cognitive as well as emotional value to the brand (Hayes & King, 2014).

Consumers commit to continued exchange with brands they trust to avoid the uncertainty associated with venturing to try less trusted brands and in doing so, consumers creates an expectation of future exchanges with the brand as being beneficial as well (Hayes & King, 2014). Indeed, Hayes and his colleagues illustrated this relationship between CBRs and advertising outcomes in the viral advertising context (Hayes & King, 2014; Hayes, King, & Ramirez, 2016).

Personalized information and services have significant privacy implications because of large amounts of personal data collected for performing personalization (Xu et. al., 2011). The privacy calculus suggests that consumers, when requested to provide personal information to advertisers, would perform an analysis that accounts for risks and benefits of information disclosure. A strong existing brand relationship could mitigate these perceived risks so that strong brand relationships are negatively related to the perceived risks of information disclosure for ad personalization. Thus, the following hypotheses are proposed:

H2: Consumer-brand relationship strength will positively moderate the relationship between perceived benefits of information disclosure and perceived value of information disclosure.

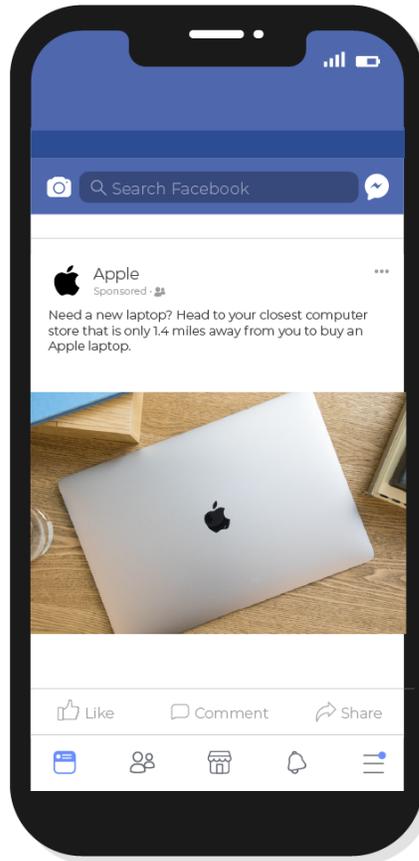
H3: Consumer-brand relationship strength will negatively moderate the relationship between perceived risks of information disclosure and perceived value of information disclosure.

## METHODOLOGY

### Stimuli Development

Ad stimuli was created to mock real Facebook newsfeed advertisements and sponsored tweets on Twitter. A pretest conducted among 112 undergraduates via online survey to identify appropriate online brand responses and CBR strength brand pairing, which would later be used to manipulate CBR strength. Computers were chosen as the product because they provide an inherent amount of product risk for consumers and are also among the most reviewed products on Amazon.com (Bhatnagar, Misra, & Rao, 2000). Existing computer brands were pretested to establish a brand pairing with appropriate differences in CBR strength. Following previous studies (e.g., Hayes & King, 2014), CBR strength was measured as a composite of brand satisfaction and brand trust on 7-point scales (Delgado-Ballester & Luis Munuera-Alemán, 2001; Hess and Story 2005). Apple ( $M=4.77$ ) and Clevo ( $M=2.67$ ) were identified as an appropriate strong-weak brand pairing ( $t(111) = 16.397, p < .001$ ). At the beginning of the questionnaire, respondents were asked approximately how far from their home the nearest computer retailer is in a multiple-choice question. We used corresponding language in Qualtrics to display an ad stimulus for either Clevo or Apple laptops brand within the indicated distance from their home. Figure 2 shows one of the 4 mock stimuli created for the possible scenarios. Each of the ads had four variations for location data personalization, based on the respondent's selection of how far away a computer store was from their house. All stimuli can be found in Appendix A-B.

**Figure 2: Facebook stimuli for strong CBR**



### **Design and Participants**

For the main study, a 2 (consumer-brand relationship: weaker/stronger) X 2 (data collection: overt/covert) X 2 (platform: Facebook/Twitter) online experiment was conducted to test hypotheses. Platform context was manipulated via mock stimuli. Information collection was manipulated using procedure adapted from previous research in this context (Aguirre et al., 2015). Apple and Clevo, brands identified via pretesting, were employed to manipulate CBR strength. Brand familiarity is a necessary condition for brand satisfaction which, in turn impacts brand trust - the two components of a brand relationship (Hess and Story 2005). Message personalization was induced and measured via a location question at the beginning of the questionnaire that was subsequently integrated into exposed stimuli. Dependent variables

perceived risks and benefits of information disclosure, perceived value, willingness to have personal information used,  $A_{ad}$ ,  $A_b$ , purchase intention and sharing intention were measured adapting previously employed scales.

The experiment was administered using Amazon Mechanical Turk (MTurk: [www.Mturk.com](http://www.Mturk.com)). MTurk is a human intelligence platform whose participant compensation system streamlines online study design, recruitment of large participant pools and data collection (Buhrmester, Talaifar, & Gosling, 2018). Buhrmester, Talaifar, and Gosling (2018) analysis suggests MTurk samples to outperform standard Internet samples and convenience samples in terms of demographic diversity and representativeness of the U.S. population. As such, the platform has recently increased in used for academic research (e.g. Chu, Chen, and Sung 2016).

A national sample of U.S. active Twitter and Facebook users over 18 who use Facebook and Twitter at least once a week were recruited to participate. Sessions lasted approximately 11 minutes and 247 responses were included. Multiple attention checks were integrated throughout the instrument; additionally, only sessions lasting between 5 and 90 minutes were included in the sample.

## **Procedure**

Upon choosing to enter the questionnaire via selecting the study from the MTurk interface, respondents were first asked to provide informed consent. Next, screening questions were employed to ensure that respondents qualify for the study based on (1) age and (2) active Facebook and/or Twitter use. This was defined by a user confirming that they use Facebook and/or Twitter at least once a week. Next, participants were asked to identify how close a computer store was to their home location. We then used this location data as personalized language included in the mock stimuli.

Following qualifying questions, participants were then randomly and evenly distributed into one of eight conditions. Participants were told that they will complete a comprehension task involving reading two articles. The first article contained the information collection manipulation; the second was a filler article. The first article explained Facebook/Twitter's use of collected data to personalize ads for users. In the overt collection condition, the article ends by indicating that users' data are collected with their knowledge; in the covert, it is indicated that users are not made aware of the usage of their personal data (see Appendix C-D for information collection manipulation article).

Next, respondents were told to imagine that their laptop recently broke down and that, therefore, they posted a question through Facebook/Twitter to ask their network for information about what laptops are the best. The scenario explained that after sending the message, they would continue to scroll through their Facebook/Twitter news feed. Respondents were then exposed to the appropriate ad stimuli based upon their experimental condition and the previous location indicated by the participant. Dependent variables and covariate were measured as listed below (see also Table 1 for major factor scales and alphas). The session ended with a debriefing statement explaining the deception used in the study.

## **Measures**

After reviewing the advertisement, participants responded to a single-item *click-through intention* measure adopted from Aguirre et al. (2015). Following Bergkvist and Rossiter (2007), *attitude toward the ad* (like-dislike) and *attitude toward the brand* (bad-good) were measured employing a single 7-point, semantic differential items. Gefen and Straub's (2004) 3-item scale was used to measure *purchase intention*. *Sharing intention* was measured adapting Sohn's (2004) electronic word-of-mouth intention scale.

As in the pretest, *consumer-brand relationship* was measured as a composite of *brand satisfaction* (Hess & Story, 2005) and *brand trust* (Delgado-Ballester & Munuera-Aleman, 2001). Xu et al. (2011) and Baek and Morimoto (2012) personalization scales were adapted to measure *perceived advertising personalization*. Following Xu et al. (2011), two items from Cullman and Armstrong (1999) measured the participants' *willingness to have personal information used in ad personalization*. *Perceived benefits of information disclosure* was measured using Unni and Harmon's (2007) 3-item scale. *Perceived risk of information disclosure* was defined in terms of the expectation of losses associated with information disclosure and was measured adapting Xu et al.'s (2011) 3-item scale. As did Xu et al. (2007), three items taken from Kim et al. (2007) were employed to assess *perceived value of information disclosure*. Product knowledge, product involvement and perceived vulnerability were tested as covariates. Flynn and Goldsmith (1999) *product knowledge scale* was used. Zaichkowsky's (1986) scale was implemented assessing *product involvement*. *Perceived vulnerability* was measured using Netemeyer, Bearden, and Sharma's (2003) previously used scale. Obermiller & Spangenberg's (1998) *general attitude toward advertising* was employed.

**Table 1: Major factor scales and alphas**

Factors	Items	Source
<i>Click-through intention</i>	I would like to click on the advertisement to get further information.	(Aguirre et al., 2015b)
<i>Attitude toward the ad</i>	Dislike/Like	(Bergkvist & Rossiter, 2007)
<i>Attitude toward the brand</i>	Bad/Good	(Bergkvist & Rossiter, 2007)
<i>Purchase intention</i> ( $a = .936$ )	I am very likely to buy the product from this company. I would consider buying the products from the company in the future. I intend to buy the products from the company.	(Gefen & Straub, 2004)
<i>Sharing intention</i> ( $a = .964$ )	I am interested in retweeting this tweet/post. I am interested in sharing my experience with this brand with my followers on Twitter/Facebook. I am willing to spread word of mouth about this brand through tweeting/a Facebook post. I am willing to retweet this brand's post on Twitter/Facebook.	(Sohn, 2009)
<i>Brand satisfaction</i> ( $a = .856$ )	I feel I know what to expect from Brand X. I am usually (feel that I would be) satisfied with Brand X's products. I am usually (feel that I would be) satisfied with my experience with Brand X.	(Hess & Story, 2005)
<i>Brand trust</i> ( $a = .950$ )	I trust Brand X to offer me new products that I may need. I trust the Brand X is interested in my satisfaction as a consumer. Brand X values me as consumer of its products.	(Delgado-Ballester & Luis Munuera-Alemán, 2001)

	I trust Brand X to offer me recommendations and advice on how to make the most of its product. Brand X offers me computers with a constant level of quality. I trust that Brand X will help me solve any problem I could have with the product.	
<i>Perceived advertising personalization</i> ( <i>a</i> = .923)	Brand X ad can provide me with personalized deals/ads tailored to my activity context. Brand X ad can provide me with more relevant promotional information tailored to my preferences or personal interests. Brand X ad can provide me with the kind of deals/ads that I might like. This personalized advertising on Facebook/Twitter makes purchase recommendations that match my needs. I think that this personalized advertising on Facebook/Twitter enables me to order products that are tailor-made for me. Overall, this personalized advertising on Facebook/Twitter is tailored to my situation. This personalized advertising on Facebook/Twitter makes me feel that I am a unique customer. I believe that this personalized advertising on Facebook/Twitter is customized to my needs.	(Baek & Morimoto, 2012; Xu et al., 2011)
<i>Willingness to have personal information used in ad personalization</i> ( <i>a</i> = .936)	How interested would you be in having your personal information (including your location) used in the Brand X? How likely would you provide your personal information (including your location) to use the Brand X?	(Culnan & Armstrong, 1999)
<i>Perceived benefits of information disclosure</i> ( <i>a</i> = .910)	Brand X reduces my searching time to find the promotional information that I need. Brand X can provide me with the convenience to instantly access the promotional information that I need. Overall, I feel that using Brand X service is beneficial.	(Unni & Harmon, 2007)
<i>Perceived risk of information disclosure</i> ( <i>a</i> = .784)	Providing the service provider with my personal information would involve many unexpected problems. It would be risky to disclose my personal information to the service provider. There would be a high potential for loss in disclosing my personal information to the service provider.	(Xu et al., 2011)
<i>Perceived value of information disclosure</i> ( <i>a</i> = .903, <i>r</i> = .824)	I think my benefits gained from the use of Brand X can offset the risks of my information disclosure. The value I gain from the use of Brand X is worth the information I give away. <i>I think the risks of my information disclosure will be greater than the benefits gained from the use of Brand X.*</i>	(H.-W. Kim, Chan, & Gupta, 2007)
<i>Product knowledge scale</i> ( <i>a</i> = .509)	I know pretty much about laptops. I know how to judge the quality of a laptop. I think I know enough about laptops to feel pretty confident when I make a purchase. I do not feel very knowledgeable about laptops. * Among my circle of friends, I'm one of the "experts" on laptops. Compared to most other people, I know less about laptops. * I have heard of most of the new laptops that are around. When it comes to laptops, I really don't know a lot. * I can tell if a laptop is worth the price or not.	(Flynn & Goldsmith, 1999)
<i>Product involvement</i> ( <i>a</i> = .941)	To me, a laptop is important/unimportant*, boring/interesting, relevant/irrelevant*, exciting/unexciting*, means nothing/means a lot to me, appealing/unappealing*, fascinating/mundane*, worthless/valuable, involving/uninvolving*, not need/needed	(Zaichkowsky, 1994)
<i>Perceived vulnerability</i> ( <i>a</i> = .964)	To what extent did the advertisement make you feel "exposed," "unprotected," "susceptible," "unsafe," and "vulnerable"	(Netemeyer, Bearden, and Sharma, 2003)
<i>General attitude toward advertising</i> ( <i>a</i> = .964)	I can depend on getting the truth in most advertising. Advertising's aim is to inform the consumer. I believe advertising is informative. Advertising is generally truthful. Advertising is a reliable source of information about the quality and performance of products. Advertising is truth well told. In general, advertising presents a true picture of the product being advertised. I feel I've been accurately informed after viewing most advertisements. Most advertising provides consumers with essential information.	(Obermiller & Spangenberg, 1998)

## ANALYSIS AND RESULTS

Independent samples t-tests indicated that statistically significant consumer-brand relationship differences were present: Apple ( $M = 5.1380$ ) - Clevo ( $M = 4.0443$ ;  $t(246) = -5.896$ ,  $p < .001$ ). The CBR strength manipulation was successful. Cronbach's alpha for all factor scales were satisfactory at .784 or better. For personalization, the ad stimuli created were perceived to be adequately personalized ( $M = 4.54$ ). All scales were found to be reliable except product knowledge ( $\alpha = .509$ ), which was therefore not included as a variable in analyses.

MANOVA was employed to examine the effects of platform context and collection method on the relationship between advertising personalization and perceived risks and benefits of disclosing information. See Table 2. No multivariate effects were evident for platform context (Wilks'  $\lambda = .975$ ,  $F(1, 247) = 1.581$ ,  $p = .210$ ) or collection condition (Wilks'  $\lambda = .993$ ,  $F(1, 247) = .433$ ,  $p = .649$ ) on the influence of the user's perceived benefits or risks of disclosing information. Further, no interactions were observed between perceived personalization and platform context (Wilks'  $\lambda = .612$ ,  $F(1, 247) = 1.296$ ,  $p = .101$ ), perceived personalization and collection method (Wilks'  $\lambda = .736$ ,  $F(1, 247) = .769$ ,  $p = .871$ ), or platform condition and collection condition (Wilks'  $\lambda = .986$ ,  $F(1, 247) = .861$ ,  $p = .425$ ). H1 was not supported.

Interestingly, the observed personalization-risk-benefit relationship in the current social media context is different than previously observed effects (e.g., Xu et al., 2011). See Table 3. Personalization significantly, positively impacted perceived benefits ( $F(46,248) = 4.326$ ;  $p < .001$ ), but no significant relationship was present for perceived risk ( $F(46,248) = .972$ ;  $p = .532$ ).

This perhaps suggests a difference in perceived risk or expectation of personalization in the social media context versus the mobile context.

**Table 2: Multivariate test of platform context, collection method and perceived personalization on the perceived risks and benefits of disclosing information**

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>d</sup>
<i>Intercept</i>	Pillai's Trace	.385	37.931 <sup>b</sup>	2.000	121.000	.000	.385	75.863	1.000
	Wilks' Lambda	.615	37.931 <sup>b</sup>	2.000	121.000	.000	.385	75.863	1.000
	Hotelling's Trace	.627	37.931 <sup>b</sup>	2.000	121.000	.000	.385	75.863	1.000
	Roy's Largest Root	.627	37.931 <sup>b</sup>	2.000	121.000	.000	.385	75.863	1.000
<i>Perceived Personalization</i>	Pillai's Trace	.878	2.074	92.000	244.000	.000	.439	190.829	1.000
	Wilks' Lambda	.282	2.322 <sup>b</sup>	92.000	242.000	.000	.469	213.656	1.000
	Hotelling's Trace	1.979	2.581	92.000	240.000	.000	.497	237.447	1.000
	Roy's Largest Root	1.632	4.327 <sup>c</sup>	46.000	122.000	.000	.620	199.045	1.000
<i>Platform Condition</i>	Pillai's Trace	.025	1.581 <sup>b</sup>	2.000	121.000	.210	.025	3.162	.330
	Wilks' Lambda	.975	1.581 <sup>b</sup>	2.000	121.000	.210	.025	3.162	.330
	Hotelling's Trace	.026	1.581 <sup>b</sup>	2.000	121.000	.210	.025	3.162	.330
	Roy's Largest Root	.026	1.581 <sup>b</sup>	2.000	121.000	.210	.025	3.162	.330
<i>Collection Condition</i>	Pillai's Trace	.007	.433 <sup>b</sup>	2.000	121.000	.649	.007	.866	.119
	Wilks' Lambda	.993	.433 <sup>b</sup>	2.000	121.000	.649	.007	.866	.119
	Hotelling's Trace	.007	.433 <sup>b</sup>	2.000	121.000	.649	.007	.866	.119
	Roy's Largest Root	.007	.433 <sup>b</sup>	2.000	121.000	.649	.007	.866	.119
<i>Perceived Personalization X Platform Condition</i>	Pillai's Trace	.435	1.306	52.000	244.000	.094	.218	67.911	.994
	Wilks' Lambda	.612	1.296 <sup>b</sup>	52.000	242.000	.101	.218	67.388	.994
	Hotelling's Trace	.557	1.286	52.000	240.000	.108	.218	66.864	.993
	Roy's Largest Root	.297	1.396 <sup>c</sup>	26.000	122.000	.117	.229	36.285	.929
<i>Perceived Personalization X Collection Condition</i>	Pillai's Trace	.278	.758	52.000	244.000	.884	.139	39.410	.862
	Wilks' Lambda	.736	.769 <sup>b</sup>	52.000	242.000	.871	.142	39.990	.868
	Hotelling's Trace	.338	.780	52.000	240.000	.858	.145	40.558	.874
	Roy's Largest Root	.262	1.232 <sup>c</sup>	26.000	122.000	.224	.208	32.021	.883
<i>Platform Condition X Collection Condition</i>	Pillai's Trace	.014	.861 <sup>b</sup>	2.000	121.000	.425	.014	1.723	.195
	Wilks' Lambda	.986	.861 <sup>b</sup>	2.000	121.000	.425	.014	1.723	.195
	Hotelling's Trace	.014	.861 <sup>b</sup>	2.000	121.000	.425	.014	1.723	.195
	Roy's Largest Root	.014	.861 <sup>b</sup>	2.000	121.000	.425	.014	1.723	.195
<i>Perceived Personalization X Platform Condition X Collection Condition</i>	Pillai's Trace	.222	1.174	26.000	244.000	.262	.111	30.522	.893
	Wilks' Lambda	.789	1.170 <sup>b</sup>	26.000	242.000	.265	.112	30.433	.892
	Hotelling's Trace	.253	1.167	26.000	240.000	.269	.112	30.342	.890
	Roy's Largest Root	.165	1.550 <sup>c</sup>	13.000	122.000	.109	.142	20.153	.816

a. Design: Intercept + PerceivedVulnerabilityComposite + ProductInvolvementComposite + PerceivedPersonalizationComposite + PlatformCondition + CollectCondition + PerceivedPersonalizationComposite \* PlatformCondition + PerceivedPersonalizationComposite \* CollectCondition + PlatformCondition \* CollectCondition + PerceivedPersonalizationComposite \* PlatformCondition \* CollectCondition

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = .05

**Table 3: MANOVA of platform context, collection method and perceived personalization on the perceived risks and benefits of disclosing information**

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
<i>Intercept</i>	Perceived Benefit	77.538	1	77.538	51.496	.000	.297
	Perceived Risk	20.280	1	20.280	17.878	.000	.128
<i>Perceived Personalization</i>	Perceived Benefit	299.623	46	6.514	4.326	.000	.620
	Perceived Risk	50.705	46	1.102	.972	.532	.268
<i>Platform Condition</i>	Perceived Benefit	4.045	1	4.045	2.686	.104	.022
	Perceived Risk	.867	1	.867	.765	.384	.006
<i>Collection Condition</i>	Perceived Benefit	.156	1	.156	.104	.748	.001
	Perceived Risk	.931	1	.931	.821	.367	.007
<i>Perceived Personalization X Platform Condition</i>	Perceived Benefit	47.757	26	1.837	1.220	.233	.206
	Perceived Risk	41.156	26	1.583	1.395	.117	.229
<i>Perceived Personalization X Collection Condition</i>	Perceived Benefit	14.036	26	.540	.359	.998	.071
	Perceived Risk	35.556	26	1.368	1.206	.246	.204
<i>Platform Condition X Collection Condition</i>	Perceived Benefit	1.124	1	1.124	.746	.389	.006
	Perceived Risk	1.322	1	1.322	1.166	.282	.009
<i>Perceived Personalization X Platform Condition X Collection Condition</i>	Perceived Benefit	16.947	13	1.304	.866	.590	.084
	Perceived Risk	22.646	13	1.742	1.536	.114	.141

a. R Squared = .741 (Adjusted R Squared = .475)

b. R Squared = .705 (Adjusted R Squared = .402)

c. Computed using alpha = .05

Hierarchical multiple regression analyses were employed to see if CBR strength impacted perceived benefits and risks of information disclosure relationships on the perceived value of information disclosure. All variables were centered prior to analyses. Table 4 reports this regression.

**Table 4: Summary of regression analyses examining consumer-brand relationship (CBR) on perceived benefits and risks of information disclosure on the perceived value of information disclosure**

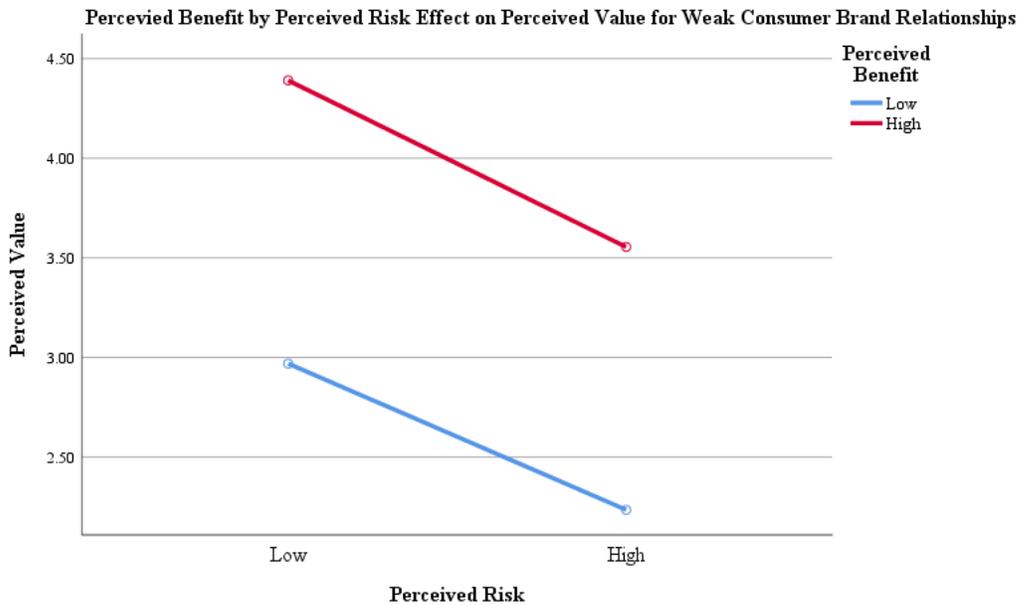
Predictors	B	SE B	$\beta$	T	Tolerance	VIF
<i>Constant</i>	3.238	.070		46.379		
<i>Perceived Risk*</i>	-.368	.062	-.341	-5.956	.483	2.071
<i>Perceived Benefit*</i>	.434	.045	.494	9.698	.610	1.640
<i>CBR*</i>	.133	.049	.140	2.721	.600	1.666
<i>Perceived Risk X CBR</i>	.026	.037	.041	.706	.466	2.148
<i>Perceived Benefit X CBR*</i>	.055	.024	.105	2.291	.759	1.318
<i>Perceived Risk X Perceived Benefit</i>	.018	.032	.031	.569	.531	1.883
<i>Perceived Risk X Perceived Benefit X CBR*</i>	.031	.015	.111	2.051	.544	1.837

All data based upon centered variables; \*p < .05.

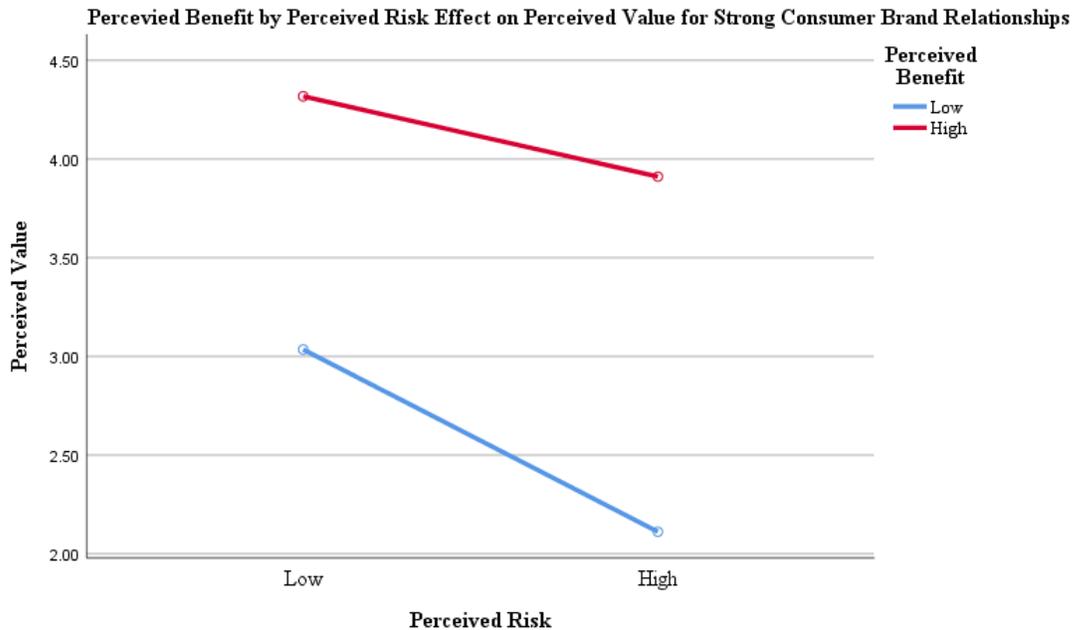
This regression model could explain 62.3% of the variance for perceived value. Direct significant positive relationships with perceived value, were present for perceived risk ( $t(1,247) = 5.956, p < .001$ ), perceived benefit ( $t(1,247) = 9.698, p < .001$ ) and CBR ( $t(1,247) = 2.721, p = .007$ ). Further, a significant perceived benefit X CBR strength on perceived value relationship emerged indicating that CBR strength positively moderates perceived benefits' influence on perceived value ( $t(1,247) = 2.291, p = .023$ ). However, no significant perceived risk X CBR relationship was found ( $t(1,247) = .706, p = .481$ ).

A three-way interaction between perceived risk x perceived benefit x CBR (see Figure 3;  $t(1,247) = 2.051, p = .041$ ) on perceived value. When strong brand relationships are present, if perceived benefit is high, then perceived risk minimally alters perceived value; when perceived benefit is low, perceived risk has a stronger effect on the perceived value of the advertising. With weaker brand relationships, perceived risk has a stronger effect on perceived value even when the perceived benefit is high. H2 and H3 are supported.

**Figure 3: Three-way perceived benefit by perceived risk by CBR strength interaction on perceived value of information disclosure**



Covariates appearing in the model are evaluated at the following values: PerceivedVulnerabilityComposite = 4.0109, ProductInvolvementComposite = 5.9039



Covariates appearing in the model are evaluated at the following values: PerceivedVulnerabilityComposite = 3.9767, ProductInvolvementComposite = 6.3617

When examining if CBR strength impacts perceived benefits and risks of information disclosure on the perceived value of information disclosure, we also separated the test by Facebook ( $r^2 = .635$ ) and Twitter ( $r^2 = .633$ ) to see platform effects. Perceived risk ( $t(1,114) = -5.043, p < .001$ ) and perceived benefit ( $t(1,114) = 6.864, p < .001$ ) were found to be significant on Facebook. As for Twitter, perceived risk ( $t(1,114) = -3.124, p = .002$ ) and perceived benefit ( $t(1,114) = 6.597, p < .001$ ) were found to be significant. Interestingly, the consumer-brand relationship was significant for Twitter ( $t(1,114) = 2.371, p = .019$ ) but not significant on Facebook ( $t(1,114) = 1.570, p = .649$ ). This finding could argue that we placed the platform context in the wrong place in the model. This is an ad hoc finding.

Regression analyses were also used to examine the relationship between perceived value on willingness to have personal information used in ad personalization. As expected, this was found to be significant ( $t(1, 247) = 12.734, p < .001$ ). Lastly, the direct relationships between willingness to have personal information used in ad personalization and ad personalization

outcomes were analyzed through regression. Willingness to have personal information used exhibited positive, significant relationships with each outcome: attitude towards the ad ( $R^2 = .239$ ;  $t(1, 247) = 2.433$ ,  $p = .016$ ), attitude towards the brand ( $R^2 = .259$ ;  $t(1, 247) = 3.296$ ,  $p = .001$ ), purchase intention ( $R^2 = .431$ ;  $t(1, 247) = 6.371$ ,  $p < .001$ ), sharing intention ( $R^2 = .609$ ;  $t(1, 247) = 7.581$ ,  $p < .001$ ) and click through intention ( $R^2 = .379$ ;  $t(1, 247) = 4.271$ ,  $p < .001$ ).

## DISCUSSION

The goal of this study was to investigate the privacy personalization paradox when dealing with the disclosure of personal information on social media. Toward this end, we extended Xu et al.'s model that features the roles of the platform effects of Facebook and Twitter as well as consumer-brand relationships in individuals' privacy decision making process as it relates to personalized advertising. Findings found no multivariate effects for platform context or collection condition on the consumer's perceived benefits and risks of information disclosure. Perceived personalization was found to positively impact perceived benefits but did not significantly impact perceived risk. We also found that when strong brand relationships are present, if perceived benefit is high, then perceived risk minimally alters the consumer's perceived value. Furthermore, with weaker brand relationships, perceived risk has a stronger effect on perceived value even when the perceived benefit is high.

Within the personalization process, overt versus covert collection methods weren't found to influence user's perceived benefits or risks of disclosing information as a result of advertising personalization. This finding is surprising considering that Aguirre et al. (2015) found this to be true; even if the advertiser only informs the customer about its information collection practices as the consumer views the advertisement, the negative reaction disappears. Xu's 2011 study also found that positive association between personalization and privacy risks was significant in their covert model and that such a relationship was not significant in their overt model. Furthermore, different traits have been found to be influential in explaining social and informational use between Facebook and Twitter (Hughes et al., 2012) and that research shows that the

determinants of online trust are different across site categories and consumers (Bart et al., 2005). Drawing on this prior research, we hypothesized that the social media platform will moderate the effects of data collection method such that the perceived risk and perceived benefit will vary between Facebook and Twitter. Our results did not support this hypothesis; findings found no multivariate effects for platform context or collection condition.

These findings perhaps suggest a difference in perceived risk or expectation of personalization in the SNS context versus the mobile context. SNS advertising differs not only in form and substance but delivery method. Specifically, SNSs have their own unique user-to-user ecosystem (Safko and Brake, 2009); thus, relying on studies from other Internet environments may prove insufficient (Taylor et al., 2011). Ads on SNS like tweets or integrated Facebook posts are often indistinguishable from user content.

Another explanation is that since Aguirre's (2015) study and Xu's (2011) study, the conversation surrounding ad transparency has shifted. In 2018, Facebook introduced a feature allowing users to find out why any given ad is being shown to them and launched a campaign attacking fake accounts, spam and removed 3rd party data targeting capabilities (Kim et al., 2019). Knowing this, the weighing of risks and benefits in response to information being overtly or covertly may have been influenced by consumer's increased consciousness of data tracking and ad targeting (Lambrecht & Tucker, 2013). Thus, it is critical to understand how consumers' willingness to have personal information used in online ads is affected by their awareness of the data collection practices used.

Findings show perceived personalization of the ad was positively related to perceived benefits of information disclosure. This result is consistent with previous findings that address the positive relationship between perceived ad benefits and ad effectiveness (e.g., Baek &

Morimoto, 2012; Celsi & Olson, 1988). Personalization adds to the user experiences and smoothness of interactions (Aguirre et al., 2015). However, different from expected, results revealed that perceived personalization did not product a multivariate effect on the user's perceived risk on disclosing information. It has been suggested by prior studies that personalized information and services have significant privacy implications because of large amounts of personal data collected for performing personalization (Xu et al., 2011). However, this is not supported by this study. This could potentially be explained by the context in which the ad was delivered. Because the ad was placed within the context of the user's existing newsfeed, the expectation of personalization was already present and therefore the ad did not raise risk concerns of information being covertly or overtly obtained.

Direct effects to the dependent variable, perceived value, were present for perceived risk, perceived benefit and CBR. Perceived risks and perceived benefits having direct effects on perceived value is consistent with Xu's finding that consumers could more likely regard ads as valuable if advertising messages are perceived to be relevant and customized to their context. CBR having a direct effect on perceived value is aligned with the Hayes et al. (2016) finding that brand relationships clearly matter in advertising because they influence the perceived value of an ad and that they are active in the risk-benefit analyses.

CBR strength enhanced perceived benefits' relationship with perceived value of information disclosure which is consistent with our hypothesis that CBR strength will positively moderate the relationship between perceived benefits of information disclosure and perceived value of information disclosure. In literature, it has been noted that interactions with brands involve analysis based upon previous interactions wherein the consumer seeks to maximize benefit and reduce uncertainty (Awad & Krishnan, 2006; Morgan & Hunt, 1994). Perceived

value, therefore, represents an overall result of the perceived benefit and perceived risk of information disclosure (Xu et al., 2011). From social exchange and consumer-brand relationship perspectives, we see the influence of CBR strength as positively enhancing the expectation of benefits to amplify the overall assessment of the value of information disclosure.

Additionally, while CBR strength did not directly moderate perceived risk of disclosing information, a three-way CBR strength by perceived benefit by perceived risk interaction illustrated the CBR's impact on the risk-benefit analysis. These results suggested that strong brand relationships can override risk concerns and not change the consumer's overall perceived value of the ad. With weaker brand relationships, perceived risk has a stronger effect on perceived value even when the perceived benefit is high. This finding is consistent with the theoretical foundation of social exchange theory that outlined the evaluation of benefits and costs in interpersonal relationships (Homans, 1958). This logic furthered research for the privacy calculus theory, which argues that some consumers see that the benefits for information disclosure overshadow the risks of their privacy being compromised (Culnan and Armstrong, 1999; Dinev and Hart, 2006). This impacts the overall perceived value of the ad. We find that this is partly due to the mitigating factor of high and low CBR strength. The consumer's relationship with a brand has been shown to influence content evaluation in the ad itself (e.g. Hayes, King, and Ramirez, 2016). Preexisting high CBR strength reduces users' perception of risk with regard to information disclosure. Conversely, we find that low CBR strength does not mitigate the perceived risk as strongly as high CBR strength which, in turn, negatively impacts the perceived value of the ad.

As for platform effects, the interaction between CBR strength and perceived benefits and risk on perceived value was significant on Twitter but not on Facebook which points to the way

consumers view brands on the different platforms. Whereas we had previous not seen multivariate effects for platform context on perceived risks and benefits, this three-way interaction on Twitter and not on Facebook lends itself to possible differences in platform effects. This could potentially be explained because, in the context of expectancy value theory, Twitter used can be viewed as cognitive consumption (Hughes et al., 2012) so that personalized ads, viewed as tweets within the newsfeed, are seen as sources of information rather than intrusive ads that violates privacy. On Facebook, content comes mostly through family and friends. On Twitter, people tend to get news from a broader mix of recommenders (Olmstead, Mitchell, & Rosenstiel, 2011). Knowing this, ads on Twitter could be viewed as less invasive than ads on Facebook. CBR allows for users to see the brand as having value on their Twitter feed rather than seeing a clear distinction between friends/family and an advertisement as they would on Facebook.

Perceived value on willingness to have personal information used in ad personalization was found to be significant which aligns with the proposed model. This supports our assertion that perceived value, represents an overall estimation of the risks and benefits for the decision making within the privacy calculus (Xu et al., 2011). Krasnova et al. (2010) found that although risk hinders willingness to have personal information used, it is often offset by benefits and mitigated by trust and control beliefs. The cognitive aspect within the privacy calculus of a person's willingness to have personal information used may largely consist of expectations about how his/her values are served.

### **Theoretical and Practical Implications**

Present findings contribute to the literature on digital advertising. We extended Xu et al. (2011) model by testing relationship in a new context, social media with Facebook and Twitter

and examined two new factors: CBR and collection methods. Existing research has focused on the effectiveness of online ads when consumers are unaware of underlying ad practices; yet consumers have become more and more aware and concerned of how their data is being used (Kim et al., 2019). Thus, it is critical to understanding previously unconsidered factors that could impact the risk-benefit analysis: consumer-brand relationship between the ad recipient and the brand being advertised and the platform context wherein the ads are delivered. Our work adds to the growing body of experimental work on the topic.

From the social exchange theory point of view, each social interaction between one or more actors is conceptualized as a risk-benefit analysis. In this context, we found that the strength of the relationship between the brand and the consumer influences this risk-benefit analysis. Additionally, we add to existing knowledge of the privacy paradox by not approaching the risk-benefit analysis from a purely cognitive perspective. We recognized the potential role of emotion in the analysis as a result of the CBR involved. This has important implications since it highlights the contextual nature of personalization privacy paradox. Even when certain factors influencing the personalization privacy paradox are significant in some studies, their importance may change depending on different technological platforms (mobile, desktop, social media) and/or personal characteristics.

We also contribute to the literature on privacy. Privacy concerns have been shown to play a role in consumers' willingness to divulge information (Phelps et al. 2000; John et al., 2011), but their role in addressing consumer concerns in response to online, targeted advertising is underexplored. As personalized advertising continues to advance, an understanding of these privacy concerns becomes more and more relevant to the advertiser because privacy concerns influence behavior and ultimately, negatively impact the consumer-brand relationship. Or the

opposite may occur. Customers could become accustomed to the status quo and privacy concerns are met with indifference because they are simply seen as a result of being online. The complex and ever-evolving intersection between data collection, consumers privacy concerns and advertising success is one that can continue to be explored in future research.

With this understanding of the roles the brand and platforms play in the privacy calculus, advertisers on social media should focus on strengthening their consumer to brand relationship. If multiple beneficial exchanges can be orchestrated, relationships can be developed and leveraged for greater advertising outcomes. Specifically, the role of CBR on Twitter is vitally important because the context in which ads are viewed, in comparison to Facebook, is less intrusive and can therefore be viewed as valuable. Advertisers could work on creating meaningful content on Twitter that adds cognitive value to the consumer. This can include embedded links, real time updates, ads that parallel current topics and/or trends.

### **Limitations and Directions for Future Research**

As with any study, this study has limitations. First, the scenarios used in the study represent a simplification of all the covert-based and the overt-based collection methods so future work could integrate more explicit covert and overt collection methods such as simulations or opt in questions. We also could have included manipulation checks that asked if the user believed their information was being obtained covertly or overtly. With this added question, it would have added a level of granularity that could've helped us understand this finding in more detail. This study relied upon a previously employed method of manipulation of overt versus covert data collection (Aguirre et al., 2015) that did include a manipulation check. This calls into question the finding that data collection method did not affect personalization's

influence on perceived risks and benefits of information disclosure. Future studies should replicate this examination using a manipulation check.

Second, participants considered a hypothetical buying scenario that was presented to them through a questionnaire and mock stimuli. Consumer behavior may differ in the real world if they experienced the proposed hypothetical scenario for themselves. There are a variety of personalization environments that consumers face every day – future research could identify the nuances between these approaches to between understand consumer behavior.

Finally, future research may look into the possibility of other social media platforms beyond Facebook and Twitter. Moreover, other online publishers could produce different results since the sites all have their own unique ecosystem and interface. Research might consider the role of other sites' environments and their potential influence on the effectiveness of advertising in social media networks.

Despite these limitations, the study provides novel insight into the role of platform context and consumer-brand relationship strength in the personalized advertising decision-making process. Further, the study examines this process in the social media context for the first time. CBR strength and platform context influence the risk-benefit analysis altering the perceived value of information disclosure leading to willingness to have personal information used and, subsequently, changing personalized ad outcomes.

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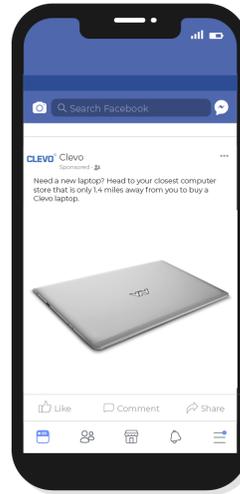
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## APPENDICES

### Appendix A: Facebook mock stimuli



### Appendix B: Twitter mock stimuli



### Appendix C: Facebook scenario for collection manipulation

**Overt.** Please carefully read the following news story about advertising personalization by Facebook. In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group.

DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Users are aware that they grant Facebook access to their personal information when they open an account with the social networking site. Facebook informs its users how it analyzes their data to create personalized advertisements.

**Covert.** Please carefully read the following news story about advertising personalization by Facebook. In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group.

DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Facebook steadily follows its users over the social networking site and partner sites and records their individual activities without their awareness. Facebook conceals from its users how it analyzes their data to create personalized advertisements.

**Scenario.** Now, imagine that you are a member of the social networking site Facebook. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair. You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life. You know that your friends all use laptops as well. Please picture yourself posting a question on your newsfeed through Facebook to your Facebook friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

After asking your friends for advice on Facebook regarding which brand of laptop you should purchase, the following advertisement appears in your Facebook newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

#### **Appendix D: Twitter scenario for collection manipulation**

**Overt.** Please carefully read the following news story about advertising personalization by Twitter. In the first quarter, Twitter delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group.

DEK found that Twitter's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Twitter's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Twitter because of the company's ad targeting capabilities. Users are aware that they grant Twitter access to their personal information when they open an

account with the social networking site. Twitter informs its users how it analyzes their data to create personalized advertisements.

**Covert.** Please carefully read the following news story about advertising personalization by Twitter. In the first quarter, Twitter delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group.

DEK found that Twitter's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Twitter's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Twitter because of the company's ad targeting capabilities. Twitter steadily follows its users over the social networking site and partner sites and records their individual activities without their awareness. Twitter conceals from its users how it analyzes their data to create personalized advertisements.

**Scenario.** Now, imagine that you are a member of the social networking site Twitter. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair. You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life. You know that your friends all use laptops as well. Please picture yourself posting a tweet on your newsfeed through Twitter to your Twitter friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

After asking your friends for advice on Twitter regarding which brand of laptop you should purchase, the following advertisement appears in your Twitter newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

## **Appendix H: Qualtrics Facebook questionnaire**

Start of Block: Default Question Block

Q1.1 Study's Purpose - This study will examine online social media attitudes towards personalized advertisements - ads that are tailored to consumers based on knowledge about their preferences and behaviors gained through the use of gathering personal information. The study will be administered through an online questionnaire.

Procedure - You will complete an online questionnaire regarding your attitudes towards advertising on social media.

Compensation - Participants will be paid \$0.80 from Amazon Mechanical Turk contingent upon participants meeting the criteria and fully and honestly completing the questionnaire.

Risks - The risks associated with this study are minimal. You may suffer psychological distress feeling that your privacy has been violated through learning that personalized advertising covertly and overtly uses your personal data to create and deliver advertising. This study may involve risks that are currently unforeseeable. We encourage you to take the survey on a personal, private computer or mobile device to mitigate this risk.

Benefits - You may benefit from a better understanding of how advertisers collect and use your personal information. This may as a result better understand (1) how that information may be used in a way that is useful to you as a consumer or (2) how to guard against the use of your personal information via use of security measures.

Participant's Rights - Taking part in this study is voluntary. It is your free choice. You can refuse to be in it. If you start the study, you can stop at any time.

Privacy and Confidentiality - No identifying information will be collected. The survey data will be collected using Qualtrics.com. The survey data will be stored on the investigators' computers that are password protected.

Questions or Problems - If you have questions or concerns about the study later on, please email the investigators at [collection4785@gmail.com](mailto:collection4785@gmail.com).

Consent - Because this study begins online written signatures will not be used to give your consent to participate. For this study, your consent is GIVEN when you click "next" to begin the survey.

I have read the above information and have enough information to make a decision about participating in this study. I have the right to withdraw at any time and my participation is voluntary. By clicking on the arrow below, I am giving my consent to participate in the study and will proceed to the next page. Please click "next" to begin the survey

Q1.2 What is your age?

Under 18

18 - 24

25 - 34

35 - 44

45 - 54

55 - 64

65 - 74

75 - 84

85 or older

Q1.3 Do you have a Facebook account that you check at least once per week?

Yes

No

Not sure

Page Break

End of Block: Default Question Block

Start of Block: Location Question

Q2.1 Which of the following most closely describes the approximate distance from your home the closest store that sells laptop computers is?

Less than 2.5 miles away

Between 2.5 miles and 5 miles away

Between 5 miles and 10 miles away

More than 10 miles away

End of Block: Location Question

Start of Block: Overt-Facebook-Strong BRS

Q3.1 Please carefully read the following news story about advertising personalization by Facebook.

In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group. DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Users are aware that they grant Facebook access to their personal information when they open an account with the social networking site. Facebook informs its users how it analyzes their data to create personalized advertisements.

Q3.2 Now, imagine that you are a member of the social networking site Facebook. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair.

You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life.

You know that your friends all use laptops as well. Please picture yourself posting a question on your newsfeed through Facebook to your Facebook friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

Q3.3 After asking your friends for advice on Facebook regarding which brand of laptop you should purchase, the following advertisement appears in your Facebook newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

Q3.4



Q3.5



Q3.6



Q3.7



Q3.8 Please indicate your attitude about this advertisement on the following 7-point scale.

	1	2	3	4	5	6	7	
Like	<input type="radio"/>	Dislike						

Q3.9 Please indicate your attitude about the Apple brand featured in the ad on the following 7-point scale.

	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	Good						

Q3.10 Thinking about the advertisement above, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
The ad provides me with personalized deals/ads tailored to my activity content.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The ad provides me with more relevant promotional information tailored to my preferences or personal interests.	0	0	0	0	0	0	0
The ad provides me with the kind of deals/ads that I might like.	0	0	0	0	0	0	0
I would like to click on the advertisement to get further information.	0	0	0	0	0	0	0
I am very likely to buy the product from this company.	0	0	0	0	0	0	0
I would consider buying the product from the company in the future.	0	0	0	0	0	0	0
I intend to buy the product from the company.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes purchase recommendations that match my needs.	0	0	0	0	0	0	0
I think that this personalized advertising on Facebook enables me to order products that are tailor-made for me.	0	0	0	0	0	0	0

Overall, this personalized advertising on Facebook is tailored to my situation.	<input type="radio"/>						
This personalized advertising on Facebook makes me feel that I am a unique customer.	<input type="radio"/>						
I believe that this personalized advertising on Facebook is customized to my needs.	<input type="radio"/>						

Page Break

Q3.11 Thinking about the advertisement, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I am interested in sharing this post.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in sharing my experience with this brand with my friends on Facebook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to spread word of mouth about this brand through a Facebook post.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am willing to share this brand's post on Facebook.

Page Break

Q3.12 Thinking about Apple computers, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I feel I know what to expect from Apple.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with Apple products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with my experience with Apple.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Apple to offer me new products that I may need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Apple is interested in my satisfaction as a consumer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apple values me as a consumer of its products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Apple to offer me recommendations and advice on how to make the most of its product.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Apple offers me computers with a constant level of quality.

I trust that Apple will help me solve any problem I could have with the product.

Page Break

Q3.13 Please indicate how many letters are in the word "candy" below.

2

5

3

9

10

Q3.14 Thinking about your feelings about personalized ads, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Personalized ads reduce my searching time to find the promotional information that I need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personalized ads can provide me with the convenience to instantly access the promotional information that I need.	0	0	0	0	0	0	0
Overall, I feel that personalized advertising is beneficial.	0	0	0	0	0	0	0
Providing my personal information for personalized advertising would involve many unexpected problems.	0	0	0	0	0	0	0
It would be risky to disclose my personal information for the purposes of personalizing ads to me.	0	0	0	0	0	0	0
There would be a high potential for loss in disclosing my personal information for personalized ad purposes.	0	0	0	0	0	0	0
I think my benefits gained from personalized ads can offset the risks of my information disclosure.	0	0	0	0	0	0	0

The value I gain from personalized ads is worth the information I give away.

0 0 0 0 0 0 0

I think the risks of my information disclosure will be greater than the benefits gained from personalized ads.

0 0 0 0 0 0 0

I am interested in having my personal information used for ads personalized to me.

0 0 0 0 0 0 0

I would be likely to provide my personal information to use in personalized ads.

0 0 0 0 0 0 0

Page Break

Q3.15 Thinking about your feelings on advertising in general, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I can depend on getting the truth in most advertising.	0	0	0	0	0	0	0
Advertising's aim is to inform the consumer.	0	0	0	0	0	0	0

I believe advertising is informative.	0	0	0	0	0	0	0
Advertising is generally truthful.	0	0	0	0	0	0	0
Advertising is a reliable source of information about the quality and performance of products.	0	0	0	0	0	0	0
Advertising is truth well told.	0	0	0	0	0	0	0
In general, advertising presents a true picture of the product being advertised.	0	0	0	0	0	0	0
I feel I've been accurately informed after viewing most advertisements.	0	0	0	0	0	0	0
Most advertising provides consumers with essential information.	0	0	0	0	0	0	0

End of Block: Overt-Facebook-Strong BRS

Start of Block: Covert-Facebook-Strong BRS

Q4.1 Please carefully read the following news story about advertising personalization by Facebook.

In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group. DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Facebook steadily follows its users over the social networking site and partner sites and records their individual activities without their awareness. Facebook conceals from its users how it analyzes their data to create personalized advertisements.

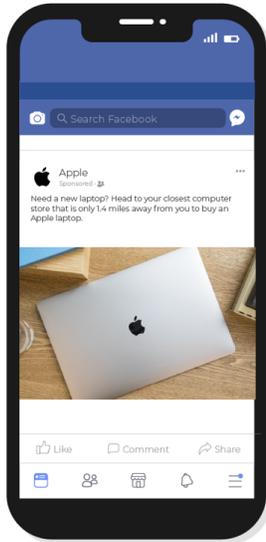
Q4.2 Now, imagine that you are a member of the social networking site Facebook. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair.

You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life. You know that your friends all use laptops as well. Please picture yourself posting a question on your newsfeed through Facebook to your Facebook friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

Q4.3 After asking your friends for advice on Facebook regarding which brand of laptop you should purchase, the following advertisement appears in your Facebook newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

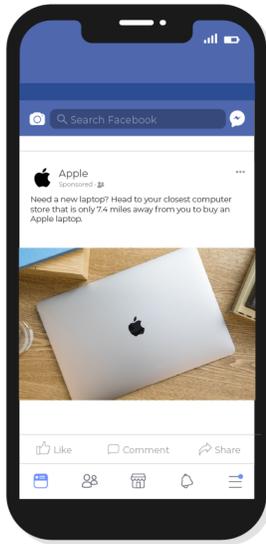
Q4.4



Q4.5



Q4.6



Q4.7



Q4.8 Please indicate your attitude about this advertisement on the following 7-point scale.

	1	2	3	4	5	6	7	
Like	<input type="radio"/>	Dislike						

Q4.9 Please indicate your attitude about the Apple brand featured in the ad on the following 7-point scale.

	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	Good						

Q4.10 Thinking about the advertisement above, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
The ad provides me with personalized deals/ads tailored to my activity content.	0	0	0	0	0	0	0
The ad provides me with more relevant promotional information tailored to my preferences or personal interests.	0	0	0	0	0	0	0
The ad provides me with the kind of deals/ads that I might like.	0	0	0	0	0	0	0
I would like to click on the advertisement to get further information.	0	0	0	0	0	0	0
I am very likely to buy the product from this company.	0	0	0	0	0	0	0
I would consider buying the product from the company in the future.	0	0	0	0	0	0	0
I intend to buy the product from the company.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes purchase recommendations that match my needs.	0	0	0	0	0	0	0

I think that this personalized advertising on Facebook enables me to order products that are tailor-made for me.	0	0	0	0	0	0	0
Overall, this personalized advertising on Facebook is tailored to my situation.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes me feel that I am a unique customer.	0	0	0	0	0	0	0
I believe that this personalized advertising on Facebook is customized to my needs.	0	0	0	0	0	0	0

Page Break

Q4.11 Thinking about the advertisement, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I am interested in sharing this post.	0	0	0	0	0	0	0
I am interested in sharing my experience with this brand with my friends on Facebook.	0	0	0	0	0	0	0

I am willing to spread word of mouth about this brand through a Facebook post.

I am willing to share this brand's post on Facebook.

Page Break

Q4.12 Thinking about Apple computers, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I feel I know what to expect from Apple.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with Apple's products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with my experience with Apple.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Apple to offer me new products that I may need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Apple is interested in my satisfaction as a consumer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Apple values me as a consumer of its products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I trust Apple to offer me recommendations and advice on how to make the most of its product.

Apple offers me computers with a constant level of quality.

I trust that Apple will help me solve any problem I could have with the product.

Page Break

Q4.13 Please indicate how many letters are in the word "candy" below.

2

5

3

9

10

Q4.14 Thinking about your feelings about personalized ads, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Personalized ads reduce my searching time to find the promotional information that I need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personalized ads can provide me with the convenience to instantly access the promotional information that I need.	0	0	0	0	0	0	0
Overall, I feel that personalized advertising is beneficial.	0	0	0	0	0	0	0
Providing my personal information for personalized advertising would involve many unexpected problems.	0	0	0	0	0	0	0
It would be risky to disclose my personal information for the purposes of personalizing ads to me.	0	0	0	0	0	0	0
There would be a high potential for loss in disclosing my personal information for personalized ad purposes.	0	0	0	0	0	0	0
I think my benefits gained from personalized ads can offset the risks of my information disclosure.	0	0	0	0	0	0	0

The value I gain from personalized ads is worth the information I give away.

0 0 0 0 0 0 0

I think the risks of my information disclosure will be greater than the benefits gained from personalized ads.

0 0 0 0 0 0 0

I am interested in having my personal information used for ads personalized to me.

0 0 0 0 0 0 0

I would be likely to provide my personal information to use in personalized ads.

0 0 0 0 0 0 0

Page Break

Q4.15 Thinking about your feelings on advertising in general, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I can depend on getting the truth in most advertising.	0	0	0	0	0	0	0
Advertising's aim is to inform the consumer.	0	0	0	0	0	0	0

I believe advertising is informative.	0	0	0	0	0	0	0
Advertising is generally truthful.	0	0	0	0	0	0	0
Advertising is a reliable source of information about the quality and performance of products.	0	0	0	0	0	0	0
Advertising is truth well told.	0	0	0	0	0	0	0
In general, advertising presents a true picture of the product being advertised.	0	0	0	0	0	0	0
I feel I've been accurately informed after viewing most advertisements.	0	0	0	0	0	0	0
Most advertising provides consumers with essential information.	0	0	0	0	0	0	0

End of Block: Covert-Facebook-Strong BRS

Start of Block: Overt-Facebook-Weak BRS

Q5.1 Please carefully read the following news story about advertising personalization by Facebook.

In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group. DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Users are aware that they grant Facebook access to their personal information when they open an account with the social networking site. Facebook informs its users how it analyzes their data to create personalized advertisements.

Q5.2 Now, imagine that you are a member of the social networking site Facebook. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair.

You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life. You know that your friends all use laptops as well. Please picture yourself posting a question on your newsfeed through Facebook to your Facebook friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

Q5.3 After asking your friends for advice on Facebook regarding which brand of laptop you should purchase, the following advertisement appears in your Facebook newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

Q5.4



Q5.5



Q5.6



Q5.7



Q5.8 Please indicate your attitude about this advertisement on the following 7-point scale.

	1	2	3	4	5	6	7	
Like	<input type="radio"/>	Dislike						

Q5.9 Please indicate your attitude about the Clevo brand featured in the ad on the following 7-point scale.

	1	2	3	4	5	6	7	
Bad	<input type="radio"/>	Good						

Q5.10 Thinking about the advertisement above, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
The ad provides me with personalized deals/ads tailored to my activity content.	0	0	0	0	0	0	0
The ad provides me with more relevant promotional information tailored to my preferences or personal interests.	0	0	0	0	0	0	0
The ad provides me with the kind of deals/ads that I might like.	0	0	0	0	0	0	0
I would like to click on the advertisement to get further information.	0	0	0	0	0	0	0
I am very likely to buy the product from this company.	0	0	0	0	0	0	0
I would consider buying the product from the company in the future.	0	0	0	0	0	0	0
I intend to buy the product from the company.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes purchase recommendations that match my needs.	0	0	0	0	0	0	0

I think that this personalized advertising on Facebook enables me to order products that are tailor-made for me.	0	0	0	0	0	0	0
Overall, this personalized advertising on Facebook is tailored to my situation.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes me feel that I am a unique customer.	0	0	0	0	0	0	0
I believe that this personalized advertising on Facebook is customized to my needs.	0	0	0	0	0	0	0

Page Break

Q5.11 Thinking about the advertisement, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I am interested in sharing this post.	0	0	0	0	0	0	0
I am interested in sharing my experience with this brand with my friends on Facebook.	0	0	0	0	0	0	0

I am willing to spread word of mouth about this brand through a Facebook post.

I am willing to share this brand's post on Facebook.

Page Break

Q5.12 Thinking about Clevo computers, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I feel I know what to expect from Clevo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with Clevo's products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with my experience with Clevo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Clevo to offer me new products that I may need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Clevo is interested in my satisfaction as a consumer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clevo values me as a consumer of its products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I trust Clevo to offer me recommendations and advice on how to make the most of its product.

Clevo offers me computers with a constant level of quality.

I trust that Clevo will help me solve any problem I could have with the product.

Page Break

Q5.13 Please indicate how many letters are in the word "candy" below.

2

5

3

9

10

Q5.14 Thinking about your feelings about personalized ads, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
Personalized ads reduce my searching time to find the promotional information that I need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Personalized ads can provide me with the convenience to instantly access the promotional information that I need.	0	0	0	0	0	0	0
Overall, I feel that personalized advertising is beneficial.	0	0	0	0	0	0	0
Providing my personal information for personalized advertising would involve many unexpected problems.	0	0	0	0	0	0	0
It would be risky to disclose my personal information for the purposes of personalizing ads to me.	0	0	0	0	0	0	0
There would be a high potential for loss in disclosing my personal information for personalized ad purposes.	0	0	0	0	0	0	0
I think my benefits gained from personalized ads can offset the risks of my information disclosure.	0	0	0	0	0	0	0

The value I gain from personalized ads is worth the information I give away.

0 0 0 0 0 0 0

I think the risks of my information disclosure will be greater than the benefits gained from personalized ads.

0 0 0 0 0 0 0

I am interested in having my personal information used for ads personalized to me.

0 0 0 0 0 0 0

I would be likely to provide my personal information to use in personalized ads.

0 0 0 0 0 0 0

Page Break

Q5.15 Thinking about your feelings on advertising in general, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I can depend on getting the truth in most advertising.	0	0	0	0	0	0	0
Advertising's aim is to inform the consumer.	0	0	0	0	0	0	0

I believe advertising is informative.	0	0	0	0	0	0	0
Advertising is generally truthful.	0	0	0	0	0	0	0
Advertising is a reliable source of information about the quality and performance of products.	0	0	0	0	0	0	0
Advertising is truth well told.	0	0	0	0	0	0	0
In general, advertising presents a true picture of the product being advertised.	0	0	0	0	0	0	0
I feel I've been accurately informed after viewing most advertisements.	0	0	0	0	0	0	0
Most advertising provides consumers with essential information.	0	0	0	0	0	0	0

End of Block: Overt-Facebook-Weak BRS

Start of Block: Covert-Facebook-Weak BRS

Q6.1 Please carefully read the following news story about advertising personalization by Facebook.

In the first quarter, Facebook delivered more banner ads to its users than any other Web publisher. They surpassed Microsoft as the market leader, according to the marketing research firm DEK Group. DEK found that Facebook's share of the display market grew to 20% in April 2019, up from 10% in April 2018. In an interview, Guy Bresett, Facebook's vice president for advertising and global operations, said growth in the company's ad business is "steep" and "really healthy". Mr. Bresett said marketers are coming to Facebook because of the company's ad targeting capabilities. Facebook steadily follows its users over the social networking site and partner sites and records their individual activities without their awareness. Facebook conceals from its users how it analyzes their data to create personalized advertisements.

Q6.2 Now, imagine that you are a member of the social networking site Facebook. You are an active user, and you communicate to all your friends through this medium. Please picture that you use a laptop every day. This morning, your laptop broke down, and you brought the laptop to a store only to find out that it was broken beyond repair.

You face a dilemma.

You know that you need to purchase a laptop because it is essential to you but want to make sure you spend your money on a brand that is reliable and useful in your everyday life.

You know that your friends all use laptops as well. Please picture yourself posting a question on your newsfeed through Facebook to your Facebook friends. You ask your friends an open-ended question about what laptop brand they prefer. You ask if your friends can explain why they prefer that brand of a laptop over other brands.

Q6.3 After asking your friends for advice on Facebook regarding which brand of laptop you should purchase, the following advertisement appears in your Facebook newsfeed. Please view the ad and answer the questions below about your thoughts on the advertisement.

Q6.4



Q6.5



Q6.6



Q6.7



Q6.8 Please indicate your attitude about this advertisement on the following 7-point scale.

	1	2	3	4	5	6	7	
Like	<input type="radio"/>	Dislike						

Q6.9 Please indicate your attitude about the Clevo brand featured in the ad on the following 7-point scale.

	1	2	3	4	5	6	7	
	<input type="radio"/>							



Q6.10 Thinking about the advertisement above, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
The ad provides me with personalized deals/ads tailored to my activity content.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
The ad provides me with more relevant promotional information tailored to my preferences or personal interests.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
The ad provides me with the kind of deals/ads that I might like.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
I would like to click on the advertisement to get further information.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
I am very likely to buy the product from this company.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
I would consider buying the product from the company in the future.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
I intend to buy the product from the company.	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

This personalized advertising on Facebook makes purchase recommendations that match my needs.	0	0	0	0	0	0	0
I think that this personalized advertising on Facebook enables me to order products that are tailor-made for me.	0	0	0	0	0	0	0
Overall, this personalized advertising on Facebook is tailored to my situation.	0	0	0	0	0	0	0
This personalized advertising on Facebook makes me feel that I am a unique customer.	0	0	0	0	0	0	0
I believe that this personalized advertising on Facebook is customized to my needs.	0	0	0	0	0	0	0

Page Break

Q6.11 Thinking about the advertisement, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I am interested in sharing this post.	0	0	0	0	0	0	0

I am interested in sharing my experience with this brand with my friends on Facebook.

I am willing to spread word of mouth about this brand through a Facebook post.

I am willing to share this brand's post on Facebook.

Page Break

Q6.12 Thinking about Clevo computers, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I feel I know what to expect from Clevo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with Clevo's products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I would be satisfied with my experience with Clevo.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I trust Clevo to offer me new products that I may need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I trust Clevo is interested in my satisfaction as a consumer.	<input type="radio"/>						
Clevo values me as a consumer of its products.	<input type="radio"/>						
I trust Clevo to offer me recommendations and advice on how to make the most of its product.	<input type="radio"/>						
Clevo offers me computers with a constant level of quality.	<input type="radio"/>						
I trust that Clevo will help me solve any problem I could have with the product.	<input type="radio"/>						

Page Break

Q6.13 Please indicate how many letters are in the word "candy" below.

2

5

3

9

10

Q6.14 Thinking about your feelings about personalized ads, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
--	-------------------	----------	-------------------	----------------------------	----------------	-------	----------------

Personalized ads reduce my searching time to find the promotional information that I need.	0	0	0	0	0	0	0
Personalized ads can provide me with the convenience to instantly access the promotional information that I need.	0	0	0	0	0	0	0
Overall, I feel that personalized advertising is beneficial.	0	0	0	0	0	0	0
Providing my personal information for personalized advertising would involve many unexpected problems.	0	0	0	0	0	0	0
It would be risky to disclose my personal information for the purposes of personalizing ads to me.	0	0	0	0	0	0	0
There would be a high potential for loss in disclosing my personal information for personalized ad purposes.	0	0	0	0	0	0	0

I think my benefits gained from personalized ads can offset the risks of my information disclosure.

0 0 0 0 0 0 0

The value I gain from personalized ads is worth the information I give away.

0 0 0 0 0 0 0

I think the risks of my information disclosure will be greater than the benefits gained from personalized ads.

0 0 0 0 0 0 0

I am interested in having my personal information used for ads personalized to me.

0 0 0 0 0 0 0

I would be likely to provide my personal information to use in personalized ads.

0 0 0 0 0 0 0

Page Break

Q6.15 Thinking about your feelings on advertising in general, please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor Disagree	Slightly Agree	Agree	Strongly Agree
-------------------	----------	-------------------	----------------------------	----------------	-------	----------------

I can depend on getting the truth in most advertising.	0	0	0	0	0	0	0
Advertising's aim is to inform the consumer.	0	0	0	0	0	0	0
I believe advertising is informative.	0	0	0	0	0	0	0
Advertising is generally truthful.	0	0	0	0	0	0	0
Advertising is a reliable source of information about the quality and performance of products.	0	0	0	0	0	0	0
Advertising is truth well told.	0	0	0	0	0	0	0
In general, advertising presents a true picture of the product being advertised.	0	0	0	0	0	0	0
I feel I've been accurately informed after viewing most advertisements.	0	0	0	0	0	0	0
Most advertising provides consumers with essential information.	0	0	0	0	0	0	0

End of Block: Covert-Facebook-Weak BRS

Start of Block: Covariates

Q7.1 Please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

To what extent did the advertisement make you feel...

	None at all	2	3	4	5	6	A great deal
Exposed	<input type="radio"/>						
Unprotected	<input type="radio"/>						
Susceptible	<input type="radio"/>						
Unsafe	<input type="radio"/>						
Vulnerable	<input type="radio"/>						

Q7.2 Please illustrate that you are reading this question by selecting "D" below.

A

B

C

D

E

Q7.3 Please consider your thoughts about computers. On each of the 7-point scales below, please indicate which response comes closest to how you feel about computers.

Important								Unimportant
	<input type="radio"/>							

Boring	<input type="radio"/>	Interesting						
Relevant	<input type="radio"/>	Irrelevant						
Exciting	<input type="radio"/>	Unexciting						
Means nothing	<input type="radio"/>	Means a lot to me						
Appealing	<input type="radio"/>	Unappealing						
Fascinating	<input type="radio"/>	Mundane						
Worthless	<input type="radio"/>	Valuable						
Involving	<input type="radio"/>	Uninvolving						
Not needed	<input type="radio"/>	Needed						

Q7.4 Please indicate your level of agreement with the following statements on a 7-point scale (1="strongly disagree", 7="strongly agree").

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
<hr/>							

I know pretty much about laptops.	0	0	0	0	0	0	0
I know how to judge the quality of a laptop.	0	0	0	0	0	0	0
I think I know enough about laptops to feel pretty confident when I make a purchase.	0	0	0	0	0	0	0
I do not feel very knowledgeable about laptops.	0	0	0	0	0	0	0
Among my circle of friends, I'm one of the "experts" on laptops.	0	0	0	0	0	0	0
Compared to most other people, I know less about laptops.	0	0	0	0	0	0	0
I have heard of most of the new laptops that are around.	0	0	0	0	0	0	0
When it comes to laptops, I really don't know a lot.	0	0	0	0	0	0	0
I can tell if a laptop is worth the price or not.	0	0	0	0	0	0	0

End of Block: Covariates

Start of Block: Debriefing Statement

Q8.1 This study you have just completed was designed to investigate how people respond differently to personalized social media advertising when they are told that their personal data is being collected and used to deliver advertising to them versus

when they are not told. The fictional news story that you read during the study included a manipulation of whether or not you were aware of your personal data would be used to deliver the ad you were exposed to.

No identifying information will be collected. The survey data will be stored on the investigators' computers that are password protected.

Because we did conceal information from you at the beginning of this study, you now have the option to have us destroy the information we just collected, or you can allow us to keep your information and use it for research purposes. Please notify one of the research team members if you do not want your information used in the study and want all of your information destroyed.

Thank you again for your participation. If you have any questions or concerns, please feel free to contact the researchers at collection4785@gmail.com.

End of Block: Debriefing Statement

## Appendix I: IRB Approval



June 25, 2019

Claire Moeller  
Department of Advertising and Public Relations  
College of Communication & Information Sciences  
The University of Alabama  
Box 870172

Re: IRB # 19-OR-121-A "Advertising Attitudes in Social Media"

Dear Ms. Moeller:

The University of Alabama Institutional Review Board has reviewed the revision to your previously approved expedited protocol. The board has approved the change in your protocol.

Please remember that your protocol will expire on April 29, 2020.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants.

Good luck with your research.