

**TAILORED VS. INVASIVE ADVERTISING: AN EMPIRICAL EXAMINATION
OF ANTECEDENTS AND OUTCOMES OF CONSUMERS' ATTITUDES
TOWARD PERSONALIZED ADVERTISING**

by

John Gironda

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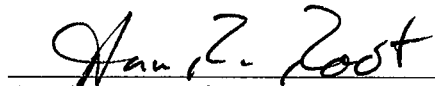
John Gironda

This dissertation was prepared under the direction of the candidate's dissertation advisor, Dr. Pradeep K. Korgaonkar, Department of Marketing, and has been approved by the members of his supervisory committee. It was submitted to the faculty of the College of Business and was accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

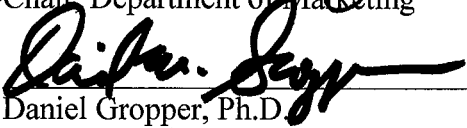
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ABSTRACT

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Personalized advertising represents an emerging trend in online advertising. Using enhanced data collection techniques, marketers can craft seemingly made to order advertisements tailored to specific individuals. In turn, this should lead to advertisements that are more relevant for consumers and more effective for marketers. Therefore, personalized advertising has the potential to benefit both consumers and firms alike. However, consumer acceptance of the technique remains a huge hurdle, as many consumers seem uncomfortable with the practice due in part to privacy concerns over the vast amounts of data collected and analyzed when generating personalized advertisements. Therefore, it is critical to garner a better understanding of consumers' attitudes towards personalized advertising in order to be able to use those insights to alleviate consumer privacy concerns.

The purpose of this research is to work towards developing a more thorough understanding of consumers' attitudes towards personalized advertising by exploring the antecedents and outcomes of those attitudes. In particular, we examine what factors determine whether personalized advertising is perceived favorably vs. invasively by consumers and what effects those perceptions have on consumers' attitudes and intentions.

The research lends contributions to academicians, marketing practitioners, and consumers by helping to achieve an increased understanding of personalized advertising's impact on consumers' perceptions.

The empirical study employed in this research utilizes a conceptual framework that integrates privacy calculus theory with previous research on invasiveness, advertising acceptance, and innovation adoption. In addition, this research contributes to the marketing and information privacy literatures by making a theoretical connection between perceived invasiveness and its relationship with privacy concerns, as well as its impact on consumers' attitudes and behavioral intentions. The results from the empirical research reveal that a number of constructs, such as perceived invasiveness, privacy concerns, perceived usefulness, and consumer innovativeness demonstrate significant relationships with consumers attitudes and behavioral intentions in the context of personalized advertising. Implications for managers, researchers, and consumers are discussed.

DEDICATION

I dedicate this manuscript to my loving wife Jenny, my late mother Lucy, my father Raffaele, my sister Maria, all the rest of my family and friends (way too many to name!), and everyone that I have had the pleasure of meeting at FAU. I would not be where I am today without you. Thank you for your love, friendship, guidance, support and encouragement throughout the years, for being the excellent role models that you are, for being there for me in good times and bad, and for believing in me in times when I did not even believe in myself. I am truly blessed to have spent my time on this earth around so many wonderful people. You continue to inspire and enlighten me.

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CHAPTER 1

INTRODUCTION

Personalized advertising represents a new and emerging trend in the field of online advertising. Through the use of enhanced online data collection techniques, marketers can now craft seemingly made to order advertisements tailored to a specific individual. Numerous websites and services are hosting personalized banner and/or text ads, such as YouTube, Facebook, Hotmail, and Gmail. In addition, the technique is being used by more and more firms such as Amazon, MetLife, Dollar Thrifty, Staples, Joseph A. Bank, Orbitz, Zappos, and T-Mobile.

Through advances in data collection that allow individual consumers to be identified and their behavior analyzed (Tsang et al., 2004), personalized advertising promises to deliver consumers more relevant ads (Athanasiadis & Mitropoulos, 2010; Vesanen, 2007). This is because the ads are created from specific consumer information and explicit and/or implied preferences obtained from previously monitored online activity including search entries, clickstream data, website customization settings and/or user profiles (De Bock & Van den Poel, 2010). This should lead to increased consumer satisfaction (Athanasiadis & Mitropoulos, 2010; Kramer et al., 2007; Xu et al., 2008a), more effective online display advertisements (Lekakos, 2009; Pessemier et al., 2008), alleviation of price competition (Gal-Or & Gal-Or, 2005), increased profits (Ansari & Mela, 2003; Khan et al., 2009) and less wasted advertising dollars (Vesanen, 2007).

Therefore, personalized advertising has the potential to benefit both consumers and firms alike. This has led to excitement among both practitioners and academicians regarding the huge potential that personalized advertising may hold (Kazienko & Adamski, 2007; Khan et al., 2009; Shaffer & Zhang, 2002; Tam & Ho, 2005; Vesanen, 2007; Xu et al., 2008a). Hailed as a breakthrough because it will allow for the right person to receive the right ad at the right time (Kazienko & Adamski, 2007), personalized advertising has even been touted as the savior of online display ads (Wolf, 2011).

While personalized advertising seemingly holds great potential to transform online advertising and provide benefits to both marketers and consumers alike, research studies on personalized advertising have been somewhat sparse (Lopez-Nores et al., 2009), as well as inconclusive due to mixed results. For example, some studies have shown that personalized advertising has led to positive consumer responses such as improved attitude toward a website and purchase intentions (Chakraborty et al., 2003; Chen & Wells, 1999; Tam & Ho, 2006), while other studies reveal that consumers do not yet feel completely comfortable with the practice of personalized advertising (Athanasiadis & Mitropoulos, 2010; Langheinrich et al., 1999; Nah & Davis, 2002). Therefore, consumer acceptance of the technique still remains a significant hurdle for personalized advertising to overcome.

One of the main issues concerning the lack of acceptance of personalized advertising involves the privacy concerns of consumers who do not yet seem comfortable with the immense levels of tracking, data collection and selling of consumer information that takes place in order to allow personalized advertising to happen (Adolphs & Winkelmann, 2010; Angwin, 2010; Kobsa, 2007; Lee & Cranage, 2011; Nah & Davis,

2002; Truong et al., 2010). A recent study by Pew Research reported that 68% of consumers studied were uneasy about personalized advertisements because they do not like their online activities tracked and analyzed, while 73% felt that it was an invasion of their privacy (Purcell et al., 2012). In addition, personalized advertising recently brought online privacy concerns to the forefront once again when Google announced a change in the firm's privacy policies in which it would merge previously collected consumer data from all of its company owned websites, such as Google Search, YouTube, Gmail, Google Plus, and many other platforms, into one database in order to provide consumers with more personalized advertisements (Angwin, 2012). Furthermore, there seems to be a thin line between personalization and invasiveness in advertising (Taylor et al., 2011). For instance, personalized advertisements can sometimes actually be too accurate (Adolphs & Winkelmann, 2010; White et al., 2008) or "over-personalized", meaning that the level of precision is too high, with the advertisement containing too much personal information about an individual to the point where the ad may be perceived as disturbing and almost "creepy".

Additionally, a number of practitioner articles have noted consumers' feelings of annoyance and invasiveness with the practice of personalized advertising. For instance, some consumers have experienced being "stalked" for weeks by an advertisement for a particular product such as a pair of shoes or pants after conducting an online search for such an item either on a search engine or via an online retailer's website (Learmonth 2010). This has been equated to an unrelenting salesperson that will not leave one alone. Moreover, others have noted perceptions of consumer invasiveness after receiving personalized banner advertisements from a user's email server such as Gmail or Hotmail

that were generated via scanning the contents of that user's email messages (Angwin, 2010). There have also been concerns regarding consumer displeasure with personalized advertisements displayed on social networking sites (SNSs) that explicitly use information from a user's SNS profile in the ad, such as the name of a brand that the user has previously "liked" or "followed". In addition, SNS ads have also utilized information from users' previous browsing history of other websites to tailor advertisements (Geron, 2012).

Although a number of authors have expressed concerns over personalized advertising, others see nothing invasive with the practice and believe it is something that consumers must endure for the benefit of using free online services such as search engines and email (Dunaway, 2010; Goodson, 2012).

As shown by these conflicting issues, a "personalization-privacy paradox" (Awad & Krishnan, 2006; Lee & Cranage, 2011) seems to exist in that consumers want relevant and personalized advertisements, but they are not comfortable with many of the industry practices that must be undertaken in order for marketers to create those ads (Kazienko & Adamski, 2007; Kobsa, 2007). Furthermore, this paradox may sometimes lead to a negative impact on attitude towards advertising (Taylor et al., 2011). Therefore, it is critical for marketers to garner a better understanding of consumers' attitudes towards personalized advertising in order to be able to use those insights to maximize the benefits of personalized advertising for consumers and firms alike, while still being able to alleviate consumer privacy concerns. Furthermore, it may also be imperative that firms find ways to effectively manage consumer privacy concerns in order to avoid the possibility of future legislation that could inhibit the way firms operate. Possibilities that

have been raised include requiring personalized advertising to be opt-in by default (Sullivan, 2010), meaning that consumers would have to specifically sign up and give permission in order to receive personalized ads. Other solutions that have been proposed include a federally mandated do not track list, similar to the U.S. national do not call list (Learmonth 2010). It stands to reason that firms would want to avoid the possibility of future legislation as regulations of this nature tend to increase the cost of doing business and may reduce the size of a firm's potential customer base (Culnan & Bies, 2003).

The purpose of this research is to work towards developing a more thorough understanding of consumers' attitudes towards personalized advertising by exploring the antecedents and outcomes of those attitudes. In particular, we examine what factors determine whether personalized advertising is perceived favorably vs. invasively by consumers and what effects those perceptions have on consumers' attitudes and intentions. This research should lead to several contributions for academicians, marketing practitioners, and consumers. For example, an increased understanding of personalized advertising's impact on consumers' perceptions will aid academic scholars in developing a more thorough theoretical framework of consumer response to advertising. In addition, this study will assist marketers in their understanding of how to implement the practice of personalized advertising in a way that alleviates consumers' privacy concerns. Furthermore, if marketers are able to implement personalized advertising in this way consumers will also benefit, as they will be better able to take advantage of personalized advertising in a manner that is less invasive of their privacy.

A particularly attractive context for this research is that of social networking sites, which are intriguing for multiple reasons. First, membership on these sights has been

growing tremendously over the past few years, now topping over 900 million users (Facebook, 2012; Shih, 2010, Twitter, 2012), which represents an enormous potential market for advertisers. Second, these sites have dramatically changed the way people communicate and interact (Anderson, 2008; Petrescu & Korgaonkar, 2011), making them an extremely interesting and fertile ground for marketing research. SNSs are beginning to utilize personalized advertising at an increased rate, and with the large amounts of personal information that these sites are able to obtain from users' profiles, they have the ability to combine this with users' clickstream data and offer advertisers much more than many other sites can in terms of crafting the most tailored ad to an individual. The ability for social networking sites to carry out this practice has raised a number of privacy concerns (Hoadley et al., 2010; Liao et al., 2011; Truong et al., 2010) and even sparked the proposal of new consumer privacy legislation in the European Union (Lewis, 2011). Therefore, examining personalized advertising in the context of SNSs should be quite relevant to marketers, consumers and researchers alike.

This research utilizes a conceptual framework that extends privacy calculus theory (Culnan & Armstrong, 1999; Laufer & Wolfe, 1977) by integrating it with previous research on invasiveness, advertising acceptance, and innovation adoption as a theoretical lens by which to conduct our investigation.

The remainder of this research is structured as follows; Chapter 2 presents our conceptual framework, including our literature review and introduction of the proposed research model and specific hypotheses that will be investigated. Chapter 3 describes the methodology used to empirically test the model. Chapter 4 presents the results of the data

analysis, and finally Chapter 5 contains a discussion of the implications, contributions, conclusions, limitations and directions for future research.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

This chapter develops the conceptual framework that constitutes the basis for our study. The chapter consists of the following elements: (1) a review of the relevant literature related to personalized advertising, (2) presentation of the proposed research model utilized in our study (3) a discussion of the key theories and relevant literature that comprise the theoretical basis of our research model and analysis, and (4) development of the constructs and elements of our model along with the specific research hypotheses that investigated in our study.

LITERATURE REVIEW

In the literature review section of this chapter we first formally define personalized advertising. Second, we differentiate it from related marketing practices. Third and finally, we review relevant literature from and related to personalized advertising including research on personalization, information privacy and invasiveness. Following the literature review, the proposed research model is presented and discussed.

Personalized Advertising

Personalized advertising has been defined as “customized promotional messages that are delivered to each individual consumer through paid media based on personal

information (such as consumers' names, past buying history, demographics, psychographics, locations, and lifestyle interests)" (Baek & Morimoto, 2012, p. 59). The practice is rooted in the notion of market targeting, in which the efficacy of a marketer's efforts is enhanced by courting specific segments of consumers as opposed to all consumers in general. Personalized advertising extends this notion further by precisely targeting and tailoring messages to a specific consumer based on an individual's explicit or implied interests, needs and preferences. To accomplish this, large sums of data are collected regarding a user's characteristics and behavior such as browsing and search history, clickstream information, user profiles, demographics, and/or geographic location. Once collected, web and data mining techniques are utilized to create and display an individualized commercial message to the user (De Bock & Van den Poel, 2010).

Before proceeding further, it is necessary to distinguish personalized advertising from a similar form of tailored online marketing, that of *personalization* which refers to "providing consumers with one or more recommended products currently in the marketplace that match their measured or stored preferences" (Kramer et al., 2007, p. 246). Personalization focuses more on the product or service that a marketer is offering and includes online product suggestion/recommendation engines employed by firms such as Amazon, Netflix and other e-commerce sites. These sites use techniques such as collaborative filtering (ratings of similar consumers) and/or content matching (similar items to what a consumer has previously purchased or is currently viewing) to suggest products or services that a user may be interested in. Furthermore, personalization for the most part is site contained meaning that users will receive these recommendations only

while visiting a specific online retailer's site and the recommended products or services that are shown to a user are for items sold on that particular retailer's own site.

Personalized advertising on the other hand focuses more on paid commercial media messages that are tailored to an individual consumer (Awad & Krishnan, 2006; Baek & Morimoto, 2012). In addition, personalized advertising is not site contained, meaning that a user may receive a personalized advertisement on any site they visit and the advertisement may be for a product or service sold on another website.

As mentioned, the academic literature on personalized advertising has been somewhat sparse. In addition, much of the research that has been conducted on personalized advertising has focused on either the technical aspects involved in creating a better personalized advertising system (e.g., Ansari & Mela, 2003; De Bock & Van den Poel, 2010; Gal-Or & Gal-Or, 2005; Kazienko & Adamski, 2007; Lekakos, 2009; Lopez-Nores et al., 2009) or on simulation modeling studies in the context of personalized advertising (e.g., Chellappa & Shivendu, 2007; Khan et al., 2009; Shaffer & Zhang, 2002; Yang, 2010) with very few articles addressing consumers' perceptions with regard to the practice. Table 1 displays a review of relevant studies with regards to consumers' perceptions of personalized advertising, following the table we will briefly discuss research from this domain and how it relates to our study.

| Table 1: Overview of Consumer Studies Regarding Personalized Advertising | | | |
|---|-------------------|--|---|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Awad & Krishnan (2006) | Empirical | Does perceived information transparency impact consumer willingness to be profiled online? | <p>Privacy concerns and importance of a privacy policy positively impact importance of information transparency.</p> <p>Importance of information transparency negatively impacts willingness to be profiled.</p> |
| Baek & Morimoto (2012) | Empirical | What factors influence avoidance of personalized advertising? | <p>Perceived personalization, privacy concerns, and ad irritation impact ad skepticism.</p> <p>Perceived personalization, privacy concerns, ad irritation, and ad skepticism impact ad avoidance.</p> |
| Fuchs (2010) | Case Study | How knowledgeable are students about the rise of online surveillance and does the degree of knowledge influence the use of SNSs? | Most students demonstrated a high degree of critical sensitivity and knowledge towards online surveillance, which lead them to opt-out of receiving personalized ads after a change in privacy policies. |
| D.J. Xu et al. (2008) | Empirical | What factors impact attitude towards and intentions to use mobile advertising? | <p>Perceived personalization, credibility, and entertainment positively influence attitude towards mobile advertising.</p> <p>Attitude towards mobile advertising positively influences intentions to use mobile advertising.</p> |
| Yu & Cude (2009) | Empirical | Do consumers perceptions regarding personalized advertising differ based on gender or ad medium? | <p>Personalized advertising generated more negative perceptions than positive ones.</p> <p>Direct mail ads were more favored than email.</p> <p>Women were more concerned about privacy than men.</p> |

As can be seen from Table 1, consumer research in the area of personalized advertising shows that the technique can be used to improve consumers' attitudes toward advertising (Xu et al., 2008a). In addition, personalized advertising can negatively impact consumers' attitudes and intentions. For instance, personalized advertising has been linked to consumer privacy concerns, which in turn influenced consumers' ad skepticism and ad avoidance (Baek & Morimoto, 2012). Furthermore, users generally held a negative view toward the practice of personalized advertising (Yu & Cude, 2009) and in its presence consumers' were less willing to disclose information (Awad & Krishnan, 2006) and more likely to opt-out if given the option to do so (Fuchs, 2010).

While insights from this research are extremely valuable, the limited amount of academic studies on personalized advertising that have examined consumers' responses have a number of gaps. For one, many of these consumer studies did not employ any underlying theoretical frameworks to ground their research (e.g., Fuchs, 2010; Xu et al., 2008a; Yu & Cude, 2009). In addition, some consumer research in the domain of personalized advertising has so far only concentrated on ad mediums such as direct mail, email messages, telemarketing and/or text messages (e.g., Baek & Morimoto, 2012; Yu & Cude, 2009) with only one study as of yet investigating personalized advertising in the context of the more interactive medium of online display ads (e.g., Awad & Krishnan, 2006). However, this study also has limitations with regard to the use of older data and single-item measures of constructs. Furthermore, while Fuchs (2010) examined personalized advertising in the context of social networking sites, that study also utilized single item measures of consumers' opinions and did not employ the use of any robust psychometrics or statistical procedures. Finally, no studies thus far have addressed

antecedent factors regarding what influences whether the practice of personalized advertising is perceived favorably vs. invasively by consumers and what effects those perceptions have on consumers' attitudes and intentions. Thus a more comprehensive examination of the factors that affect consumers' perceptions of personalized advertising is needed (Xu et al., 2011b). Our study addresses this by integrating research from various disciplines in order to build a more extensive theoretical framework of consumers' perceptions of personalized advertising.

Personalization

Although research in the area of online personalized advertising is limited, the practice of online personalization has been utilized for much longer and has been more extensively and robustly researched by academicians than that of personalized advertising. Therefore, while personalization and personalized advertising each have their own unique characteristics, many similarities exist between the two practices, which allows us to use previous studies on personalization to influence our research on personalized advertising. In addition, our study on consumers' perceptions of personalized advertising is also influenced by research from other streams of literature such as information privacy and invasiveness. Tables 2, 3, and 4 display reviews of relevant studies conducted in the areas of personalization, information privacy and invasiveness. Following each table we briefly discuss the research from each respective domains and how it relates to our study.

| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
|---------------------------|--------------------|---|--|
| Diehl (2003) | Empirical | How do personalized recommendation agents affect consumer search and decision making? | Personalized recommendations improve consumers' decision quality and reduced the number of products inspected, saving consumers' money and time. |
| C.H. Lee & Cranage (2011) | Empirical | How do privacy assurances affect outcomes of personalization? | <p>Privacy concerns negatively impact willingness to disclose personal information and purchase intentions.</p> <p>Privacy assurances reduce privacy concerns.</p> <p>Perceived usefulness of personalization positively impacts willingness to disclose personal information and purchase intentions.</p> |
| D.J. Lee et al. (2011) | Empirical Modeling | How does privacy protection impact firm competition and social welfare in the context of product and price personalization? | Personalization and protection of consumer privacy both make strategic and competitive sense for firms. Thus fair information practices are not just for consumer's benefit. |
| Ho & Tam (2005) | Empirical | Do timing and framing of product recommendations influence consumers' product evaluation decisions? | <p>Timing of product recommendations affects purchase intentions, with early stages being more effective.</p> <p>Framing of product recommendations affects purchase intentions, with negative framing (i.e. "missing out") being more effective than positive framing.</p> |

| Table 2: Cont. | | | |
|--------------------------|--------------------|---|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Ho et al. (2011) | Empirical | How does timing of product recommendations influence level of match and consumer choice? | <p>Consumers are more likely to choose a personalized offer if it is presented in the early stages of an online shopping session.</p> <p>Consumer satisfaction is higher for personalized offers presented in the early stages of an online shopping session.</p> <p>Level of match between personalized offer and consumer's preference is higher at later stages of an online shopping session.</p> |
| Khan et al. (2009) | Empirical Modeling | What are the effects of customized promotions? | Customizing promotions leads to a significant increase in firm profits. |
| Kobsa (2007) | Conceptual | How can firms implement personalization, while still ensuring consumer privacy? | <p>Data collection and personalization are in conflict with privacy concerns.</p> <p>The claim that users are more likely to provide information if they are not identified has not found much empirical support.</p> <p>Sites should obtain permission and allow users to opt out, rectify and erase their data. Users should also be given something of value in return for firms collecting data.</p> |
| Komiak & Benbasat (2006) | Empirical | How do perceived personalization and familiarity affect trust and usage intentions of online recommendation agents. | <p>Perceived personalization and familiarity positively impact cognitive trust.</p> <p>Cognitive trust positively impacts emotional trust.</p> <p>Emotional trust positively impacts usage intentions.</p> |

| Table 2: Cont. | | | |
|-----------------------|-------------------|--|---|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Nunes & Kambil (2001) | Conceptual | What are the factors affecting consumers' usage of personalized web pages? | Consumers want control and would rather customize a website than have it automatically personalized for them. Privacy concerns are the leading reason why consumers withhold information online; however people are more willing to provide information when they are given some control. |
| Tam & Ho (2006) | Empirical | How do self-reference and relevance of content impact web users' information processing and decision outcomes. | Self-reference of content increases user attention, evaluation, and likelihood of acceptance and decreases user decision time and need for information. Relevance of content increases recall speed, recall accuracy, evaluation, and likelihood of acceptance and decreases user decision time and need for info. |
| Volokh (2000) | Conceptual | What are the privacy implications of online personalization? | Firms must ensure consumer privacy when engaging in personalization. |

Upon examining the research studies on personalization found within Table 2, a number of insights can be gleaned that are applicable to personalized advertising. For instance, a number of studies demonstrated that personalization can positively impact consumer attitudes, aid in decision making and lead to a significant increase in firm profits (Diehl, 2003; Khan et al., 2009; Lee & Cranage, 2011). In addition, much like personalized advertising, research in the area of personalization also highlights the importance of consumer privacy, emphasizing the need for firms to recognize privacy

issues (Volkh, 2000) and noting that data collection efforts often conflict with consumer privacy concerns (Kobsa, 2007). Furthermore, this research also observes that privacy concerns are a major factor in consumers withholding information online (Lee & Cranage, 2011; Nunes & Kambil, 2001) and have a negative impact on purchase intentions (Lee & Cranage, 2011).

Thus it can be seen that findings regarding privacy issues with regard to personalization mirror many of those found with personalized advertising. However, research in the area of personalization has also found that protection of consumer privacy makes both strategic and competitive sense for firms (Lee et al., 2011). In addition, a number of ways to effectively manage consumer privacy concerns have also been uncovered such as obtaining user consent, and allowing consumers to opt-out, rectify and erase their data (Kobsa, 2007). Moreover, privacy assurances (Lee & Cranage, 2011) and giving users at least some degree of control (Nunes & Kambil, 2001) have also been found to reduce consumer privacy concerns.

Information Privacy

As mentioned, besides examining research from the area of personalization our study is also influenced by research from the domain of information privacy and the literature on invasiveness. Since consumers' privacy concerns and perceptions of invasion of privacy are such a large issue regarding personalized advertising, drawing upon these two areas should be extremely beneficial for our study. Table 3 summarizes relevant research from the area of information privacy.

| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
|---------------------------|-------------------|--|--|
| Culnan (1993) | Empirical | What factors affect consumer attitudes towards secondary information use? | Control over information, relevance of information collected, sensitivity of information, merging of information, explanation of benefits and consent affect attitude toward secondary information use. |
| Culnan & Armstrong (1999) | Empirical | What is the impact of procedural fairness on consumers' willingness to disclose information? | Privacy concerns can be mitigated via the use of fair information practices, which increases the likelihood of information disclosure. |
| Dinev & Hart (2006) | Empirical | What factors impact individuals' intention to provide the personal information needed to transact online. | Perceived internet privacy risk has a negative impact on internet trust and willingness to provide information and a positive impact on internet privacy concerns. Internet trust and personal internet interest have a positive impact on willingness to provide information, while privacy concerns have a negative impact. |
| Dinev et al. (2008) | Empirical | How do internet privacy concerns, the need for government surveillance and government intrusion concerns impact willingness to disclose personal information to transact online? | Privacy concerns negatively impact willingness to provide information, while the need for government surveillance has a positive impact. Government intrusion concerns positively impact privacy concerns, while the need for government surveillance has a negative impact. |

| Table 3: Cont. | | | |
|---------------------------|-------------------|--|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Goldfarb & Tucker (2011a) | Conceptual | What are some issues that need further research in the area of online advertising? | Further research needs to be conducted examining privacy's role in advertising and the underlying psychology involved. |
| Goldfarb & Tucker (2011b) | Empirical | How do contextual targeting and obtrusiveness influence the effectiveness of online advertising? | When used individually, contextual targeting (matching ads to website context) and obtrusive ads (those that stick out) both increase ad recall and purchase intention. However, when the two are combined purchase intent actually decreases, which may be linked to privacy concerns. |
| Hoadley et al. (2010) | Case Study | Does an illusory loss of control prompt privacy concerns? | Illusory loss of control can trigger privacy concerns and privacy risk perceptions. Thus, consumers' perceived information control is vital. Ease of access that others have to one's information decreases perceived privacy control and increases privacy risk perceptions, which increases privacy concerns. |
| Kachhi & Link (2009) | Empirical | Do consumers' attitudes towards online privacy vary based on demographics? | Most consumers are worried about online privacy. Demographics did affect privacy attitudes as younger consumers were less concerned than older consumers. |

| Table 3: Cont. | | | |
|-----------------------|-------------------|---|---|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Kim et al. (2008) | Empirical | What role do trust, risk and their antecedents play in consumer e-commerce purchasing decisions? | <p>Trust, familiarity, and perceived benefits positively impact purchase intention, while risk has a negative impact on intention.</p> <p>Disposition to trust, information quality, familiarity, reputation, perceived privacy protection, and perceived security positively impact trust.</p> <p>Reputation, perceived privacy protection, perceived security and the presence of a third party seal negatively impact risk.</p> |
| Li et al (2010) | Empirical | What effect do situational factors have on consumers' online information disclosure decisions? | <p>Perceived usefulness and privacy protection beliefs have a positive impact on intention to disclose information, while privacy risk beliefs have a negative impact on intention.</p> |
| Li et al. (2011) | Empirical | What role do emotions and fairness levers play in online consumers' privacy calculus decisions to disclose personal information to unfamiliar online vendors? | <p>General privacy concerns negatively impact intention to disclose information and positively impact risk beliefs.</p> <p>Privacy protection beliefs positively impact intention, while risk has a negative effect.</p> <p>Joy, perceived relevance of information and fair information practices positively impact protection beliefs.</p> <p>Joy and information relevance negatively impact risk, while fear has a positive impact.</p> |

| Table 3: Cont. | | | |
|-----------------------|-------------------|---|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Liao et al. (2011) | Empirical | What factors impact internet users' intention transact and intention to retrieve privileged information? | <p>Internet literacy, social awareness and perceived risk positively impact privacy concerns.</p> <p>Privacy concerns and perceived risk negatively impact intention to transact and intention to retrieve privileged information.</p> |
| Matwyshyn (2011) | Conceptual | What are the implications of firm online data collection and advertising practices? | <p>Researchers need to study consumers' perceptions of privacy invasiveness of online advertising practices and need examine more attitudinal variables.</p> <p>If privacy is misjudged, the over zealousness of firms data collection efforts could result in alienation of once loyal customers and/or decreased response rate of ads.</p> |
| Troung et al. (2010) | Review | How can firms implement online data collection efforts, while still respecting consumers' need for privacy? | <p>Firms need to find ways to comply with consumers' desire for non-invasive advertising. Permission-based advertising is becoming a popular solution. It is less invasive and shows increased consumer acceptance, while unsolicited ads are more likely to be seen as irrelevant and invasive.</p> |

| Table 3: Cont. | | | |
|-----------------------|-------------------|--|---|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Xu et al. (2009) | Empirical | How do various privacy intervention approaches influence individual privacy decision making for location-based services? | <p>Disclosure benefits positively impact intention to disclose, while disclosure risks negatively impact intention.</p> <p>Perceived personalization and locatability positively influence disclosure benefits, while industry self-regulation is negatively related to risks.</p> <p>Personal innovativeness positively influences intention to disclose.</p> <p>For push-based services, previous privacy invasion positively relates to disclosure risk and government regulation negatively relates to risks, while compensation was positively related to disclosure benefits.</p> |
| Xu et al. (2011b) | Empirical | What factors affect consumer acceptance of location aware marketing? | <p>Perceived Benefits of information disclosure positively impact perceived value of information disclosure, while perceived risks have a negative impact.</p> <p>Perceived value of information disclosure positively impacts willingness to disclose information, which is positively related to purchase intentions.</p> <p>Previous privacy invasion positively impacts risks.</p> <p>Personal innovativeness and coupon proneness positively impact willingness to disclose.</p> |

| Table 3: Cont. | | | |
|-----------------------|-------------------|--|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Xu et al. (2011a) | Empirical | How do institutional privacy assurances affect individual online privacy concerns? | <p>Perceived effectiveness of industry self-regulation positively impacts perceived privacy control.</p> <p>Perceived effectiveness of privacy policy positively impacts privacy control and negatively impacts privacy risk.</p> <p>Disposition to value privacy negatively impacts privacy control and positively impacts privacy risks and concerns.</p> <p>Privacy risks positively impact privacy concerns.</p> <p>Privacy control is negatively related to privacy concerns.</p> |

As can be seen from Table 3, research on information privacy further illustrates the need to study consumer online privacy, as most consumers are worried about the issue (Kachhi & Link, 2009). This is a particularly important point considering that if firms misjudge the significance of privacy and engage in overzealous data collection efforts, it could result in consumer backlash, an alienation of once loyal customers, and/or a decreased response rate for advertisements (Matwyshyn, 2011). This has prompted scholars to underscore the need for further research examining consumers' perceptions regarding the invasiveness of online advertising practices and the need to study more attitudinal variables involved in the underlying psychological processes (Goldfarb & Tucker, 2011a; Matwyshyn, 2011; Truong et al., 2010).

The information privacy research also offers a number of further insights. For instance, privacy concerns can have detrimental impacts for firms by negatively influencing willingness to disclose or retrieve personal information online (Dinev & Hart, 2006; Dinev et al., 2008; Liao et al., 2011). In addition, a number of antecedents to privacy concerns have been identified including disposition to value privacy (Xu et al., 2011bb), perceived risk (Dinev & Hart, 2006; Hoadley et al., 2010; Liao et al., 2011; Xu et al., 2011bb), and perceived privacy control (Xu et al., 2011bb).

A further insight that is particularly interesting involves the importance of perceived privacy control, since even an illusory loss of control can trigger users' privacy concerns and risk perceptions (Hoadley et al., 2010). Thus, perceived privacy control is critical to mitigating consumers' privacy concerns. Permission-based advertising is also another tool to ease consumer privacy concerns. It is seen as less invasive of users' privacy and has been met with increased consumer acceptance as compared with unsolicited ads which are more likely to be viewed as irrelevant and invasive (Truong et al., 2010).

Firms adhering to the use of fair information practices are another way to alleviate privacy concerns. Abiding by these guidelines increases users' willingness to disclose information (Culnan & Armstrong, 1999), which is positively related to purchase intentions (Xu, et al., 2011a). Furthermore, additional factors that have been linked to willingness to disclose personal information include individual difference variables such as innovativeness and coupon proneness (Xu, et al., 2011b).

Invasiveness

Yet another area of research that will influence our study is research on invasiveness. While related to information privacy, research on invasiveness specifically examines the perceptions of invasion of privacy that individuals have with regard to some practice. Much of the research on invasiveness comes from the organizational behavior literature, with no studies in marketing yet to specifically utilize the construct. In addition to providing a number of valuable insights to influence our study, another worthwhile opportunity also lies in the chance to integrate this stream of research into the marketing literature by utilizing the construct of invasiveness in this research. Table 4 below displays a review of relevant research on invasiveness.

| Table 4: Overview of Relevant Research on Invasiveness | | | |
|---|-------------------|--|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Adler et al. (2007) | Empirical | What impact do individual ethics have on reactions to potentially invasive HR practices? | Individual differences affect attitudes, perceptions and behavior with regard to privacy. Perceived invasiveness negatively impacts perceived appropriateness. |
| Kravitz et al.(2007) | Empirical | What factors impact employee evaluations of tests used for making selection and promotion decisions? | Perceived invasiveness and fairness were affected by the type of information gathered from a test and test relevance, with more sensitive information and less relevant tests increasing invasiveness. Previous experience with a test was negatively related to invasiveness, and positively related to fairness and attitude. |

| Table 4 Cont. | | | |
|---------------------------|-------------------|---|---|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Lukaszewski et al. (2008) | Empirical | What are the effects of choice on employee perceptions of invasiveness and system satisfaction? | <p>Level of control negatively impacts perceived invasiveness and positively impacts satisfaction.</p> <p>Invasiveness and satisfaction are affected by information type, with more sensitive information increasing perceived invasiveness and decreasing satisfaction.</p> <p>Invasiveness negatively impacts satisfaction and mediates the relationship between satisfaction and choice.</p> |
| Mael et al. (1996) | Empirical | What factors affect perceived invasiveness? | <p>Information type affects invasiveness with information of a sexual, religious, health and/or political nature positively influencing invasiveness.</p> <p>Individual difference variables affect invasiveness with age and need for privacy being positively related to perceived invasiveness, and experience and education negatively related to invasiveness. Women were found to have greater privacy concerns than men.</p> |
| Ni & Hauenstein (1998) | Empirical | How does item invasiveness effect job applicant reactions to personality tests? | <p>Invasiveness negatively influenced attitude toward the selection process, the organization and behavioral intentions.</p> <p>Relevance positively influenced attitude toward the selection process and the organization.</p> |

| Table 4 Cont. | | | |
|-----------------------------|-------------------|--|--|
| Authors | Study Type | Research Question/Theme | Main Findings/Arguments |
| Paschal et al. (2009) | Empirical | What are the effects of organizational email policies on employees' perceptions of fairness and invasiveness? | Privacy values positively impact invasiveness. Policy justification negatively impacts perceived invasiveness. |
| Stone-Romero & Stone (2007) | Review | What are the antecedents and consequences of invasion of privacy in organizations? | Informational factors such as authorization and the type of information collected affect perceived invasiveness. Individual factors such as age, gender, and personality will affect perceived invasiveness. Invasiveness is negatively related to motives and intentions. |
| Tepper & Braun (1995) | Empirical | How can organizations mitigate perceived invasiveness of random drug testing procedures? | Procedural justice mitigates perceptions of invasiveness. |
| Thibodeaux & Kudisch (2003) | Empirical | What are the relationships between perceived invasiveness, organizational attractiveness and complaint intentions? | Perceived invasiveness negatively impacts organizational attractiveness and positively impacts complaint intentions. |
| Zweig & Webster (2002) | Empirical | What factors influence employees' perceptions of invasiveness and attitude towards awareness monitoring systems? | Perceived invasiveness negatively impacts attitude. Perceived usefulness positively impacts attitude. Attitude positively impacts usage intentions. |

As mentioned, much of the research on invasiveness comes from the organizational behavior literature and specifically examines employees and/or perspective job seekers reactions to organizational practices. While this context is

different from that of personalized advertising, a number of insights should be transferable given that organizational human resource practices and marketing practices both have the potential to affect individuals' perceptions of privacy invasion. Furthermore, theories used to understand relationships between organizations and their employees are often quite useful when investigating relationships between organizations and their customers (Culnan & Armstrong, 1999).

Upon examining the research from Table 4, a number of negative consequences of invasiveness can be garnered. For instance, perceived invasiveness adversely affects organizational attractiveness (Ni & Hauenstein, 1998; Thibodeaux & Kudisch, 2003), attitudes (Ni & Hauenstein, 1998; Stone-Romero & Stone, 2007; Zweig & Webster, 2002) and intentions (Ni & Hauenstein, 1998; Stone-Romero & Stone, 2007; Thibodeaux & Kudisch, 2003).

Similarly to information privacy research, studies on invasiveness have also found that individual difference variables such as age, gender, and personality will affect perceived invasiveness (Alder et al., 2007; Stone-Romero & Stone, 2007), with age being positively related to invasiveness, while experience and education are negatively related to invasiveness (Mael et al., 1996). Finally, women typically display higher levels of privacy concerns than men (Mael et al., 1996).

In the next section, the proposed research model utilized in our study is presented and discussed along with relevant literature and key theories that comprise the theoretical basis of our analysis. In addition, we also define and develop the elements of the model and delineate the specific research hypotheses that investigated in our study.

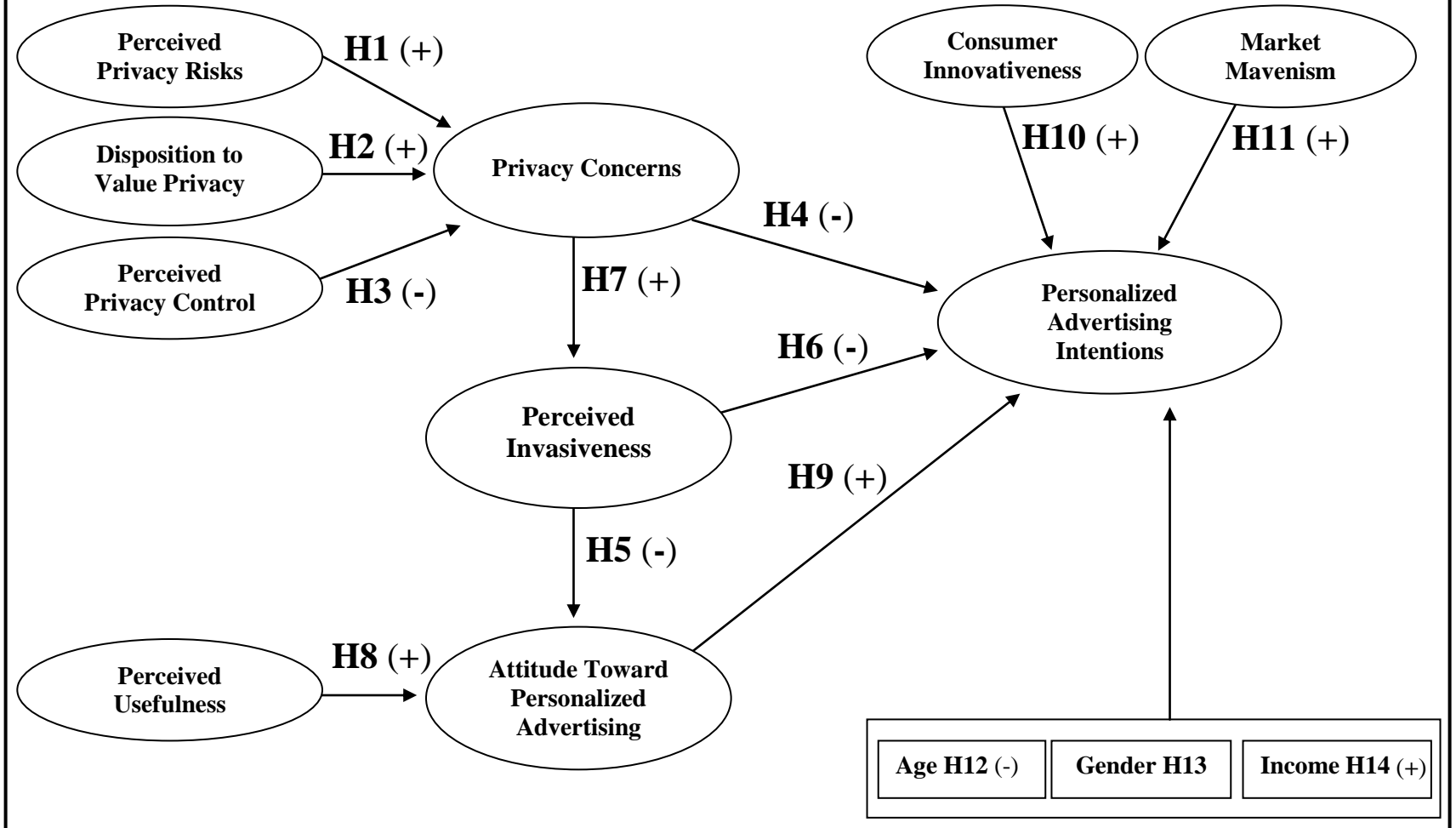
PROPOSED RESEARCH MODEL

Drawing upon the literature discussed above from previous research on personalized advertising, personalization, information privacy and invasiveness we derive a research model based on privacy calculus theory. This model is designed to assist in the examination of key elements influencing consumers' attitudes and intentions with regard to personalized advertising. In addition to including traditionally studied elements of the privacy calculus in our model, we also extend privacy calculus theory by including additional related elements such as invasiveness, market mavenism, and perceived usefulness. These additional elements have not yet been empirically examined within a privacy calculus framework, nor to the best of our knowledge, have all of them been examined alongside each other within any comprehensive nomological framework. Thus, their inclusion in our model should not only help shed light on consumers' perceptions of personalized advertising, but should also provide valuable insights into previously unstudied interrelationships among a number of constructs.

As will be seen in the research model, we propose that consumers' perceptions of personalized advertising are affected by both individual traits and perceived technological characteristics of the practice of personalized advertising. These include various elements associated with privacy, as well as factors related to the potential benefits that personalized advertising can offer to consumers. Together these elements serve to impact consumers' attitudes, privacy concerns, invasiveness perceptions, click-through intentions, and purchase intentions. Figure 1 displays our proposed research model. Following the model, we expand upon our discussion of the literature and key theories

that the model draws from, as well as define each of the model's constructs and describe the hypothesized interrelationships among them.

Figure 1: Proposed Research Model of Personalized Advertising Acceptance



The proposed research model presented in Figure 1 depicts the antecedents and outcomes of consumers' attitudes toward personalized advertising. The model uses a privacy calculus framework and extends privacy calculus theory by integrating it with elements of other domains of research from the marketing, organizational behavior, and innovation adoption literatures.

The privacy calculus elements represented in the model are perceived privacy risks, disposition to value privacy, perceived privacy control and privacy concerns. Innovation adoption elements of the model include perceived usefulness and consumer innovativeness. As mentioned, the invasiveness construct is borrowed from the organizational behavior literature to represent consumers' perceptions of an invasion of their privacy. While many of the elements of the model have been utilized in the marketing literature, market mavenism was developed specifically within the marketing literature. The aforementioned constructs of consumer innovativeness, maven mavenism, and disposition to value privacy also represent individual difference variables included within the model. Furthermore, the model also contains consumer demographic characteristics such as age, gender and income level. In the subsequent sections, we provide a more detailed overview of the model's key theories, constructs and elements, as well as describe the hypothesized interrelationships among them.

THEORETICAL FRAMEWORK

Privacy Calculus

Privacy calculus theory posits that an individual's privacy decision process can be thought of as a cost-benefit analysis of competing beliefs in which the benefits and risks of engaging in a behavior are weighted against one another in a calculus (Culnan & Armstrong, 1999; Dinev & Hart, 2006; Laufer & Wolfe, 1977). In the context of personalized advertising, while the use of personalized advertising is essentially a free service, the collection of large amounts of consumers' information entails various risks that can be thought of as costs in this case (Chellappa & Shivendu, 2010; Li et al., 2011). Therefore, if consumers' are willing to use personalized advertising, they are paying these information disclosure costs in exchange for certain benefits such as more useful and relevant online advertisements.

The competing beliefs involved in this decision process may override one another and influence outcomes of the privacy calculus (Dinev & Hart, 2006). Thus, while many individuals may be concerned for their online privacy, they may also find that the benefits of using personalized advertising supersede the risks and will therefore continue to utilize the service. In this case, individuals must decide if the benefits derived from personalized advertising equal or exceed the associated risks (Xu et al., 2011b). If the benefits of the calculus can no longer exceed the risks, then people will no longer participate (Culnan & Armstrong, 1999; Culnan & Bies, 2003).

It should also be noted that in addition to the costs and benefits involved in the decision process other factors may also come into play (Dinev & Hart, 2006) such as interpersonal differences, which might include demographic or personality variables. The

inclusion of these individual difference variables is extremely important given individual differences can significantly affect behavior (Alder et al., 2007; Korgaonkar & Wolin, 1999; Xu et al., 2011b). Thus, that is why it is important to consider the role that those factors play in the process, and subsequently why we include them in our research model. Moreover, another reason for their inclusion can be linked to the nature of personalized advertising itself. Since the goal of personalized advertising is to tailor an ad to a specific individual based on their characteristics and online usage information, this involves the collection of large amounts of user data. Therefore, it stands to reason that marketers (1) should have information available on users' specific interpersonal differences and (2) would want to know which individual difference variables are more positively related to attitudes and intentions with regard to personalized advertising. In this way, marketers will better know who to target with personalized ads, i.e. which individuals will be more receptive to them.

As mentioned, our model integrates traditionally used privacy calculus constructs with elements from other research domains and in doing so extends privacy calculus theory in order to enhance our understanding of consumers' attitudes and intentions with regard to personalized advertising.

RESEARCH HYPOTHESES

Privacy Risk

In consumer research, perceived risk is generally associated with feelings of uncertainty, discomfort and/or anxiety that an individual displays with regard to some transactional situation (Dowling & Staelin, 1994). *Privacy risk* is defined as “the degree to which an individual believes that a high potential for loss is associated with the release

of personal information” (Smith et al., 2011, p. 1001). Thus, privacy risk is a specific aspect a risk that is associated with an individual’s apprehension that their personal information could be utilized inappropriately resulting in some sort of negative outcome. The two central facets of privacy risk involve an individual’s perceived risk of (1) opportunistic behavior on the part of others and (2) misuse of their personal information by firms that can result in losses (Dinev & Hart, 2006). A number of studies have examined the relationship between perceived privacy risk and privacy concerns and found that perceived risk positively affects privacy concerns (Dinev & Hart, 2006; Hoadley et al., 2010; Liao et al., 2011; Xu et al., 2011a).

In the context of personalized advertising, the collection, storage and analysis of large amounts of users’ data in order to serve individuals with more personalized ads could result in increased consumer uncertainty and anxiety that their personal information may be used opportunistically and/or improperly handled by entities with access to this data. Examples of opportunistic behavior include the sharing or selling of users’ personal information to other parties (Featherman & Pavlou, 2003; Li et al., 2011; Malhotra et al., 2004). Improper handling might involve the misuse of personal information in such ways as unauthorized access or theft due to a lack of securely protecting user information (Liao et al., 2011). Each of these risks could lead to other negative outcomes such as increased visibility of users’ online behavior, revealing of their private information, or use of personal information in unintended ways (Kobsa, 2007). These factors serve to increase users’ perceived privacy risks, which in turn should result in increased privacy concerns. Therefore, we hypothesize:

H1: Perceived privacy risks of personalized advertising are positively related to privacy concerns regarding personalized advertising.

Disposition to Value Privacy

While perceived risks of personalized advertising serves to impact privacy concerns, other factors such as an individual's inherent need for privacy may also come into play. For instance, some individuals may place a higher value on or have more of a need for privacy than others (Li et al., 2011; Paschal et al., 2009; Stone-Romero & Stone, 2007). The construct of *disposition to value privacy (DTVP)* has been used to capture this need for privacy and is defined as "an individual's general tendency to preserve his or her private information space or restrain disclosure of personal information across a broad spectrum of situations and contexts" (Xu et al., 2011a, p. 805) The construct can be thought of as similar to that of disposition to trust, which is an individual's predetermined propensity to trust others. Disposition to trust has been found to impact an individual's trust in other parties as well as influence a number of other trust related attitudes and behaviors (Gefen, 2000; McKnight et al., 2002). Similarly, DTVP is posited to also have an effect on privacy related attitudes and behaviors (Xu et al., 2011a).

Developed out of the information privacy literature and based on information boundary theory and consumer privacy management theory (Petronio, 1991, 2002), disposition to value privacy is a personality attribute and represents an individual's inherent need to manage certain information boundaries, which may eventually result in the forgoing of information disclosure if one feels the need to do so. Those individuals that exhibit higher DTVP will innately place a higher value on privacy and personal

boundaries than others. Consequently, individuals displaying a higher DTVP will also display greater privacy concerns than those with a lower DTVP (Xu et al., 2011a).

In the context of personalized advertising, we anticipate that this relationship will again hold true, as it stands to reason that if an individual shows a greater disposition to value privacy, than he or she will display greater concerns with regard to the practice of personalized advertising. This is because the nature of personalized advertising involves the collection, storage and analysis of large amounts of user data, and by definition those exhibiting a higher DTVP will find these practices to interfere with their information boundary maintenance and thus will experience elevated privacy concerns. Therefore, we hypothesize:

H2: Disposition to value privacy is positively related to privacy concerns regarding personalized advertising.

Perceived Privacy Control

Information privacy is often defined in terms of an individual's control over his or her personal information (e.g., Awad & Krishnan, 2006; Culnan, 2000; Li et al., 2010; Liao et al., 2011; Smith et al., 2011) Thus, perceived privacy control is an extremely important aspect of privacy that should be included in our examination.

Perceived privacy control is defined as “an individual's beliefs in his or her ability to manage the release and dissemination of personal information” (Xu et al., 2011a, p. 804). A number of studies have empirically tested the relationship between perceived privacy control and privacy concerns and found that privacy control negatively impacts privacy concerns (Culnan & Armstrong, 1999; Hoadley et al., 2010; Lukaszewski et al., 2008; Stewart & Segars, 2002). In other words, when consumers'

sense they have less control over their private information, they will exhibit increased levels of privacy concerns (Culnan, 1993; Liao et al., 2011). This makes intuitive sense, given that if a consumer believes he or she does not have control over their personal information, this will trigger the individual's privacy concerns over that information. On the other hand, research has also shown that when individuals feel they have greater control over their information, they will display lower levels of privacy concerns (Awad & Krishnan, 2006; Lee & Cranage, 2011; Nunes & Kambil, 2001; Squicciarini et al., 2011), thus providing further evidence of the negative relationship between perceived privacy control and privacy concerns.

It should also be noted that control over personal information is not the most important point here. The main takeaway is an individual's *perceived* control over his or her information, as studies have shown that even a perceived or "illusory" loss of control can trigger privacy concerns without any actual loss of control ever taking place (Hoadley et al., 2010). This demonstrates just how significant a role perceived privacy control plays in consumers' privacy decision processes.

In the context of personalized advertising we expect this relationship to also be present since one of the main issues that users have with the practice involves the perceived loss of control over their information due to a number of industry practices that go along with personalized advertising which include the scanning of email messages, consolidation of databases, real-time tracking, profiling, and collection of customer data used to generate more tailored advertisements (Lee & Cranage, 2011; Li et al., 2010; Truong et al., 2010), which serves to increase users' privacy concerns. Therefore, we hypothesize:

H3: Perceived privacy control is negatively related to privacy concerns regarding personalized advertising.

Privacy Concerns

Now that we have discussed antecedents to privacy concerns, we shall now turn our attention to outcomes of privacy concerns. However, before doing so, we should note that while a number of studies have examined privacy concerns as an antecedent variable (e.g., Baek & Morimoto, 2012; Chellappa & Sin, 2005; Dinev & Hart, 2006; Liao et al., 2011) and others have examined the antecedents to privacy concerns themselves (e.g., Xu et al., 2011a) there have been relatively few studies which have examined both the antecedents and outcomes of privacy concerns together within a more complex nomological network (Smith et al., 2011) such as the one we have presented here, which represents a further contribution of our study.

Privacy concerns are defined as “concerns about a possible loss of privacy as a result of voluntary or surreptitious information disclosure” (Liao et al., 2011, p. 703). Concerns over privacy are often used as a proxy for privacy itself, due to the extreme difficulty in measuring actual privacy (Smith et al., 2011). As we have noted privacy concerns are a major issue in marketing today, as many consumers feel they have little control over their personal information (Baek & Morimoto, 2012). In addition, the majority of consumers are concerned about what firms know about them and how companies obtain and use personal information (Kachhi & Link, 2009). In turn, these concerns discourage users from engaging in a number of online activities.

Privacy concerns have been found to be related to a number of online intention variables. For instance, several studies have shown that privacy concerns positively

influence online advertising avoidance (Baek & Morimoto, 2012) and intention to spread negative word of mouth (Culnan & Armstrong, 1999), and negatively influence online purchase intentions (Eastlick et al., 2006; Liao et al., 2011), and willingness to disclose or retrieve personal information (Dinev & Hart, 2006; Dinev et al., 2008; Liao et al., 2011; Malhotra et al., 2004; Stewart & Segars, 2002). This is consistent with expectancy theory in that individuals are motivated to minimize negative outcomes (Dinev and Hart, 2006a Liao et al., 2011). In this case negative outcomes that a consumer may be concerned over could be the loss of privacy and/or theft of their personal information. Therefore, in order to minimize this outcome a consumer will restrain from the activity in question which might be providing information online, making a purchase or in our case clicking on a personalized advertisement.

Along these lines, we believe that privacy concerns will negatively affect consumers' intentions to click on personalized advertisements as well as consumers' intentions to purchase from personalized advertisers. While no studies have examined these specific relationships yet, we believe that the vast number of other studies supporting a relationship between privacy concerns and similar online intention variables provides supporting evidence that the relationship between privacy concerns and intentions with regard to personalized advertising will demonstrate a similar nature. Thus, since consumers are concerned over the amount of data being collected by firms in order to display more tailored ads (Baek & Morimoto, 2012; Lee & Cranage, 2011), we expect these concerns to negatively affect their click-through and purchase intentions regarding personalized advertisements. Therefore, we hypothesize:

H4: Privacy concerns with regard to personalized advertising are negatively related to (a) click-through intentions and (b) purchase intentions.

Invasiveness

As noted earlier, the organizational behavior literature has conducted a fair amount of research on invasiveness, yet in marketing, there have been no empirical examinations of this construct. While a number of scholars in marketing (e.g., Arora et al., 2008; Lee & Cranage, 2011; Liao et al., 2011; Lwin & Williams, 2003; Montgomery & Smith, 2009; Yu & Cude, 2009) and other domains such as management information systems (e.g., Belanger & Crossler, 2011; Culnan, 1993; Kobsa, 2007; Li et al., 2011; Malhotra et al., 2004; Stewart & Segars, 2002; Volokh, 2000) have made mention of the invasiveness of various business practices and even specifically called for research on the invasiveness of certain initiatives, including online advertising (e.g., Matwyshyn, 2011; Truong et al., 2010), no studies to date in these domains have specifically examined invasiveness with empirical research. Studies in these domains have instead mostly concentrated on empirically utilizing the construct of privacy concerns.

Although related and at times used interchangeably, privacy concerns and invasiveness are distinct constructs. For instance, while privacy concerns focus on concerns about a possible loss of privacy (Liao et al., 2011), invasiveness focuses specifically on the perception that a practice or entity violates one's privacy (Lukaszewski et al., 2008). Therefore in this regard, privacy concerns would be worrying about a violation of one's privacy happening, and invasiveness would be the realization or perception that a violation has actually happened. Thus, privacy concerns center more around a general apprehension regarding threats to one's privacy, whereas invasiveness

centers more on an actual event or ongoing practice such as personalized advertising, and the perception that the event or practice is a violation of someone's privacy. Consequently, we can see that a slight, but important distinction exists between the two constructs.

While privacy concerns are related to invasiveness and are extremely important in their own right, it is also important to examine invasiveness due to the added information that it might be able to offer both marketing researchers and practitioners regarding consumers' perceptions of privacy violations. In addition, it should also be noted that in the studies on invasiveness within the organizational behavior literature, no research in that domain has actually examined both invasiveness and privacy concerns together in the same study. Therefore, a multitude of literature domains including, marketing, organizational behavior, and information privacy would stand to benefit greatly from a study that simultaneously examines the two constructs of privacy concerns and invasiveness as related but distinct factors within the same complex nomological network. Our study will do just that and will thus represent a major contribution to the literature streams just mentioned.

Before moving forward, we should also address another important clarification that must be made regarding previous empirical research on invasiveness in the marketing literature. Although some studies in marketing have purported to investigate invasiveness (e.g., Taylor et al., 2011), a closer examination shows that the loosely related construct of intrusiveness as opposed to invasiveness was actually examined. While invasiveness specifically refers to the perceived invasion of privacy experienced by an individual, intrusiveness instead is related to interruption of a consumers' viewing,

listening or browsing activity. In looking over the Taylor et al. study, it can be seen that one of the constructs used was labeled invasiveness, however after examining the measurement scale used in that study, we can see that it specifically utilized the intrusiveness scale originally developed by Li, Edwards and Lee (2002) for the study of the level of interference a user experienced from advertisements such as pop-up ads or television commercials. Consumers' perceptions of privacy violations were not a part of the Li et al. study. Thus, since the Taylor et al. study employed the intrusiveness scale, the respective construct should have been labeled intrusiveness rather than invasiveness.

As mentioned, invasiveness refers to perceptions of invasion of privacy (Paschal et al., 2009). Therefore, we define *invasiveness* as the perception of an individual that some entity or practice violates his or her privacy. Several studies have shown that invasive is related to negative outcomes. For instance, perceived invasiveness has been found to negatively impact attitudes (Alder et al., 2007; Ni & Hauenstein, 1998; Thibodeaux & Kudisch, 2003; Zweig & Webster, 2002) and intentions (Ni & Hauenstein, 1998; Stone-Romero & Stone, 2007; Thibodeaux & Kudisch, 2003).

While much of the research on invasiveness from the organizational privacy literature focuses on the perceived invasiveness of various human resource practices and the resulting consequences, we expect these relationships to also be present in the context of personalized advertising. Our reasoning for this expectation involves the technological similarity of the practices involved. For instance, many of the previous studies on invasiveness examined employee reactions to various new technologies such as employee monitoring systems. This is similar to personalized advertising in that the tailored

advertising messages are based on the information gathered through various consumer tracking and monitoring systems. Therefore we hypothesize:

H5: Perceived invasiveness of personalized advertising is negatively related to attitude toward personalized advertising.

H6: Perceived invasiveness of personalized advertising is negatively related to (a) click-through intentions and (b) purchase intentions.

Privacy Concerns and Invasiveness

As we have noted, privacy concerns and invasiveness are theoretically related constructs, but have yet to be empirically examined in conjunction with one another in the same study. Therefore, it is important to determine the exact relationship between these two constructs. In examining this relationship, the evidence leads us to believe that privacy concerns will be an antecedent to the perceived invasiveness of personalized advertising.

For instance, in a thorough review of the organizational privacy literature Stone-Romero and Stone (2007) noted the importance of firms addressing employee privacy concerns over a number of data collection practices and procedures in order to avoid perceptions of invasion of privacy (i.e. invasiveness), indicating that privacy concerns precede invasiveness. These employee concerns over data related organizational practices mirror those of many consumers regarding the online data compilation efforts of firms engaging in personalized advertising, giving us reason to think that privacy concerns will be an antecedent to perceived invasiveness with regard to personalized advertising.

Furthermore, the way these constructs are utilized and defined in the literature also gives us some insight as to their relationship. For instance, privacy concerns refer to worries over the potential that a practice will result in a future loss of privacy (Liao et al., 2011), whereas invasiveness refers to the perception that a practice is a violation of one's privacy (Paschal et al., 2009), meaning that the loss of privacy is currently taking place. Therefore it stands to reason that the more concerns that an individual has over a practice, the more likely he or she is to view that practice as being invasive of their privacy. Thus, in the presence of higher levels of privacy concerns, we expect consumers to be more likely to view the practice of personalized advertising as invasive. Therefore we hypothesize:

H7: Privacy concerns with regard to personalized advertising are positively related to the perceived invasiveness of personalized advertising.

Perceived Usefulness

While the aforementioned hypotheses dealt with the cost aspects of the privacy calculus, we will also examine consumers' perceived usefulness of personalized advertising in order to capture the benefit portion of this calculus.

In the innovation adoption literature, the benefits that an innovation may offer represent the perceived usefulness of that innovation. As part of the technology acceptance model (TAM) (Davis et al., 1989), perceived usefulness is analogous to the "relative advantage" construct of the decomposed theory of planned behavior (Taylor & Todd, 1995). Both constructs represent the benefits that an innovation offers to users, such as economic gain, image improvement, and/or increased convenience (Rogers, 1983; Taylor & Todd, 1995). *Perceived usefulness* is defined as "the degree to which a

person believes that using a particular system would enhance his or her job performance” (Davis et al., 1989, p. 320). In this definition, the term job performance is used due to the fact that the TAM was originally tested in an organizational job performance context. However, perceived usefulness has been utilized in a number of non-organizational settings, given that researchers are examining the expected benefits that individuals perceive may come about through the use of an innovation (Yousafzai et al., 2010).

Perceived usefulness has been found to be a significant antecedent to attitude (Ching & Ellis, 2004; Davis et al., 1989; Li et al., 2010; Taylor & Todd, 1995; Zweig & Webster, 2002), given that as a user finds an innovation to be more helpful, this serves to increase the favorability of that innovation in the user’s mind. In the context of personalized advertising, a number of expected rewards or benefits such as increased relevance, convenience and reduction of information overload could serve to increase the perceived usefulness that consumers find for the practice, which in turn should serve to enhance users’ attitudes toward personalized advertising. Therefore we hypothesize:

H8: Perceived usefulness of personalized advertising is positively related to attitude toward personalized advertising.

Attitude Toward Personalized Advertising

Attitude is defined as “an individual’s internal evaluation of an object” (Mitchell & Olson, 1981, p. 318) and refers to positive or negative feelings an individual may have regarding a psychological object in question (Ajzen & Fishbein, 2000). In consumer research, attitude has been considered one of the most important predictors of behavioral intention (Lim & Dubinsky, 2005). Consistent with the theory of reasoned action (Fishbein & Ajzen, 1975) and theory of planned behavior (Ajzen, 1985, 1991) a number

of studies have demonstrated that attitude is a major determinant of an individual's intentions (Casaló et al., 2010; Davis et al., 1989; George, 2004; Gopi & Ramayah, 2007; Lim & Dubinsky, 2005; Mathieson, 1991; Mitchell & Olson, 1981; Shih & Fang, 2004; Taylor & Todd, 1995; Xu et al., 2008b; Zweig & Webster, 2002), given that the more favorable an attitude that someone holds the greater that individual's behavioral intentions will be (Ajzen, 1987).

Regarding personalized advertising, we expect this relationship to continue to hold, in that the more favorable an attitude one has toward personalized advertising the greater their behavioral intentions will be with regard to personalized advertising. In addition, since attitude has been suggested by some scholars as being the most significant predictor of behavioral intentions (Chang et al., 1996; Gopi & Ramayah, 2007; Lim & Dubinsky, 2005) it is therefore important to incorporate it into our study in order to examine (1) its overall impact on intention within the context of personalized advertising and (2) its relative impact on intentions in this context as compared to the other factors that we are also investigating.

Furthermore, while a number of studies have examined attitude-toward-the-ad (Aad) as a predictor of intention, this study examines consumers' attitude toward the practice of personalized advertising in general in order to gain a broader view as opposed to focusing on attitude toward a specific advertisement. Examining attitude in this way makes sense as a number of scholars have noted that attitude-toward-advertising-in-general (AG) serves as a key antecedent to attitude toward specific ads (Gao & Koufaris, 2006; Lutz, 1975; Muehling, 1987; O'Donohoe, 1995; Sandage & Leckenby, 1980; Taylor et al., 2011). In other words, an individual's preexisting attitudes toward

advertising in general serve to shape his or her reactions to a specific ad (Muehling, 1987). Therefore, if we can garner a better understanding of consumers' attitude-toward-personalized-advertising-in-general (APG), this should assist marketers in being better equipped to influence consumers' attitudes toward specific personalized ads. Based on the following discussion we therefore hypothesize:

H9: Attitude toward personalized advertising is positively related to (a) click-through intentions and (b) purchase intentions.

Consumer Innovativeness

The construct of *consumer innovativeness* is defined as “a consumer’s propensity to embrace new products, goods, services, ideas and lifestyles” (Tellis et al., 2009, p. 2). Examining innovativeness can be extremely useful for identifying individuals that are more likely to adopt an innovation (Agarwal & Prasad, 1998). Individuals displaying high levels of consumer innovativeness are referred to as “innovators” and display a number of qualities that make them very appealing to marketers. Innovators demonstrate a greater proclivity than others for learning more about and adopting new products and innovations (Agarwal & Prasad, 1998; Goldsmith et al., 2003; Pedersen, 2005; Rogers, 1983). Therefore, innovators tend to develop more positive perceptions about an innovation (Agarwal & Prasad, 1998). In addition, innovators spend more time and money shopping (Goldsmith et al., 2003), exhibit a greater propensity for variety (Menon & Kahn, 1995) and novelty seeking (Manning et al., 1995), and are very knowledgeable. They also serve to influence later adopters based on their initial trials and experiences (Goldsmith et al., 2003). By influencing these later buyers, innovators thus act as key change agents facilitating further diffusion of a new technology (Rogers, 1995).

Consumer innovativeness is extremely important to the success of new technologies, products, and services (Goldsmith et al., 2003), with a number of studies empirically demonstrating that innovativeness is positively related to behavioral adoption intentions (e.g. Agarwal & Prasad, 1998; Cotte & Wood, 2004; Goldsmith et al., 2003; Hem et al., 2003; Im et al., 2003; Tellis et al., 2009; Völckner & Sattler, 2006; Xu & Gupta, 2009; Xu et al., 2009). Thus, there are a number of reasons why we believe innovators will be more likely to adopt personalized advertising. First, the adoption of an innovation is associated with a number of risks and uncertainties (Agarwal & Prasad, 1998; Thiesse, 2007; Xu & Gupta, 2009). In the case of personalized advertising the threats include increased monitoring of a user's online behavior and a potential loss of privacy. However, innovators are greater risk takers and able to cope with higher levels of uncertainty (Hem et al., 2003; Klink & Smith, 2001; Rogers, 1995; Xu & Gupta, 2009), as a result their adoption intentions with regard to personalized advertising should be less affected.

Second, personalized advertising can provide tailored messages about the products and services that individuals are most interested in. Thus, since innovators are active knowledge seekers who are very interested in being provided with new product related information (Goldsmith et al., 2003; Rogers, 1995), individuals displaying higher levels of consumer innovativeness should be more likely to click on personalized ads and purchase from personalized advertisers.

Furthermore, innovators are faster to develop usage intentions for a new technology because they require fewer positive perceptions regarding an innovation in order to induce trial (Rogers, 1995). In other words, when an innovation is in its early

stages of adoption, innovators are willing to use it without the need for a detailed value analysis (Xu & Gupta, 2009). Thus, since personalized advertising is new and innovative, as novelty seekers (Manning et al., 1995), who are more willing in trying out new products, services and technologies (Agarwal & Prasad, 1998; Goldsmith et al., 2003; Xu et al., 2011b), innovators should hold more positive usage intentions toward personalized advertising. Therefore, we hypothesize:

H10: Consumer innovativeness is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.

Market Mavenism

Another individual difference variable that may be useful in the study of personalized advertising is that of the market maven. *Market mavens* are defined as “individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information” (Feick & Price, 1987, p. 85). Individuals displaying high levels of market mavenism are well informed consumers (Laroche et al., 2003) who demonstrate a high level of involvement in the marketplace (Abratt et al., 1995; Goldsmith et al., 2006; Wiedmann et al., 2001). Furthermore, they are general information seekers who are extremely interested in obtaining market related knowledge concerning a broad array of products, services, technologies, events, and other aspects of the marketplace (Belch et al., 2005; Feick & Price, 1987; Goldsmith et al., 2003; Urbany et al., 1996; Williams & Slama, 1995). As such, mavens possess a wide variety of market expertise across numerous categories (Feick & Price, 1987; Nataraajan & Angur, 1997)

and seek out a multitude of sources in order to engage in this general marketplace information seeking activity (Goldsmith et al., 2003; Williams & Slama, 1995).

Mavens have a number of characteristics that make them attractive to marketers including enjoyment of shopping (Feick & Price, 1987), more time and money spent shopping (Goldsmith et al., 2003), a stronger engagement in referral behavior, and a higher customer lifetime value (Walsh & Elsner, 2012). In addition, due to their high level of interest in the overall marketplace, mavens are considered to be general marketplace experts (Duhachek & Iacobucci, 2005; Feick & Price, 1987; Natarajan & Angur, 1997) that are very important to the success of innovations (Goldsmith et al., 2003).

Mavens are also an extremely valuable and highly influential resource for other consumers (Abratt et al., 1995). Furthermore, since mavens demonstrate a propensity for obtaining information on a wide range of product offerings and on the marketplace in general, their influence is thus much broader, given that it is based on more general expertise, knowledge, and experience with markets (Christiansen & Snepenger, 2005; Feick & Price, 1987; Ruvio & Shoham, 2007). This is opposed to other influencers whose expertise is grounded in only very specific product classes (Belch et al., 2005; Clark & Goldsmith, 2005; Natarajan & Angur, 1997). Additionally, maven behavior not only covers a broad assortment of product categories, but it also transcends marketing channels (Barnes & Pressey, 2012), by remaining constant regardless of the channel.

Another aspect of market mavens that make them appealing to marketers is their greater interest in and attentiveness towards advertising (Feick & Price, 1987). Mavens are generally very receptive to marketing messages from a variety of sources (Higie et al.,

1987) throughout an extensive range of product categories (Abratt et al., 1995; Williams & Slama, 1995) and media types (Engelland et al., 2001). Since mavens enjoy shopping, they have a genuine interest in finding out more information about various aspects of the marketplace. Furthermore, mavens are continuously seeking information (Walsh et al., 2004) and like to learn more about new products and technologies and one way they do so is by actively attending to advertisements (Geissler & Edison, 2005; Goodey & East, 2008). Furthermore, mavens take pleasure in learning more about the marketplace and are more likely to attend to advertisements out of both a general curiosity and because they find ads to be good sources of marketplace information (Geissler & Edison, 2005; Price et al., 1988).

Mavens are not only accumulators of market information, but they are disseminators of that information as well, sharing their knowledge and expertise with other consumers across the same wide array of channels and product categories. This characteristic makes mavens even more attractive to marketers in that not only will mavens be more receptive to receiving information, they will also pass this information along to other consumers who take their suggestions and advice very seriously. Mavens seek out and are often sought out by other consumers for the extensive information and expertise they provide (Higie et al., 1987; Ho & Dempsey, 2010; Slama & Williams, 1990). Mavens can also be thought of as market helpers (Price et al., 1995), who feel an obligation to be knowledgeable consumers and help others to become knowledgeable as well by providing assistance, information and engaging in word of mouth communication about the marketplace (Price et al., 1988). In addition, mavens also pass along information even for products they do not intend to acquire themselves (Feick & Price,

1987; Walsh et al., 2004). In this way, mavens serve to aid marketers and other consumers in the dispersal of marketplace information (Clark & Goldsmith, 2005). Moreover, market mavens are extremely influential, significantly affecting the purchase and usage behavior of other consumers (Belch et al., 2005; Engelland et al., 2001; Gnambs & Batinic, 2011; Williams & Slama, 1995). This is because mavens not only prompt word of mouth discussions, but those who come in contact with mavens are also much more likely to act on the information that mavens share with them (Buttle, 1998), since information from mavens is viewed by consumers as being more credible than that coming from firms (Barnes & Pressey, 2012).

In the context of our study, there are a number of reasons why we believe mavens should be likely to adopt personalized advertising. For one, mavens are heavy information seekers who are more interested in and attentive to advertising across many types of media. Thus, consumers displaying higher levels of market mavenism should be likely to click on personalized ads and purchase from personalized advertisers. In addition, mavenism has been shown to be positively related to affinity for technology (Geissler & Edison, 2005), openness to new experiences (Mooradian, 1996) and negatively related to resistance to change (Andrews & Benedicktus, 2006). Hence, since personalized advertising is a novel technology that represents a change and a new experience for consumers, mavens should be more accepting of the practice. Furthermore, consumers displaying high levels of marketplace expertise have been found to demonstrate stronger behavioral intentions to disclose their personal information (Culnan & Armstrong, 1999). Since one of the main characteristics of mavens is their high level of marketplace expertise, they should thus be more accepting of the collection

of personal information that goes along with personalized advertising and consequently demonstrate stronger behavioral intentions toward clicking on personalized ads and purchasing from personalized advertisers. Therefore, we hypothesize:

H11: Market Mavenism is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.

For convenience, definitions for each of the above constructs are listed in Table 5:

Table 5: Construct Definitions

Perceived privacy risks - the degree to which an individual believes that a high potential for loss is associated with the release of personal information (Smith et al., 2011, p. 1001).

Disposition to value privacy - an individual's general tendency to preserve his or her private information space or restrain disclosure of personal information across a broad spectrum of situations and contexts (Xu et al., 2011a, p. 805).

Perceived privacy control - an individual's beliefs in his or her ability to manage the release and dissemination of personal information (Xu et al., 2011a, p. 804).

Privacy concerns - concerns about a possible loss of privacy as a result of voluntary or surreptitious information disclosure (Liao et al., 2011, p. 703).

Perceived invasiveness - the perception of an individual that some entity or practice violates his or her privacy.

Perceived usefulness - the degree to which a person believes that using a particular system would enhance his or her performance (Davis et al., 1989, p. 320).

Attitude - an individual's internal evaluation of an object (Mitchell & Olson, 1981, p. 318)

Intention - an indicator of motivational factors an individual possesses that will influence his or her behavior (Ajzen, 1991).

Consumer innovativeness - a consumer's propensity to embrace new products, goods, services, ideas and lifestyles (Tellis et al., 2009, p. 2).

Market Mavens - individuals who have information about many kinds of products, places to shop, and other facets of markets, and initiate discussions with consumers and respond to requests from consumers for market information (Feick & Price, 1987, p. 85).

Demographics

While examining psychographic constructs is extremely important in marketing research, scholars have also long recognized the importance of considering demographic variables in order to gain a more robust view of the phenomena under investigation (Blackwell et al., 2006; McCarty & Shrum, 1993; Moschis, 1987; Sheth, 1977). If significant, demographic characteristics provide a relatively straightforward and reliable

basis for segmentation (Assael, 2004; Blackwell et al., 2006; Koufaris, 2002; Straughan & Roberts, 1999). In addition, demographic variables have also been shown to play a significant role in determining the behavior of individual web users (Girard et al., 2003; Korgaonkar & Wolin, 1999). Therefore in the context of our study on personalized advertising we examine the demographic variables of age, gender, and income to determine which, if any, impact a consumer's adoption intentions of the practice.

Age

With respect to age, a number of studies have revealed that a consumer's age can significantly impact privacy related outcomes; with older consumers typically demonstrating greater anxiety and lower intentions to disclose information due to an increased apprehension regarding their information privacy (Culnan, 1995; Kachhi & Link, 2009; Nowak & Phelps, 1992; Sheehan, 2002). We expect this relationship to hold true in the context of personalized advertising, given that the practice has been linked to a number of privacy related issues. Thus, we anticipate that older individuals will display lower intentions with regard to personalized advertising. Therefore, we hypothesize:

H12: Age is negatively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.

Gender

Gender has also been shown to play a role in information privacy research, with a number of studies finding that women generally displayed greater concern than men regarding the impact of information collection on their privacy (Fogel & Nehmad, 2009; Mael et al., 1996; Sheehan, 1999; Smith et al., 2011; Stone-Romero & Stone, 2007). Thus, since women are typically more concerned for their privacy than men, we expect

that they will be less likely to click on personalized advertisements or purchase from personalized advertisers given the privacy related issues that have been associated with the practice. Therefore, we hypothesize:

H13: Men will display greater (a) click-through and (b) purchase intentions with regard to personalized advertising.

Income

With regard to income, studies have shown that higher income individuals are generally less worried about privacy disclosures (Stone-Romero & Stone, 2007) and more comfortable making purchases online (Kachhi & Link, 2009). In addition, data from online advertisers has also revealed that shoppers who spend more online are more likely to click on personalized ads (ChoiceStream, 2009), providing some anecdotal evidence that higher income consumers will be more likely to click on personalized ads and purchase from personalized advertisers. Therefore, taking this into account along with previous empirical research regarding income level and privacy issues we hypothesize:

H14: Income is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.

For convenience, the above hypotheses are listed in Table 6:

Table 6: Study Hypotheses

| |
|---|
| <p>H1: Perceived privacy risks of personalized advertising are positively related to privacy concerns regarding personalized advertising.</p> <p>H2: Disposition to value privacy is positively related to privacy concerns regarding personalized advertising.</p> <p>H3: Perceived privacy control is negatively related to privacy concerns regarding personalized advertising.</p> <p>H4: Privacy concerns with regard to personalized advertising are negatively related to (a) click-through intentions and (b) purchase intentions.</p> <p>H5: Perceived invasiveness of personalized advertising is negatively related to attitude toward personalized advertising.</p> <p>H6: Perceived invasiveness of personalized advertising is negatively related to (a) click-through intentions and (b) purchase intentions.</p> <p>H7: Privacy concerns with regard to personalized advertising are positively related to the perceived invasiveness of personalized advertising.</p> <p>H8: Perceived usefulness of personalized advertising is positively related to attitude toward personalized advertising.</p> <p>H9: Attitude toward personalized advertising is positively related to (a) click-through intentions and (b) purchase intentions.</p> <p>H10: Consumer innovativeness is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.</p> <p>H11: Market Mavenism is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.</p> <p>H12: Age is negatively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.</p> <p>H13: Men will display greater (a) click-through and (b) purchase intentions with regard to personalized advertising.</p> <p>H14: Income is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions.</p> |
|---|

This chapter developed the conceptual framework that constitutes the basis of our study on the antecedents and outcomes of consumers' attitudes toward personalized advertising. In doing so, we reviewed and synthesized the relevant literature related to personalized advertising, personalization, information privacy and invasiveness. In addition, we discussed privacy calculus theory, as the guiding theoretical framework that will be utilized as a lens by which to conduct our investigation. Furthermore, we presented the proposed research model to be tested and discussed the literature and key theories that the model draws from. In doing so, we also extended privacy calculus theory by integrating traditionally used privacy calculus constructs with additional elements drawn from the research domains of marketing, organizational behavior, and innovation adoption literatures. Finally, we also described the constructs composing the model, discussed the key theories and relevant literature associated with those constructs, and delineated several research hypotheses describing the proposed interrelationships among the model's constructs.

The next chapter describes the methodology used to empirically test the study's hypotheses. In that chapter, we discuss the study's research design, measurement scale development, variable operationalization, sample characteristics, data collection procedures and statistical analyses employed in order to test the data.

CHAPTER 3

METHODOLOGY

This chapter discusses our study's methodology. In this chapter, we go over the processes that were undertaken in order to empirically test the study's hypotheses, such as the research design, measurement scale development, variable operationalization, sample characteristics, data collection procedures, and statistical analyses employed in order to examine the data.

Research Design and Procedure

To test our hypotheses we utilized a scenario-based survey method in which data was collected via a self-administered online questionnaire. As mentioned we examined personalized advertising in the context of social networking sites, since these sites are beginning to use the practice at an increasing rate based on their access to large amounts of clickstream and user profile data (Hoadley et al., 2010; Liao et al., 2011; Truong et al., 2010).

Participants were first instructed that this research was for academic purposes only and informed that participants that their privacy, confidentiality and anonymity would be ensured. Next participants were randomly assigned to one of five brief scenarios (found in Appendix A) describing a typical event that a web user might encounter with regard to personalized advertising on a social networking site.

The use of multiple scenarios allowed for comparison of the effects of differing personalized advertising contexts, in order to see how various situations might affect consumers' attitudes, intentions and privacy perceptions with regard to personalized advertising. For instance, the first scenario only presented a brief description of personalized advertising and was used as a control group to obtain a baseline assessment of consumers' perceptions of personalized advertising. The subsequent scenarios also presented the description of personalized advertising, but contained additional information regarding the source of consumer data used to generate a personalized ad. For example, one scenario mentioned that a personalized ad was based on information from a previous online search conducted by the consumer, while another scenario noted that the personalized ad was based on information from a users' SNS profile. This allowed us to distinguish if differences in the source of information used to generate an ad had any impact on consumers' perceptions of personalized advertising. We believe this knowledge would be extremely beneficial to marketers, in that if we can discern whether the source of information used to generate an ad impacts consumers' perceptions, marketers can then use that knowledge to display personalized ads to users that have the best chance of being successful. For instance, if it turned out consumers find personalized ads generated based on their online search activity as less invasive than ads generated based on their user profile data, marketers might be wise to display personalized ads based on search activity as opposed to profile data, so as to not unnecessarily spur negative reactions. In that same vein, if it turned out that the source of information used to generate an ad made no significant difference to consumers; this

information would also be useful to marketers since it would allow them to choose any source of data without worry when generating a personalized advertisement.

Scenario-based survey approaches such as the one employed here, have been used by a number of scholars and offer numerous benefits including a strong grounding in real-world business situations, ease of administration, the ability to collect data from large samples, flexibility, and reduction of biases from memory lapses, rationalization tendencies, and consistency factors that can sometimes occur with retrospective self-reports (Grewal et al., 2004; Malhotra, 2009). In addition, scenario-based surveys have other advantages, such as reducing the technical complications and ethical considerations that would be encountered with observation or enactment of online personalized advertising in the field. For instance, in order for us to serve a participant with an actual personalized advertisement we would need to access at least some of that individual's data, such as past browsing history and/or personal information. Not only would this be a challenge from a technological implementation standpoint, it would also represent an ethical dilemma given that we would be attempting to access potentially sensitive information. Therefore, a scenario-based survey approach seemed appropriate and helped us avoid these issues.

Following the scenario participants were asked a series of questions assessing their demographic information and measuring the respective constructs of our model. The survey was available online for participants to fill out on their own time and required no more than fifteen minutes to complete.

Several precautions were taken in order to improve data quality and reduce the problems of participant inattention, response bias and common method variance. These

included, utilizing established scales, presenting items in random order, ensuring anonymity and using both Likert and semantic differential item response formats (Dillman et al., 2009; Malhotra, 2009; Podsakoff et al., 2003). In addition, attention filters were utilized in order to eliminate surveys in which it seemed that participants were not paying attention to their responses. Questions were also presented in “chunks” that take up a minimal amount of screen space and did not require additional scrolling. Furthermore, we conducted both a pretest and a pilot study in order to ensure that participants could complete the survey in a timely manner and assess the initial quality of our instrument scales. Further information regarding the pretest and pilot study can be found in the next section entitled Measurement Scale Development.

Measurement Scale Development

In order to operationalize our constructs, we utilized existing measurement scales that have previously demonstrated acceptable levels of reliability in other studies and adapted those scales to fit the context of our study. As mentioned, we conducted both a pretest and pilot study to assess the preliminary quality of our measurement instruments and make refinements as needed. For the pretest the initial questionnaire and set of scenarios were reviewed for clarity by marketing faculty members, doctoral students and a group of 22 undergraduate students. Following this pretest we then made improvements as needed to clarify wording, avoid ambiguity and/or eliminate poorly written items. Next a pilot study was conducted in which 181 undergraduates were randomly exposed to one of the five scenarios and then given the modified questionnaire. Following the pilot study we performed a confirmatory factor analysis (CFA) to assess the relationship between individual items and their underlying theoretical constructs. The results of the CFA pilot

study demonstrated that most items loaded satisfactorily onto their constructs. However a few items did not and were therefore dropped from the questionnaire.

Each of the scales that made up our final survey and their individual items can be found in Appendix B. *Privacy risks* and *Perceived privacy control* were both measured using four-item scales derived from Xu et al., (2011a). *Privacy Concerns* was measured with four items adapted from Anderson and Agarwal (2011), Dinev and Hart (2006), and Malhotra et al., (2004). *Disposition to value privacy* (DTVP) was measured via two items adopted from Xu et al., (2011a). *Invasiveness* was measured using a five-item scale derived from Zweig and Webster (2002), Paschal et al., (2009), and Tepper and Braun (1995). *Perceived Usefulness* was measured with four items adapted from Davis et al., (1989), and Taylor and Todd (1995). *Attitude toward personalized advertising* was measured using a four-item scale adapted from Muehling (1987) and Wolin and Korgaonkar (2003). *Consumer innovativeness* was measured with three items derived from Roehrich (2004) and Tellis et al., (2009). *Market Mavenism* was measured via the Market Maven Scale (MMS) consisting of five items developed by Feick and Price (1987). Finally, *Intention to click on a personalized advertisement* and *Intention to purchase* were each measured using four items adapted from MacKenzie et al., (1986) and Venkatesh et al., (2003). All items were measured on seven-point semantic differential or Likert scales with descriptive anchors such as (1) “strongly disagree” to (7) “strongly agree”.

Statistical Analysis

The primary method of data analysis for our study's proposed research model was carried out via structural equation modeling (SEM) with maximum likelihood (ML) estimation analyzing a covariance matrix using the LISREL 8.8 software package (Jöreskog & Sörbom, 1996). SEM with ML is relevant for this study because it allows for estimation of all parameters and equations simultaneously as opposed to other statistical techniques in which estimations must be done one at a time (Iacobucci et al., 2007). Simultaneous estimation is statistically superior and permits more efficient estimation of complicated nomological models (Iacobucci et al., 2007), such as the one analyzed here. SEM also allows for the concurrent assessment of direct and indirect effects regarding relationships among latent constructs, while controlling for measurement error (Kline, 2010).

We employed the Anderson and Gerbing (1988) two-step model building approach in which the first step was an evaluation of the measurement model using Confirmatory Factor Analysis (CFA) to test the psychometric properties of the measurement scales being used by inspecting the reliability, convergent validity and discriminant validity of each of the scales. In addition, the significance of the loadings between observed measurement items and their corresponding latent constructs were also examined to assess whether items loaded onto their constructs the way in which they were supposed to. The second step then involves analysis of the structural model in order to test the hypothesized relationships between latent constructs by examining the significance of each structural path coefficient. Furthermore, we also assessed model fit of both the measurement and structural models using typical fit measures such as the chi-

square statistic and other goodness of fit indices including, the Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA).

Sample

The final survey was administered to a broad sample of individuals using a national consumer panel sample provided by the Qualtrics research firm. Use of this type of sample should help to increase the generalizability of our study's findings. A total of 567 surveys made up the initial sample size. However, 22 samples were deleted due to incomplete responses reducing the final sample size to 545 respondents. Table 7 lists descriptive statistics of the sample.

| Table 7: Sample Characteristics | | |
|--|------------------|-------------------|
| | Frequency | Percentage |
| Gender | | |
| Male | 290 | 53.21 |
| Female | 252 | 46.24 |
| Chose not to disclose | 3 | 0.55 |
| Age | | |
| 18-24 | 79 | 14.50 |
| 25-35 | 140 | 25.68 |
| 36-45 | 108 | 19.82 |
| 46-55 | 83 | 15.23 |
| 56-65 | 86 | 15.78 |
| 66 or Older | 27 | 4.95 |
| Chose not to disclose | 22 | 4.04 |
| Income | | |
| Less than \$30,000 | 105 | 19.27 |
| \$30,000 - \$49,999 | 108 | 19.82 |
| \$50,000 – \$74,999 | 127 | 23.30 |
| \$75,000 - \$99,999 | 85 | 15.60 |
| \$100,000 or More | 73 | 13.39 |
| Chose not to disclose | 47 | 8.62 |
| Education | | |
| 12 th Grade or Less | 10 | 1.84 |
| High School Graduate | 114 | 20.92 |
| Some College | 147 | 26.97 |
| Undergraduate Degree | 190 | 34.86 |
| Master’s Degree | 47 | 8.62 |
| Doctoral Degree | 15 | 2.75 |
| Chose not to disclose | 22 | 4.04 |

Conclusion

This chapter outlined our study’s methodology for empirically testing our model and described the study design, measurement scale development, variable operationalization, sample characteristics and statistical analysis tools and procedures that were utilized in order to test the data. The next chapter describes the results of our data analyses and hypotheses testing. In that chapter we will discuss the measurement model

evaluation, confirmatory factor analysis, assessments of model fit, reliability, convergent as well as discriminant validity, and finally the structural model evaluation in which the hypothesized relationships were empirically tested.

CHAPTER 4

DATA ANALYSES AND RESULTS

This chapter discusses the results of our data analyses and hypotheses testing. In this chapter, we will present the results obtained during the confirmatory factor analysis of the measurement model; which includes assessments of model fit, measurement scale reliability, and evaluation of convergent as well as discriminant validity. Finally the data analysis concludes with presentation of the results from the structural model evaluation in which the hypothesized relationships were empirically tested.

Measurement Model Evaluation

An initial analysis was conducted to assess the normality of the data as well as the scaling of the generated covariance matrix. The results of that analysis showed the data to be normal, demonstrating skewness and kurtosis values all below ± 1.5 , which placed these values well within their recommended acceptable ranges of ± 3.0 for skewness and ± 10.0 for kurtosis (Kline, 2010). In addition, ill scaling of the generated covariance matrix did not appear to be an issue, as the ratio of the smallest to largest variance was not greater than 10.0 (Kline, 2010).

As mentioned in Chapter 3 we employed the two-step model building approach recommended by Anderson and Gerbing (1988). Therefore, prior to testing the structural model with hypothesized relationships between latent constructs, the measurement model

was first analyzed via a confirmatory factor analysis (CFA) and then the structural model with the hypothesized relationships between latent constructs was tested. During this measurement model evaluation process an examination was conducted to assess (1) convergent validity, (2) discriminant validity, and (3) model fit.

Convergent validity was assessed by examining (1) the significance of the loadings between observed variables and their corresponding latent constructs, (2) the reliability of each of the measurement scales, and (3) the average variance extracted (AVE) by each construct (Barclay et al., 1995; Hu et al., 2004).

Results of the convergent validity assessment displayed support for the convergent validity of the measurement model. As seen in Table 8, examination of the measurement model revealed that all indicators significantly loaded onto their respective latent construct at the 0.01 level of significance. In addition, all standardized factor loadings exceeded the recommended 0.70 value (Ford et al., 1986; Fornell & Larcker, 1981). This provides strong evidence that each of the items loaded onto their constructs the way in which they were supposed to. Next, the reliability analysis on each of the measurement scales demonstrated that all scales generated a Cronbach's alpha coefficient greater than the generally agreed upon lower limit of 0.70 (Hair et al., 2010; Nunnally, 1978; Robinson et al., 1991). In addition, the composite reliability of each construct was also assessed and found to exceed the suggested acceptable benchmark of above 0.70 (Bagozzi & Yi, 1988; Barclay et al., 1995; Fornell & Larcker, 1981). Finally, the AVE values for each of the constructs were all well above the recommended 0.50 level (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hu et al., 2004). Taken together these

results support the convergent validity of the measurement model and signify that the scales used possess reasonably adequate psychometric properties.

| Table 8: Summary of Measurement Model Statistics | | | | | | | |
|---|-------------|-------------|------------|----------------|-------------------------|------------------------------|------------|
| Construct | Item | Std* | SE* | t-value | Cronbach's Alpha | Composite Reliability | AVE |
| Intention to Click | CLK1 | 0.95 | r | r | 0.96 | 0.96 | 0.88 |
| | CLK2 | 0.94 | 0.02 | 45.40 | | | |
| | CLK3 | 0.95 | 0.02 | 47.59 | | | |
| | CLK4 | 0.92 | 0.02 | 42.77 | | | |
| Purchase Intent | PUR1 | 0.95 | r | r | 0.97 | 0.97 | 0.89 |
| | PUR2 | 0.94 | 0.02 | 46.56 | | | |
| | PUR3 | 0.95 | 0.02 | 47.69 | | | |
| | PUR4 | 0.93 | 0.02 | 44.06 | | | |
| Attitude | ATT1 | 0.96 | r | r | 0.98 | 0.98 | 0.91 |
| | ATT2 | 0.95 | 0.02 | 52.47 | | | |
| | ATT3 | 0.96 | 0.02 | 52.65 | | | |
| | ATT4 | 0.95 | 0.02 | 50.25 | | | |
| Invasiveness | INV1 | 0.94 | r | r | 0.96 | 0.97 | 0.86 |
| | INV2 | 0.94 | 0.02 | 44.27 | | | |
| | INV3 | 0.89 | 0.02 | 36.28 | | | |
| | INV4 | 0.92 | 0.02 | 40.95 | | | |
| | INV5 | 0.94 | 0.02 | 44.91 | | | |
| Privacy Concerns | PC1 | 0.89 | r | r | 0.95 | 0.95 | 0.83 |
| | PC2 | 0.92 | 0.03 | 33.40 | | | |
| | PC3 | 0.93 | 0.03 | 34.59 | | | |
| | PC4 | 0.91 | 0.03 | 33.04 | | | |
| Perceived Usefulness | PU1 | 0.95 | r | r | 0.95 | 0.96 | 0.85 |
| | PU2 | 0.90 | 0.03 | 36.24 | | | |
| | PU3 | 0.93 | 0.02 | 43.92 | | | |
| | PU4 | 0.90 | 0.03 | 36.29 | | | |
| Privacy Risks | PR1 | 0.86 | r | r | 0.91 | 0.92 | 0.75 |
| | PR2 | 0.87 | 0.04 | 27.15 | | | |
| | PR3 | 0.82 | 0.04 | 24.49 | | | |
| | PR4 | 0.91 | 0.03 | 29.95 | | | |
| Disposition to Value Privacy | DVP1 | 0.87 | r | r | 0.87 | 0.87 | 0.78 |
| | DVP2 | 0.89 | 0.05 | 21.47 | | | |

| Table 8: Cont. | | | | | | | |
|--|-------------|-------------|------------|----------------|-------------------------|------------------------------|------------|
| Construct | Item | Std* | SE* | t-value | Cronbach's Alpha | Composite Reliability | AVE |
| Privacy Control | CNT1 | 0.88 | r | r | 0.91 | 0.91 | 0.72 |
| | CNT2 | 0.85 | 0.04 | 26.13 | | | |
| | CNT3 | 0.88 | 0.04 | 28.03 | | | |
| | CNT4 | 0.78 | 0.04 | 22.75 | | | |
| Consumer Innovativeness | CI1 | 0.91 | r | r | 0.90 | 0.90 | 0.75 |
| | CI2 | 0.83 | 0.03 | 26.68 | | | |
| | CI3 | 0.86 | 0.03 | 29.07 | | | |
| Market Mavenism | MM1 | 0.89 | r | r | 0.94 | 0.94 | 0.76 |
| | MM2 | 0.83 | 0.03 | 26.82 | | | |
| | MM3 | 0.88 | 0.03 | 29.91 | | | |
| | MM4 | 0.84 | 0.03 | 27.24 | | | |
| | MM5 | 0.92 | 0.03 | 33.35 | | | |
| <p>*Notes - “Std” refers to standardized coefficient; “SE” refers to standard error; - All coefficients are significant at $p < 0.01$ and generated from a confirmatory factor analysis r - Reference Indicator – No t-value or SE generated Goodness-of-fit statistics: $\chi^2(805) = 2145.12$; $\chi^2/df = 2.66$; CFI = 0.99; NFI = 0.98; NNFI = 0.99; RMSEA = 0.059; SRMR = 0.027</p> | | | | | | | |

Table 9 displays the correlations between each of the constructs. In order to access discriminant validity, the square root of the average variance extracted (AVE) is reported in the diagonal elements. As shown in the table, when we compare the diagonal and non-diagonal elements we see that the square root of the average variance extracted for any respective construct is greater than the correlation between that construct and any other construct, thus providing evidence for discriminant validity (Fornell & Larcker, 1981).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1.CLK | 0.94 | | | | | | | | | | |
| 2.PUR | 0.89 | 0.94 | | | | | | | | | |
| 3.ATT | 0.83 | 0.84 | 0.95 | | | | | | | | |
| 4.INV | -0.56 | -0.55 | -0.72 | 0.93 | | | | | | | |
| 5.PC | -0.47 | -0.44 | -0.57 | 0.79 | 0.91 | | | | | | |
| 6.PU | 0.77 | 0.76 | 0.87 | -0.68 | -0.57 | 0.92 | | | | | |
| 7.PR | -0.50 | -0.49 | -0.61 | 0.79 | 0.85 | -0.61 | 0.87 | | | | |
| 8.DVP | -0.26 | -0.24 | -0.37 | 0.56 | 0.63 | -0.39 | 0.68 | 0.88 | | | |
| 9.CNT | 0.55 | 0.56 | 0.57 | -0.48 | -0.51 | 0.54 | -0.56 | -0.20 | 0.85 | | |
| 10.CI | 0.44 | 0.44 | 0.39 | -0.22 | -0.27 | 0.42 | -0.25 | 0.34 | -0.10 | 0.87 | |
| 11.MM | 0.40 | 0.40 | 0.34 | -0.21 | -0.20 | 0.37 | -0.20 | 0.25 | -0.08 | 0.85 | 0.87 |

***Note:** CLK = Intention to Click; PUR = Purchase Intent; ATT = Attitude; INV = Invasiveness; PC = Privacy Concerns; PU = Perceived Usefulness; PR = Perceived Privacy Risks; DVP = Disposition to Value Privacy; CNT = Perceived Privacy Control; CI = Consumer Innovativeness; MM = Market Mavenism

The goodness-of-fit statistics for the measurement model were also quite positive. While the chi-square value was significant with a ρ -value of <0.01 , this is not overly concerning since chi-square is sensitive to sample size and tends to be significant with larger samples such as the one employed here (Hair et al., 2010; Hu & Bentler, 1999). In addition, the rest of the fit statistics were rather favorable. The chi-square to degrees of freedom ratio of 2.66 was under the suggested benchmark of <3.0 recommended by (Carmines & McIver, 1981). Furthermore, the NFI, NNFI, and CFI values were all greater than the benchmark of 0.95 or higher recommended by Hu and Bentler (Hu & Bentler, 1999). Finally, the RMSEA for the model was 0.059 and the SRMR was 0.027 both of which were stronger than the recommended cutoffs of less than 0.10 (Browne & Cudeck, 1993) and less than 0.08 (Hu & Bentler, 1999) respectively.

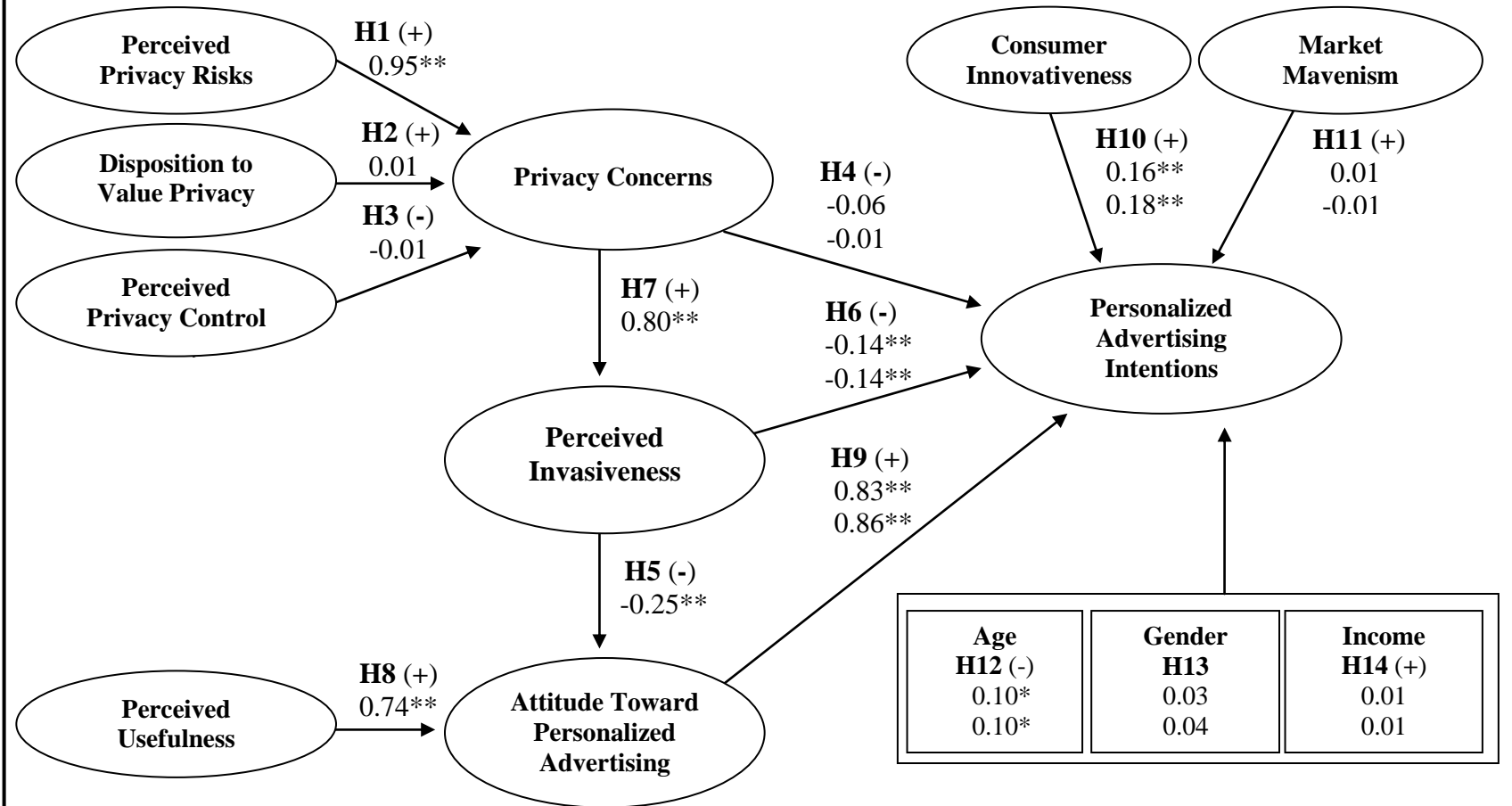
Taken together the results for the CFA measurement model evaluated here suggest that the measurement models are consistent with the data and there is a good

relationship between the indicators and their respective factors. This also serves as a positive sign that the items used in this study did a good job of measuring their respective latent constructs and that the scales assessed what they were intended to measure and were reliable.

Structural Model and Hypotheses Testing

After evaluation of the measurement model, we then moved on to the structural model analysis and hypotheses testing. The goodness-of-fit statistics for the structural model suggest the data also fit that model fairly well. For instance, the CFI, NFI, and NNFI values were all greater than the recommended benchmarks of 0.95 or higher (Hu & Bentler, 1999). In addition, the RMSEA for the model was 0.061 and the SRMR was 0.057 both of which were stronger than the recommended cutoffs of less than 0.10 (Browne & Cudeck, 1993) and less than 0.08 (Hu & Bentler, 1999) respectively. Furthermore, the chi-square to degrees of freedom ratio was 2.80, which was under the suggested benchmark of less than 3.0 (Carmines & McIver, 1981). To test our study's hypotheses we examined the significance of each path coefficient in the structural model. Figure 2 displays a graphical representation of the structural model results.

Figure 2: Personalized Advertising Acceptance Structural Model Results



Notes: **Path is significant at $\rho < 0.01$ *Path is significant at $\rho < 0.05$
 – When multiple values present, coefficients are listed in the following order: 1. Intention to Click 2. Purchase Intentions
Goodness-of-fit statistics: χ^2 (969)=2716.27; $\chi^2/df=2.80$; CFI=0.99; NFI=0.98; NNFI=0.98; RMSEA=0.061; SRMR=0.057

As shown in Figure 2, path coefficients associated with the following hypotheses were significant and in the predicted direction: H1, H5, H6, H7, H8, H9, and H10, thus these hypotheses were supported. However, path coefficients associated with hypotheses H2, H3, H4, H11, H13, and H14 were not significant, while the path for H12 was significant but in the opposite direction than predicted. Therefore, these hypotheses were not supported. Further explanation regarding these results is given below.

In terms of the antecedents of privacy concerns regarding personalized advertising, the coefficient for the path from Perceived Privacy Risks → Privacy Concerns was significant and positive. This indicates that perceived privacy risks are positively related to privacy concerns in the context of personalized advertising, thus supporting H1. However, the path coefficients from Disposition to Value Privacy → Privacy Concerns, and Perceived Privacy Control → Privacy Concerns were not significant. Therefore, H2 and H3 were not supported. In addition, regarding the relationships between privacy concerns of personalized advertising, click-through intentions, and purchase intentions; while the paths from Privacy Concerns → Intention to Click, and Privacy Concerns → Purchase Intentions were in the predicted negative direction, these paths were not significant. Consequently, H4a and H4b were not supported.

Concerning the relationship between the perceived invasiveness of personalized advertising and attitude toward personalized advertising, the path coefficient from Perceived Invasiveness → Attitude Toward Personalized Advertising was significant and negative. This signifies that the perceived invasiveness of personalized advertising is

negatively related to attitude toward personalized advertising, thus supporting H5. Additionally, in terms of the relationship between privacy concerns with regard to personalized advertising and the perceived invasiveness of personalized advertising, the coefficient for the path from Privacy Concerns → Perceived Invasiveness was significant and positive. This denotes that privacy concerns with regard to personalized advertising are positively related to the perceived invasiveness of personalized advertising, hence supporting H7. Moreover, with regard to the relationship between the perceived usefulness of personalized advertising and attitude toward personalized advertising, the path from Perceived Usefulness → Attitude Toward Personalized Advertising was significant and positive; signifying that the perceived usefulness of personalized advertising is positively related to attitude toward personalized advertising. Therefore, H8 was also supported.

In terms of the antecedents of click-through and purchase intentions, coefficients for the paths from Perceived Invasiveness → Intention to Click, and Perceived Invasiveness → Purchase Intentions, were both significant and negative. Thus H6a and H6b were supported, denoting that the perceived invasiveness of personalized advertising is negatively related to both click-through and purchase intentions. In addition, the paths from Attitude Toward Personalized Advertising → Intention to Click, and Attitude Toward Personalized Advertising → Purchase Intentions, were both significant and positive, thus supporting H9a and H9b. Therefore, this indicates that attitude toward personalized advertising is positively related to both click-through and purchase intentions. Furthermore, path coefficients from Consumer Innovativeness → Intention to Click, and Consumer Innovativeness → Purchase Intentions, were also significant and

positive, providing support for H10a and H10b. Hence, this demonstrates that consumer innovativeness is positively related to intention to click on a personalized advertisement and intention to purchase from personalized advertisers. While all of these hypothesized antecedents of click-through and purchase intentions were supported, the path coefficients for Market Mavenism, Gender, and Income, were not significant. Therefore, H11, H13 and H14 were not supported. Additionally, the path coefficients for Age were significant and positive; however these were in the opposite direction than hypothesized, thus H12 was not supported.

For convenience, Table 10 contains a brief synopsis of the hypotheses testing results:

Table 10: Hypotheses Results

H1: Perceived privacy risks of personalized advertising are positively related to privacy concerns regarding personalized advertising. **(Supported)**

H2: Disposition to value privacy is positively related to privacy concerns regarding personalized advertising. **(Not Supported)**

H3: Perceived privacy control is negatively related to privacy concerns regarding personalized advertising. **(Not Supported)**

H4: Privacy concerns with regard to personalized advertising are negatively related to (a) click-through intentions and (b) purchase intentions. **(Not Supported)**

H5: Perceived invasiveness of personalized advertising is negatively related to attitude toward personalized advertising. **(Supported)**

H6: Perceived invasiveness of personalized advertising is negatively related to (a) click-through intentions and (b) purchase intentions. **(Supported)**

H7: Privacy concerns with regard to personalized advertising are positively related to the perceived invasiveness of personalized advertising. **(Supported)**

H8: Perceived usefulness of personalized advertising is positively related to attitude toward personalized advertising. **(Supported)**

H9: Attitude toward personalized advertising is positively related to (a) click-through intentions and (b) purchase intentions. **(Supported)**

H10: Consumer innovativeness is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions. **(Supported)**

H11: Market Mavenism is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions. **(Not Supported)**

H12: Age is negatively related to personalized advertisement (a) click-through intentions and (b) purchase intentions. **(Not Supported)**

H13: Men will display greater (a) click-through and (b) purchase intentions with regard to personalized advertising. **(Not Supported)**

H14: Income is positively related to personalized advertisement (a) click-through intentions and (b) purchase intentions. **(Not Supported)**

Scenario Comparisons

Following the hypotheses testing, we also examined how consumers' perceptions of personalized advertising compared across the five different scenarios that participants were randomly assigned to. Similar to procedures followed by Baek and Morrimoto (2012), our pooled data was split into five subsets according to the source of information used to generate a personalized advertisement; with a separate structural model being generated for each subset. This allowed us to distinguish if differences in the source of information used to generate a personalized ad had any impact on the proposed relationships of our study. Table 11 displays the structural model coefficients for each of the five different information source scenarios as well as for the pooled dataset.

| Path | Pooled Dataset (n=545) | Scenario 1: Description of PA Only (n=119) | Scenario 2: Online Search (n=105) | Scenario 3: SNS Profile (n=113) | Scenario 4: SNS Post (n=105) | Scenario 5: Combined Ad Sources (n=103) |
|-------------|-------------------------------|---|--|--|-------------------------------------|--|
| PR→PC | 0.95** | 0.94** | 0.95** | 0.90** | 0.66** | 0.95** |
| DVP→PC | 0.01 | 0.04 | 0.03 | 0.08 | 0.20* | 0.08 |
| CNT→PC | -0.01 | -0.09 | -0.04 | -0.01 | -0.22** | -0.05 |
| PC→CLK | -0.06 | 0.05 | 0.01 | -0.22** | 0.09 | -0.33** |
| PC→PUR | -0.01 | 0.09 | -0.02 | -0.23** | 0.08 | -0.19** |
| INV→ATT | -0.25** | -0.30** | -0.15** | -0.28** | -0.19** | -0.34** |
| INV→CLK | -0.14** | 0.07 | -0.09 | -0.37** | -0.20* | -0.45** |
| INV→PUR | -0.14** | 0.08 | -0.02 | -0.43** | -0.23* | -0.38** |
| PC→INV | 0.80** | 0.80** | 0.77** | 0.90** | 0.72** | 0.78** |
| PU→ATT | 0.74** | 0.63** | 0.85** | 0.71** | 0.78** | 0.72** |
| ATT→CLK | 0.83** | 0.84** | 0.94** | 0.89** | 0.62** | 0.83** |
| ATT→PUR | 0.86** | 0.85** | 0.95** | 0.93** | 0.70** | 0.94** |
| CI→CLK | 0.16** | 0.38** | 0.03 | 0.20** | 0.31** | 0.01 |
| CI→PUR | 0.18** | 0.41** | 0.10* | 0.22* | 0.28** | 0.14** |
| MM→CLK | 0.01 | -0.02 | 0.07 | 0.01 | -0.03 | 0.05 |
| MM→PUR | -0.01 | -0.02 | 0.04 | 0.05 | -0.03 | 0.06 |
| AGE→CLK | 0.10* | 0.08 | 0.14** | 0.04 | 0.12* | 0.06 |
| AGE→PUR | 0.10* | 0.15** | 0.02 | 0.15** | 0.15** | 0.06 |
| GND→CLK | 0.03 | 0.03 | 0.03 | 0.02 | 0.04 | 0.07 |
| GND→PUR | 0.04 | 0.01 | 0.05 | 0.04 | 0.08 | 0.06 |
| INC→CLK | 0.01 | 0.02 | 0.01 | 0.06 | -0.08 | 0.13* |
| INC→PUR | 0.01 | 0.02 | 0.09 | -0.01 | -0.09 | 0.02 |

Note: **Path is significant at $p < 0.01$ *Path is significant at $p < 0.05$
PR = Perceived Privacy Risks; PC = Privacy Concerns; CLK = Intention to Click; DVP = Disposition to Value Privacy; CNT = Perceived Privacy Control; PUR = Purchase Intent; INV = Invasiveness; ATT = Attitude; PU = Perceived Usefulness; CI = Consumer Innovativeness; MM = Market Mavenism; GND = Gender; INC = Income

In comparing the results across each of the various scenarios, perceived privacy risks were positively related to privacy concerns in all of the models. In addition, disposition to value privacy and perceived privacy control were significantly related to privacy concerns for only one of the scenarios, that of Scenario 4, in which a personalized advisement was generated based on a post an individual made to a social networking site. Furthermore, privacy concerns demonstrated a significant negative association with click-through and purchase intentions in Scenarios 3 and 5 only. These models corresponded with the scenarios in which a personalized advertisement was

developed based on information from an individual's social networking site profile (Scenario 3) and from a combination of all the information sources (Scenario 5) respectively.

Taking a look at perceived invasiveness of personalized advertising, that construct showed a significant negative relationship to attitude towards personalized advertising in each of the models. Additionally, the perceived invasiveness of personalized advertising also demonstrated a significant negative association with click-through and purchase intentions in the pooled dataset as well as three out of the five scenarios, which were Scenarios 3, 4, and 5 respectively. Therefore, Scenarios 1 and 2 were the only scenarios in which perceived invasiveness was not significant and negatively related to click-through or purchase intentions. These were the scenarios in which only a description of personalized advertising itself was given (Scenario 1) and a personalized advertisement was created based on information from an online search that an individual conducted (Scenario 2) respectively.

In examining the relationship between privacy concerns and invasiveness, privacy concerns were significantly related to invasiveness in each of the six models. In addition, perceived usefulness was significantly related to attitude toward personalized advertising for all of the models as well. Furthermore, attitude toward personalized advertising was also significantly related to both click-through and purchase intentions in each model.

For the variables of market mavenism and consumer innovativeness, market mavenism was not significantly related to click-through or purchase intentions for any of the six models. However, consumer innovativeness demonstrated a much stronger

relationship with those two intention variables. For instance, consumer innovativeness was significantly related to purchase intentions for the pooled dataset as well as each of the five scenarios, and was significantly related to click-through intentions for all but two scenarios, those of Scenarios 2 and 5. These were the scenarios in which a personalized advertisement was generated based on information from an online search that an individual conducted (Scenario 2) and from a combination of all the information sources (Scenario 5) respectively.

In terms of the demographic variables of gender, income, and age; gender was not significantly related to click-through or purchase intentions in the pooled dataset or any of the five scenarios tested. In addition, income was not significantly related to purchase intentions for any of the models and was significantly related to click-through intentions for only one of the five scenarios, that of Scenario 5. This was the scenario which a personalized ad was developed based on a combination of all the information sources. Finally, age showed somewhat of a mixed relationship with both click-through and purchase intentions. While age was significantly related to both intention variables for many of the models; when age was significant it was positively related to those intention variables, which was in the opposite direction of what was hypothesized. Age was significantly related to click-through intentions for Scenarios 2 and 4, which were scenarios in which a personalized advertisement was generated based on information from an online search that an individual conducted (Scenario 2) and from a post that an individual made to a social networking site (Scenario 4) respectively. Furthermore, age was significantly related to purchase intentions for Scenarios 1, 3, and 4. These were scenarios wherein only a description of personalized advertising itself was given

(Scenario 1), a personalized advertisement was created based on information from an online search that an individual conducted (Scenario 3), or an ad was created from a post that an individual made to a social networking site (Scenario 4) respectively.

Conclusion

This chapter discussed the results of our data analyses and hypotheses testing. We first presented the results of the confirmatory factor analysis of the measurement model; which encompassed assessments of model fit, measurement scale reliability, and evaluation of convergent as well as discriminant validity. Next, findings were presented from the structural model evaluation in which the hypothesized relationships of our study were empirically tested. Finally, we compared the results across the five different personalized advertising scenarios.

The next chapter contains a summary of our study's key findings, as well as a discussion of the implications as they pertain to both marketing practitioners and academicians. In addition, the chapter also reviews the key contributions and conclusions of this research, discusses the limitations of our study, and offers directions for future research.

CHAPTER 5

DISCUSSION

This chapter presents a summary of our study's main findings, as well as a discussion of the implications that these findings have for marketing scholars and practitioners. In addition, this chapter also reviews the key contributions of this research, along with the limitations of our study and directions for future research.

Key Research Findings and Implications

After analyzing the results of our empirical study, a number of important findings and valuable insights for marketing theory and practice stand out in terms of consumers' attitudes and intentions regarding personalized advertising. For instance, attitude toward personalized advertising showed the strongest relationship with personalized advertising intentions, as attitude exhibited by far the largest coefficients for its relational paths with click-through intentions and purchase intentions respectively. This finding in and of itself is not all that surprising given that a number of scholars have suggested that attitude is the most significant predictor of behavioral intentions (Chang et al., 1996; Gopi & Ramayah, 2007; Lim & Dubinsky, 2005). However, it is still an important finding to note since it helps establish an initial relationship on which to build a framework for understanding consumers' reactions to personalized advertising. Furthermore, given the finding of these robust relationships, researchers and practitioners would be wise to use this knowledge to uncover ways in which to improve consumers' attitudes toward

personalized advertising, since it appears that if attitudes toward PA are improved consumers would be much more likely to click on these advertisements and purchase from advertisers who display them.

One possible way to improve consumers' attitudes toward personalized advertising is by uncovering antecedents of those attitudes. Therefore, this study also explored two potential antecedents of attitude toward personalized advertising, (1) perceived usefulness and (2) perceived invasiveness. As hypothesized in our study, perceived usefulness displayed a significant positive relationship with attitude toward personalized advertising. Moreover also as hypothesized, the perceived invasiveness of personalized advertising was found to be an important negative antecedent to attitude toward personalized advertising. In addition, as hypothesized, perceived invasiveness displayed a significant negative relationship with click-through intentions and purchase intentions respectively.

These findings represent extremely important implications for academicians and practitioners alike. For instance, since perceived usefulness was positively related to attitude, it would be advisable for marketing practitioners to find ways to improve the perceived usefulness of personalized advertisements and emphasize how useful personalized ads can be for consumers, as a way for improving consumers' attitudes toward the practice of personalized advertising. One way marketers might be able to do this is by highlighting the potential benefits of personalized advertisements to consumers by noting that these ads are more relevant than traditional advertisements since they contain messages that are crafted for and tailored to a specific consumer and take into

account an individual's information, interests, and preferences. Thus an individual may be more likely to find these ads to be useful in helping to fulfill their needs. In addition, practitioners might also be able to improve perceived usefulness of personalized advertising by emphasizing that personalized ads will help consumers save time since they will not have to search as long to find products of interest. Finally, practitioners might be able to improve perceived usefulness of personalized advertising by employing promotional techniques similar to those used to increase consumers' adoption of online and mobile phone shopping. Such promotional techniques might include offering free shipping and/or deep discounts to users that click on and subsequently complete a purchase via a personalized advertisement. Techniques such as these should help to increase the perceived usefulness of personalized advertising since users will have been given something in return for clicking on and purchasing from a personalized advertiser who has generated an ad based on some of a consumer's obtained personal information; as opposed to most current personalized ads which simply generate an ad and offer no extra incentive for a user to click or purchase.

Additionally, since perceived invasiveness was negatively related to attitude toward personalized advertising, it would also be advisable for practitioners to find methods in which to reduce the perceived invasiveness of personalized advertising in order to improve consumers' attitudes towards these types of ads. Moreover, since perceived invasiveness also demonstrated a direct negative relationship with click-through and purchase intentions in the context of personalized advertising, this further emphasizes the importance of marketers finding ways to reduce the perceived invasiveness of personalized advertising, since it may have a direct impact on these

intention variables as well. Furthermore, given the importance of the positive and negative relationships just described it would be sensible for scholars to include perceived usefulness and perceived invasiveness in theories attempting to predict consumers' attitudes and intentions regarding personalized advertising.

As hypothesized, perceived privacy risks were significant and positively related to privacy concerns with regard to personalized advertising. Also as hypothesized, privacy concerns with regard to personalized advertising were significant and positively related to the perceived invasiveness of personalized advertising. On the other hand, although it was hypothesized that privacy concerns would be negatively related to personalized advertising click-through and purchase intentions respectively, no significant relationships were found amongst these constructs. Consequently, privacy concerns were not significantly related to click-through intentions or purchase intention in the context of personalized advertising.

Taking into account the already discussed noteworthy relationships between perceived invasiveness, attitude, click-through intentions and purchase intentions, these results represent additional important implications of our study, since they may provide an actionable method to increase click-through and purchase intentions by way of the relationships between other constructs. For instance, since perceived privacy risks were found to be an antecedent of privacy concerns, if those risks were reduced, privacy concerns should thus be reduced as well, which in turn should lessen the perceived invasiveness of personalized advertising, subsequently improving attitude toward personalized advertising and increasing click-through and purchase intentions.

While perceived privacy risks were found to be a significant antecedent of privacy concerns, the other proposed antecedents of disposition to value privacy and perceived privacy control were not significantly related to privacy concerns. The implications of these findings serve to further increase the importance of assessing perceived privacy risks since it was found to be the only significant antecedent of privacy concerns in the context of personalized advertising.

There are a number of possible ways in which practitioners can attempt to go about reducing the perceived privacy risks of personalized advertising. First, personalized advertisers might draw comparisons between personalized advertising and personalization. The practice of personalization as conducted on sites such as Amazon is much more established and widely accepted by consumers. Therefore, if marketers can successfully position personalized advertising so that it is viewed similarly to that of personalization, this should serve to reduce the perceived privacy risks of personalized advertising. In addition, practitioners might also be able to reduce the perceived privacy risks of personalized advertising by obtaining permission from consumers before serving personalized ads. While this might seem to limit the potential reach of these ads, it should serve to make the ads more effective since consumers are accepting of advertising if it is permission based (Nasco & Bruner, 2008). Finally, since transparency lowers perceptions of privacy risks (Culnan & Bies, 2003), personalized advertisers could further attempt to reduce perceived privacy risks by increasing the transparency of the practice. One way to increase transparency could be for personalized advertisers to undertake an informational television and/or YouTube video advertising campaign to better explain the practice of to the public at large. This could be a way to increase the transparency of personalized

advertising and clear the air so to speak. Although it might be costly, a campaign of this nature should prove worthwhile if it is able increase consumer acceptance of personalized advertising going forward. In addition to easing privacy concerns, this campaign could also by stress the ways in which consumers could benefit from personalized advertisements and thus simultaneously increase the perceived usefulness of personalized advertising, which would represent a twofold accomplishment.

In terms of the psychosocial individual difference variables of consumer innovativeness and market mavenism; consumer innovativeness was significant and positively related to both click-through and purchase intentions in the context of personalized advertising, while market mavenism was not significantly related to click-through or purchase intentions. These findings also have important implications, as they provide insight for which types of consumers would be more receptive to personalized ads, i.e. who marketers should target with them. For instance, since individuals rating high on consumer innovativeness show greater intentions to click on personalized advertisements and purchase from personalized advertisers, marketers would be wise to target personalized advertisements to more innovative consumers since they show greater promise in terms of acceptance of the practice. Ways in which personalized advertisers might find and target innovative consumers include posting ads on technology related websites such as Wired.com, as well as displaying ads for technologically related products such as the latest smartphones, tablets, and other cutting edge innovations. Furthermore, the lack of a significant finding for the relationships between market mavenism and the personalized advertising intention variables also has important implications, as it signals to marketers that perhaps they would be better served by not

targeting market mavens as a potential segment for personalized ads since they do not appear to be as accepting of the technique.

Regarding the demographic characteristic variables of income, gender, and age, neither income nor gender demonstrated a significant relationship with click-through or purchase intentions. These results have implications nonetheless, as practitioners should not have to worry about income level or gender in terms of an individual's potential acceptance (or lack thereof) regarding personalized advertising. Of course personalized advertisements should still be created that are tailored to a consumer's proposed individualities and preferences. However, these results provide some evidence that an individual will not simply reject the practice of personalized advertising based on their gender or income level alone. In addition, while age was hypothesized to be negatively related to personalized advertising intentions, (i.e. younger individuals would be more receptive to the technique), it turned out that age was significant but positively related to click-through and purchase intentions regarding personalized advertising. This result was somewhat surprising given the number of previous research studies that demonstrated older consumers typically had greater anxiety and lower intentions to disclose personal information due to an increased apprehension regarding their information privacy (Culnan, 1995; Kachhi & Link, 2009; Nowak & Phelps, 1992; Sheehan, 2002). There are a few possible explanations for this unexpected result. One reason might have to do with the context of our study, that of social networking sites. For instance, since younger individuals use SNSs more often than older individuals (Brenner, 2013) they may be more likely to have larger amounts of their personal information on these sites. Therefore, younger people might be more concerned about that information than older

individuals and thus they may display lower intentions to click on or purchase from personalized advertisers. Another possible explanation for this finding is that younger people might be more knowledgeable about how their personal information on SNSs can be used (or misused). Thus, these individuals may be more hesitant about clicking on or purchasing from personalized advertisers. Finally, another potential reason for this finding might be that younger individuals have been shown to display less interest in advertising than older individuals (Yasin et al., 2013). Therefore perhaps this lower level of interest might account for why younger individuals were less likely to click on or purchase from personalized advertisers.

Comparing the findings across the various scenarios, it appears that the source of information used to generate a personalized advertisement does play a role in consumers' perceptions of personalized advertising for some of the constructs in our study, particularly privacy concerns and perceived invasiveness and their interrelationships with click-through and purchase intentions respectively. For instance, ads generated from an individual's social networking site profile information (Scenario 3) and those generated from a combination of multiple information sources (Scenario 5) seem to spur the most negative reactions in terms of both privacy concerns and perceived invasiveness. When these information sources were used as the bases for generating an ad, the construct of privacy concerns demonstrated its only significant impact on click-through and purchase intentions. In addition, perceived invasiveness exhibited its largest negative relationships with click-through and purchase intentions in the presence of these information sources. Perhaps individuals are less accepting of advertisements when they are served based on information from their social networking site profiles (Scenario 3) because they consider

this information to be more private and having an ad served based on this information thus makes privacy concerns and perceived invasiveness more salient. Furthermore, it makes intuitive sense that individuals would have issues with ads generated from a multitude of information sources (Scenario 5), since it represents the most intensive form of information gathering and usage on the part of personalized advertisers and thus should raise the most privacy concerns and highest levels of perceived invasiveness.

In contrast it appears that when an individual is only given a description of personalized advertising (Scenario 1) and when an ad is based on information from an online search that an individual has conducted (Scenario 2), consumers have fewer issues in terms of privacy concerns and perceived invasiveness. In these scenarios, both privacy concerns and perceived invasiveness demonstrated their weakest relationships with click-through and purchase intentions respectively. Perhaps when simply given a description of personalized advertising (Scenario 1), the potential privacy and invasiveness issues are much less salient and only when individuals can picture an example of personalized advertising in practice are they able to fully realize the potential privacy implications, thus triggering higher levels of privacy concerns and perceived invasiveness. Additionally, in terms of ads generated based on information gathered from an online search (Scenario 2), perhaps individuals are more accepting of this as compared to other information sources, because they are already in the process of searching for information, as opposed to having a personalized advertisement served to them when they are involved in more social activities.

Given these findings regarding consumers' perceptions, it would be wise of marketers to refrain from serving ads to individuals that were based on information obtained from a user's social networking site profile or ads that were based on a combination of information sources as these ads elicit the most negative reactions from consumers. Furthermore, personalized advertisers would be much better off serving ads that were based on information acquired from an individual's online search activity and to a lesser extent ads based on a post an individual made to a social networking site, as these information sources were found to prompt lesser reactions in terms of privacy concerns and perceived invasiveness.

Limitations and Directions for Future Research

While this study provides a number of implications and contributions for marketing theory and practice it is not without its limitations. First, while many of the hypothesized relationships were significant, surprisingly quite a number were not, such as those between disposition to value privacy, perceived privacy control and privacy concerns. In addition, the hypothesized results also varied according to the respective information source scenarios, with some construct relationships showing reasonably consistent results and others exhibiting no discernible pattern as to why they may or may not be significant for one particular scenario and not another. For instance, the relational paths between age and the personalized advertising intention variables, demonstrate such an indiscernible pattern of significance and insignificance. In addition, our pooled dataset revealed age to be significant and positively related to click-through and purchase intentions, which was in the opposite direction of what was originally hypothesized. Results such as these demonstrate the necessity for follow-up studies to provide

additional tests of the hypothesized relationships studied here in order to assess if the results discovered in this study once again hold. Moreover, these results also highlight the need for further refinement of a theoretical framework related to personalized advertising, so that consumers' perceptions of the practice may be further explained. Furthermore, as was mentioned in the possible reasons for the results of age, perhaps younger people are more knowledgeable about how their personal information on SNSs is used. Consequently, future research might look at how an individual's knowledge of the way personal information is used or mined impacts their perceptions of personalized advertising or other marketing activities.

Additionally, in order to increase the generalizability of our study's findings this study acquired a fairly large and broad sample of individuals through the use of a consumer panel provided by national research firm. However, future studies could further generalize findings by utilizing an even larger and broader sample of individuals. Moreover, since this study's sample consisted of U.S. residents only, it is not appropriate to generalize our findings beyond that of the United States. Future research could explore the model and scenarios examined here to see if the relationships uncovered still hold in an international and/or cross-cultural context.

Furthermore, this study employed the use of a cross-sectional scenario-based survey method. While this design allowed for the quick collection of a large sample, future studies should also investigate personalized advertising via a longitudinal study in order to obtain a more long-term perspective of consumers' perceptions of personalized advertising.

Finally, since attitude-toward-advertising-in-general (AG) serves as a key antecedent to attitude toward specific ads (Gao & Koufaris, 2006; Lutz, 1975; Muehling, 1987; O'Donohoe, 1995; Sandage & Leckenby, 1980; Taylor et al., 2011), this study examined consumers' attitudes toward the practice of personalized advertising in general in order to gain a broader view as opposed to focusing only on attitude toward a specific advertisement. While this was appropriate for our study, future research could also investigate how consumers' attitudes toward specific personalized advertisements and specific ad appeals, impact click-through and purchase intentions in the context of personalized advertising.

Contributions and Conclusion

This research provides numerous contributions to practitioners, academicians and consumers alike. First, this research demonstrated the importance of studying personalized advertising for marketers, scholars, and consumers. Second, a thorough review of each stream of literature that this research drew from was presented and summarized. Third, this research contributed to the development of a more thorough understanding of consumers' attitudes towards personalized advertising by exploring the antecedent and outcome factors of those attitudes by way of an empirical investigation. Fourth, the empirical investigation utilized a theoretical framework that extended privacy calculus theory by integrating it with previous research from other literature domains such as invasiveness, advertising acceptance, and innovation adoption, as a theoretical lens by which to investigate personalized advertising in the context of social networking sites.

Fifth, the study conducted here is one of only a few studies thus far in the academic literature which have examined both the antecedents and outcomes of privacy concerns simultaneously within a complex nomological network (Smith et al., 2011) such as the one we have presented here, which represents a further contribution of our study. Therefore, by investigating privacy concerns and the other constructs of our model in this manner, we are able to garner a better understanding of its antecedents and effects on other constructs.

Sixth, this research represents a major contribution to the marketing and information privacy literature domains by incorporating the construct of invasiveness, which had been used previously in the organizational behavior literature, but had not yet been investigated within either the marketing or information privacy literature. The results of the study further reveal the importance of incorporating invasiveness into these literature streams, as perceived invasiveness was an extremely integral construct in our model of personalized advertising acceptance, by not only demonstrating a significant and negative impact on attitude toward personalized advertising, but also a significant and negative impact on click-through and purchase intentions. This therefore demonstrates how worthwhile the construct of invasiveness can be via the added information that it might be able to offer to both marketing researchers and practitioners regarding consumers' perceptions of privacy violations. Moreover, this further emphasizes the need for both academicians and practitioners to discern invasiveness in both marketing theory and practice.

Seventh, to the best of our knowledge this research is the first to examine perceived invasiveness and privacy concerns together in the same study. This also represents a major contribution to a number of academic literature domains, including marketing, organizational behavior, and information privacy, as each of these streams will benefit from the results of this study which simultaneously examined the two constructs within the same complex nomological network and found them to be theoretically related but distinct factors. In addition, this study helped better determine the particular relationship between the two constructs by revealing that privacy concerns with regard to personalized advertising serve as a significant antecedent to consumers' perceived invasiveness of personalized advertising.

Finally, another contribution of this study lied in its examination consumers' attitudes toward the practice of personalized advertising in general (as opposed to focusing on attitude toward a specific advertisement). By doing this, we were able to gain a broader view of how reactions to specific personalized ads might be shaped, which should assist marketing practitioners and scholars in being better equipped to anticipate consumers' attitudes toward specific personalized ads.

In conclusion, this research and its empirical study helped to reveal a number of valuable insights and important actionable implications for marketing theory and practice. In addition, this research lends contributions to academicians, marketing practitioners, and consumers alike by helping to achieve an increased understanding of personalized advertising's impact on consumers' perceptions. This knowledge should aid academic scholars in developing improved theoretical frameworks regarding consumer

response to advertising as a whole. In addition, this study assisted marketing practitioners in their understanding of how to better implement the practice of personalized advertising in a way that accounts for consumers' privacy concerns and perceived invasiveness regarding the practice. Furthermore, if marketers are able to implement personalized advertising in a way that alleviates consumer's privacy concerns and perceived invasiveness, consumers themselves will also gain as they will be better able to take advantage of the benefits of personalized advertising in a manner that is less invasive of their privacy. Given this, marketers will then be able to further benefit via increased click-throughs and purchase intentions regarding market offerings promoted via personalized advertising.

APPENDIX A

Personalized Advertising Scenarios

Participants will be randomly assigned to one of the following five scenarios.

Scenario 1 - Description Only for Baseline/Control Group

Please read the following scenario and then answer the questions in the next section:

Personalized advertising is a new service being offered by marketers. Made possible through advances in online data collection that allow individual consumers to be identified and their behavior analyzed, many websites such as e-commerce vendors, social networking sites, e-mail services, and search engines have begun displaying personalized banner advertisements to consumers that were created based on previously monitored online activity, including search entries, cookie clickstream data, scanned email messages and/or user profiles.

Scenario 2 - Ad Generated Based on Online Search

Please read the following scenario and then answer the questions in the next section:

Personalized advertising is a new service being offered by marketers. Made possible through advances in online data collection that allow individual consumers to be identified and their behavior analyzed, many websites such as e-commerce vendors, social networking sites, e-mail services, and search engines have begun displaying personalized banner advertisements to consumers that were created based on previously monitored online activity, including search entries, cookie clickstream data, scanned email messages and/or user profiles.

Now please imagine that you have just logged on to a social networking site and notice that one of the banner advertisements being displayed is for a product or service that you recently viewed on an e-commerce site after conducting an online search for that particular product or service.

Scenario 3 - Ad Generated Based on SNS Profile Data

Please read the following scenario and then answer the questions in the next section:

Personalized advertising is a new service being offered by marketers. Made possible through advances in online data collection that allow individual consumers to be identified and their behavior analyzed, many websites such as e-commerce vendors, social networking sites, e-mail services, and search engines have begun displaying personalized banner advertisements to consumers that were created based on previously monitored online activity, including search entries, cookie clickstream data, scanned email messages and/or user profiles.

Now please imagine that you have just logged on to a social networking site and notice that one of the banner advertisements being displayed contains information that you believe was gathered from your social networking site profile such as the name of a brand that you previously “liked”.

Scenario 4 - Ad Generated Based on SNS Post

Please read the following scenario and then answer the questions in the next section:

Personalized advertising is a new service being offered by marketers. Made possible through advances in online data collection that allow individual consumers to be identified and their behavior analyzed, many websites such as e-commerce vendors, social networking sites, e-mail services, and search engines have begun displaying personalized banner advertisements to consumers that were created based on previously monitored online activity, including search entries, cookie clickstream data, scanned email messages and/or user profiles.

Now please imagine that you have just logged on to a social networking site and notice that one of the banner advertisements being displayed is for a particular product or service and seems to be based on a recent post that you made to the social networking site, where you mentioned that you needed to purchase a similar product or service.

Scenario 5 - Combined Scenario of Each of the Ads

Please read the following scenario and then answer the questions in the next section:

Personalized advertising is a new service being offered by marketers. Made possible through advances in online data collection that allow individual consumers to be identified and their behavior analyzed, many websites such as e-commerce vendors, social networking sites, e-mail services, and search engines have begun displaying personalized banner advertisements to consumers that were created based on previously monitored online activity, including search entries, cookie clickstream data, scanned email messages and/or user profiles.

Now please imagine that you have just logged on to a social networking site and notice that one of the banner advertisements being displayed is for a product or service that you recently viewed on an e-commerce site after conducting an online search for that particular product or service. In addition, you notice that another one of the banner advertisements contains information that you believe was gathered from your social networking site profile such as the name of a brand that you previously “liked”. Finally, you also notice that another one of the advertisements is for a particular product or service and seems to be based on a recent post that you made to the social networking site, where you mentioned that you needed to purchase a similar product or service.

APPENDIX B

Measurement Items

Privacy risks - (Xu et al., 2011a)

1. In general, the collection of my information for personalized advertising is risky for me.
2. There is a high potential for privacy loss associated with personalized advertising.
3. Information collected for personalized advertising could be used inappropriately.
4. Collection of my information for personalized advertising could involve many unexpected problems.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Perceived privacy control - (Xu et al., 2011a)

1. I believe I have control over who can access my personal information that is collected by online companies.
2. I think I have control over what personal information is released by online companies.
3. I believe I have control over how my personal information is used by online companies.
4. I believe I can control my personal information on the internet.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Privacy Concerns - (Anderson & Agarwal, 2011; Dinev & Hart, 2006; Malhotra et al., 2004)

1. I am concerned that personalized advertisers are collecting too much information about me.
2. I am concerned that the information collected about me for personalized advertisements could be misused.
3. I am concerned about collection of my information by personalized advertisers, because of what others might do with it.
4. All things considered, I believe that my privacy is seriously threatened by personalized advertising.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Disposition to value privacy - (Xu et al., 2011a)

1. Compared to others, I am more sensitive about the way companies handle my personal information.
2. Compared to others, I tend to be more concerned about threats to my information privacy.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Invasiveness – (Zweig & Webster, 2002; Paschal et al., 2009; Tepper & Braun 1995)

1. I feel that personalized advertising is an invasion of my privacy.
2. Personalized advertising is an invasion of consumer privacy.
3. Consumer privacy is invaded by the way companies conduct personalized advertising.
4. Personalized advertising violates consumers' right to privacy.
 - (1 for Strongly Disagree to 7 for Strongly Agree)
5. To what extent do you feel that personalized advertising results in an invasion of your privacy?
 - (1 for Definitely Not an Invasion to 7 for Definitely an Invasion)

Perceived Usefulness - (Davis et al., 1989; Taylor & Todd, 1995)

On a scale from 1-7, 7 being the highest, do you think that personalized advertising is:

1. Unhelpful/Helpful
2. Irrelevant/Relevant
3. Worthless/Worthwhile
4. Overall, I feel that personalized advertising is useful.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Attitude Toward Personalized Advertising - (Muehling, 1987; Wolin & Korgaonkar, 2003)

On a scale from 1-7, 7 being the highest, do you think that personalized advertising is:

1. Bad/Good
2. Favorable/Unfavorable
3. Positive/Negative
4. Overall, I like personalized advertising
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Consumer innovativeness - (Roehrich 2004; Tellis et al., 2009)

1. I am usually among the first to try new products.
2. I know more than others do about the latest new products.
3. I am eager to buy new products as soon as they come out.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Market Mavenism - (Feick & Price, 1987)

1. I like introducing new brands and products to my friends.
2. I like helping people by providing them with information about many kinds of products.
3. People ask me for information about products, places to shop, or sales.
4. If someone asked where to get the best buy on several types of products, I could tell him or her where to shop.
5. My friends think of me as a good source of information when it comes to new products or sales.
 - (1 for Strongly Disagree to 7 for Strongly Agree)

Intention to Click on a Personalized Advertisement - (MacKenzie et al. 1986; Venkatesh et al., 2003)

1. I intend to click on personalized advertisements in the near future.
 2. I plan to click on personalized advertisements in the near future.
 - (1 for Strongly Disagree to 7 for Strongly Agree)
- On a scale from 1-7, 7 being the highest, please specify the likelihood that you will click on a personalized advertisement in the near future.
3. Unlikely/Likely
 4. Improbable/Probable

Intention to Purchase from Personalized Advertisers - (MacKenzie et al. 1986; Venkatesh et al., 2003)

1. I intend to purchase products or services from personalized advertisers in the near future.
 2. I plan to purchase products or services from personalized advertisers in the near future.
 - (1 for Strongly Disagree to 7 for Strongly Agree)
- On a scale from 1-7, 7 being the highest, please specify the likelihood that you will purchase products or services from personalized advertisers in the near future.
3. Unlikely/Likely
 4. Improbable/Probable

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