

온라인 맞춤형 광고 효과에 미치는 요인들 연구

Study on Factors Affecting Effects of Online Behavioral Advertising

엄남현*, 김소정**
홍익대학교 광고홍보학부*, 경북대학교 신문방송학과**

Namhyun Um(goldmund@hongik.ac.kr)*, Sojung Kim(sojungkim@knu.ac.kr)**

요약

최근 온라인 마케팅에서 가장 중요한 분야로 온라인 맞춤형 광고가 떠오르고 있다. 온라인 맞춤형 광고는 개인정보 수집 및 동의, 소비자의 인지된 개인화 및 소비자의 온라인 사생활 침해 걱정 등과 같은 이슈들을 만들었다. 본 연구는 이러한 세 가지 이슈들이 온라인 맞춤형 광고에 미치는 영향들이 무엇인지를 알아보고자 한다. 연구결과, 정보 수집과 사용동의 구분은 온라인 맞춤형 광고 평가에 주요한 역할을 하고 있다는 것이 밝혀졌다. 개인정보 수집에서 향후 온라인 맞춤형 광고 노출 시 리워드를 받을 수 있을 거라고 고지된 사람들은 그렇지 않은 사람들보다 브랜드 태도가 더 긍정적이었다. 광고 메시지의 인지된 개인화 정도는 온라인 맞춤형 광고 태도 및 브랜드 태도에 영향을 미치는 것으로 나타났다. 마지막으로, 온라인 사생활 침해 걱정 역시 온라인 맞춤형 광고 태도 및 브랜드 태도에 영향을 미치는 것으로 나타났다. 이론적 및 실무적 시사점은 토의에서 더 자세히 살펴보았다.

■ 중심어 : | 온라인 맞춤형 광고 | 개인정보수집 | 개별맞춤화 | 온라인 사생활 침해 걱정 | 사용동의 |

Abstract

One important online marketing practice to emerge in recent years is online behavioral advertising. Online behavioral advertising entails a range of issues, including the following: personal information collection and usage agreements (three conditions: no agreement, agreement, or agreement with a reward), consumers' levels of perceived personalization (low vs. high), and consumers' level of online privacy concerns (low vs. high). The effects of all these is what this study is designed to examine, as it evaluates online behavioral advertising. Study findings suggest that types of information collection and usage agreement play a pivotal role in the evaluation of online behavioral ads. Individuals who provided the informed consent form with the possible reward had a more favorable attitude toward the brand than individuals who provided the informed consent form without a possible reward. In terms of personalization, the level of perceived personalization of the advertising message impacted consumers' attitudes toward the online behavioral ad and toward the brand. Finally, online privacy concerns appear to impact consumers' attitudes toward the online behavioral ad and toward the brand. Theoretical and practical implications are also discussed.

■ keyword : | Online Behavioral Advertising | Personal Information Collection | Personalization | Online Privacy Concern | Usage Agreement |

I. Introduction

In the U.S., since 2010, the annual growth rate of Internet advertising has exceeded that of other advertising media. In fact, every year since that time, Internet advertising has experienced double-digit annual growth. According to the Internet Advertising Bureau's (IAB) Internet advertising revenue report[1], the Internet has continued to grow in share and significance compared to other U.S. ad-supported media, leading TV advertising by \$17.9 billion in 2017[1]. In Korea in 2017, digital advertising exceeded that of TV advertising for the first time in Korean advertising history, recording \$3.4 billion[2]. Online behavioral advertising is considered to be one of the most important new ways of reaching targeted audiences, playing a pivotal role in the growth of the Internet advertising revenue[3]. Online behavioral advertising creates more personalized ad messages to targeted audiences, based on their online behavioral data. This sort of data consists of a person's website visits, keyword search records, and so on. Of course the collecting, using, and sharing of personal data have raised consumer privacy concerns. The U.S. Federal Trade Commission, the European Data Protection Authorities, and other consumer organizations have established guidelines and regulations regarding the use of personal information. Currently, Korea allows the use of personal information only for academic purposes. Hence, the industry asks the government to allow use of personal information in the form of pseudonymisation and anonymization, as is done in the U.S., Europe, and Japan. In the era of big data, companies wanting to grow their

business rely heavily on the use of personal information. Thus, industries set up self-regulatory programs to protect consumer privacy and describe how to inform consumers about data collection and usage[4]. This study investigates a strategy on how marketers can enhance the effectiveness of online behavioral advertising when targeting consumers by varying methods of personal information collection and usage agreement. It examines attributes of online behavioral advertising such as personalization and privacy concerns. From the consumers' perspective, a positive is that ad messages can be personalized and tailored toward a target audience's personal interests. A negative is that viewers may feel that their privacy has been breached. This study makes contributions by enhancing our understanding of the role of personal information collection and usage agreement in the context of online behavioral advertising. And effects of personalization and privacy concerns will also broaden our knowledge on the nature of online behavioral advertising.

II. Background Information

1. Online Behavioral Advertising

Online behavioral advertising is often called behavioral targeting advertising. Ham and Nelson (2016) defined online behavioral advertising as "a technology-driven advertising personalization method that enables advertisers to deliver highly relevant ad messages to individuals" (p. 690). Online behavioral advertising also refers to "the practice of collecting data about individual's online activities for use in selecting which

advertisement to display”[5]. Online activities usually mean the Internet users’ web browsing data, search histories, media consumption data, app use data, online purchases, click-through responses to ads, and communication contents such as post on social networking sites[4]. Boerman et al.[4] defined online behavioral advertising as “the practice of monitoring people’s online behavior and using the collected information to show people individually targeted advertisements” (p. 364). Online behavioral advertising consists of two types—onsite behavioral targeting and network behavioral targeting. First, onsite behavioral targeting aims at users on a website using different offers and promotions. If done solely on one website, that is targeting certain content based on the behavior or information of the visitor. Onsite behavioral targeting advertising plays an important role in relationship building and customer retention because it enables marketers to customize their websites to create the most welcoming, enticing destination for their each visitor and ultimately engaging them more deeply in their websites. Network behavioral targeting advertising, on the other hand, uses customers’ or visitors’ browsing history (which reveals marital status, sex, age range, interests, and so forth) to target users with relevant advertising on different sites. Network behavioral targeting is more popular among marketers and is used by most ad networks. In terms of the effectiveness of online behavioral advertising, studies show that the level of personalization in online behavioral advertising has an impact on click-through intentions and click-through rates. For instance, Facebook ads targeting a person’s interests led to higher click-through rates than ads targeting

background characteristics[7]. Another study found that moderately personalized Facebook ads increased click-through rates compared to non-personalized ads whereas highly personalized ads decreased click-through rates [8]. Lambrecht and Tucker[9] found that online behavioral advertising is more effective when customers have a narrowly construed preference and thus have a greater focus on specific and detailed information. However, generic ads tend to result in higher purchase intention when preferences are still broad and individuals are in the early stages of a purchase decision (Lambrecht & Tucker, 2013). Interestingly, Van Doorn and Hoekstra (2013) found that more personalization increases feelings of intrusiveness and negatively affect purchase intentions.

2. Personal Information Collection and Usage Agreement

According to the FTC guidelines, firms must provide users with choices regarding online behavioral advertising. Similarly, the Economic Co-Operation and Development (OECD) issued a guideline that personal data should be obtained where appropriate, with the knowledge or consent of the data subject. These efforts have become internationally adopted as a way to empower the consumer. The underlying guiding principle is that consumers should be able to make informed decisions about privacy and personal data[4]. In general, companies practice either overt information-collection strategies or covert ones. In the former, consumers are aware that their personal data is being collected since companies provide consumers with personal information collection and usage agreement

[11]. In the latter, companies collect consumers' personal data (while they surf the Internet) without notifying them[12][13]. Mostly, companies engage in covert information-collection strategies because it is unobtrusive and deemed more beneficial, as it delivers unbiased data and a richer understanding of customers[14].

Although companies disclose personal information collection and usage statement to their website visitors, this kind of privacy statement fails to inform consumers and is in fact seldom read[6][15]. In the online behavioral advertising context, online behavioral advertising icons (i.e., the standard icon and "asterisk man" icon) or taglines such as "Why did I get this ad?" and "AdChoices" are rarely understood to be the links to pages where people can make choices about online behavioral advertising[4]. Several studies have supported this notion that consumers are neither familiar with the icons[16][17], nor understand their purpose[15]. One way to reduce the information asymmetry between companies and consumers is to provide consumers with the personal information collection and usage statement in a distinctive manner[6]. When consumers are exposed to online behavioral ads while visiting a website without receiving the privacy statement, they may feel that their free-will has been breached. According to reactance theory, there are "free behaviors" individuals perceive and can take part in at any given moment[18]. Receiving online behavioral advertising without consumers' informed consent may increase negative attitudes toward online behavioral advertising and incur low purchase intention. In addition, according to the protection

motivation theory, benefits refer to rewards consumers expect to obtain by pursuing risky behavior[19]. When consumers perceive that the benefits of getting online behavioral advertising outweigh online privacy concerns, they will be less motivated to protect privacy [20][21]. White [22] found that consumers are willing to provide the informed consent in exchange for a tailored marketing offer. Thus consumers will develop a favorable attitude toward online behavioral advertising when they are notified that if they provide their informed consent regarding online behavioral advertising they will receive marketing benefits such as discount coupons and price-cuts.

H1: Types of information collection and usage agreement will have impacts on consumers' attitude toward a) the online behavioral ad and b) the brand.

H2: Individuals who provide firms with informed consent will have more favorable attitudes a) toward the ad and b) toward the brand than those who did not

H3: Among individuals who provide firms with informed consent, those who are to receive a reward for being exposed to online behavioral advertising will have more favorable attitudes toward a) the ad and b) the brand than those who are not.

3. Perceived Personalization

Online behavioral advertising could be viewed as a type of personalized or customized advertising[4]. In short, online behavioral advertising is generated to display ad messages that match the interests of these individual online consumers[6][17]. Thus, personalization is an important characteristic of online behavioral advertising which differentiates it

from other types of online advertising.

Aguirre and colleagues [8] defined personalization as “a customer-oriented marketing strategy that aims to deliver the right content to the right person at the right time, to maximize immediate and future business opportunities” (p. 35). Chellappa and Sin[23] defined it as the ability to proactively tailor products and product purchasing experiences to the tastes of individual consumers based on their personal and preference information. Murthi and Sarkar[24] suggested that personalization has three stages—learning, matching, and evaluation. First, companies learn about their customers by collecting and analyzing customer data so they better understand their needs and preferences[8]. In the matching stage, companies apply this information to personalize a customer’s experience (i.e., companies present a customer with a personalized advertisement)[8]. In the evaluation stage, companies assess the effectiveness of the personalization strategy (i.e., companies measure click-through rates as a method of evaluating personalized advertising messages)[8].

In the mobile advertising context, mobile users are likely to prefer advertisements that are customized to their interests and relevant to them[25]. Gao and Zang[26] found that personalized mobile advertising has a positive effect on consumers’ attitudes toward mobile advertising. Xu[27] found that people feel they are being respected when they are exposed to personalized messages. Another study found that personalized advertising tended to enhance customer satisfaction[28]. While obtaining advantages for both themselves and their customers, firms are able to better service their

customers[29]. They can better manage customers’ perceptions of their responsiveness[30] while consumers are expected to receive improved products and services, a better preference match[31]. In addition, personalization can also provide consumers with reduced cognitive overload and convenience[32]. Thus, the following hypotheses are proposed as below:

H4: The level of perceived personalization of the advertising message will have impacts on consumers’ attitude toward a) online behavioral ad and b) the brand.

H5: Individuals with high level of perceived personalization of the advertising message will have more favorable attitudes toward a) the ad and b) the brand than will those with low level of perceived personalization of the advertising message.

4. Online Privacy Concerns: Low Level vs. High Level

An important issue regarding the use of information and communication technologies has of course been privacy[33]. Consumers are primarily concerned with personal or individual-specific data[20]. Nowak and Phelps suggested that individual-specific information, in general, includes names, addresses, demographic characteristics, lifestyle interests, shopping preferences, and purchase histories of identifiable individuals[34].

The Commercial Privacy Bill of Rights Act of 2011 calls for the FTC to create regulations requiring businesses collecting personally identifiable information, such as names and email addresses, to provide “clear, concise and timely notice” of data collection, use and transfer, along with “a clear and conspicuous

mechanism for opt-out consent for any unauthorized use of consumers' personally identifiable information"[35]. Sensitive information is defined as personally identifiable information which, if lost, compromised, or disclosed without authorization either alone or with other information, carries a significant risk of economic or physical harm or is related to a particular medical condition, health record or the religious affiliation of an individual[36].

Privacy concern, according to Baek and Morimoto[37], is defined as "the degree to which a consumer is worried about the potential invasion of the right to prevent the disclosure of personal information to others." Privacy concerns also refer to individuals' beliefs about the risks and potential negative consequences associated with sharing information[38]. Since a personalized advertising message is likely to generate significant privacy concerns due to the misuse of personal information[39] online behavioral advertising is often the culprit of individual information privacy breaches.

Studies have found that online privacy concerns have a negative effect on intentions to accept mobile advertising[40] and on online transactions[41]. Feng and Xie[42] found that when users had high levels of privacy concerns, they tended to generate higher levels of perceived intrusiveness and more negative app attitudes. When user have low levels of privacy concerns, a good deal of research has found, they tend to have more positive attitude toward online behavioral advertising[37][43]. In addition, studies have found that the level of privacy concerns plays a moderating role when it comes to the effects of online behavioral advertising on how consumers respond to

advertising[44]. Hence, the following hypotheses are put forth:

H6: The level of online privacy concerns will have impacts on consumers' attitude toward a) the online behavioral ad and b) the brand.

H7: Individuals with a low level of online privacy concerns will have more favorable attitudes toward the a) ad and b) the brand than will those with a high level of online privacy concerns.

III. Method

1. Study Design and Procedure

To test the proposed hypotheses, researchers employed a 3 x 2 x 2 between-subject factorial design. The three factors included type of personal information collection and usage agreement (no agreement, agreement, or agreement with a reward), consumers' level of perceived personalization (low vs. high) and consumers' level of online privacy concerns (low vs. high). Consumers' level of perceived personalization was measured and then divided, by median split, into low vs. high level of perceived personalization. Similarly, consumers' level of online privacy concerns was measured and then divided, by median split, into low vs. high level of online privacy concerns.

For this study a web site was designed through Qualtrics.com. The online survey started with an informed-consent notice. Then, if they agreed to participate in the study, subjects were asked to click the "proceed" button. Subjects were randomly assigned to one of three conditions (no agreement, agreement, or agreement with a reward). Then, they were given a short scenario that explained the

situation they would be exposed to—a certain online behavioral ad based on their online keyword search. Afterwards, they would be exposed to the same stimulus (i.e., online behavioral ads). Finally, they were asked to answer demographic questions such as age, gender, years in college.

2. Subjects

A total of 285 subjects (university students) participated in this study in return for course credits. College students were deemed appropriate for this study, as in Korea people in their 20s are known to be the heaviest online users (Ministry of Sciences & ICT, 2018). After removing subjects who failed to complete the survey, a total of 253 remained for further analysis. Among these, 87 (34.4%) remained in the Condition A group (no agreement), 91 (36%) in the Condition B group (agreement), and 75 (29.6%) in the Condition C group (agreement with a reward). Of the subjects, 43.9% ($n = 111$) were male and 56.1% ($n = 142$) were female. Their mean age was 22.3 years old. Sophomores made up the majority (37.5%, $n = 95$); the rest were juniors (35.2%, $n = 89$), freshman (24.1%, $n = 61$), and seniors (3.2%, $n = 8$).

3. Stimuli Development

For this study, two stimuli were created. First, three conditions of personal information collection and usage agreement were developed in a form of a pop-up ad on a website. Each condition explicitly describes whether subjects made an informed consent decision regarding online behavioral advertising or not. Second, an online ad was created with a well-known online hotel booking site.

4. Measures

Perceived personalization was measured with 3 items on a 7-point, Likert-type scale ranging from very strongly disagree to very strongly agree. This measure was adopted from a study by Saadeghvaziri and Hosseini[45]. Online privacy concerns were measured with 6 items on a 7-point, Likert-type scale ranging from very strongly disagree to very strongly agree. This measure was adopted from study by Malhotra et al.[46] and modified in accordance with the current study. Attitude toward online behavioral ad was measured using 3 items on a 7-point semantic differential scale: very bad-very good, very unfavorable-very favorable, like very much-dislike very much ($\alpha = .91$)[47]. Attitude toward the brand was measured using 5 items on a 7-point semantic differential scale: unappealing-appealing, bad-good, unpleasant-pleasant, unfavorable-favorable, and unlikable-likable ($\alpha = .92$)[48].

IV. Results

1. Effects of Personal Information Collection & Usage Agreement

H1 proposes that consumers' attitudes toward an online behavioral ad and a brand are influenced by types of information collection and usage agreement. As shown in [Table 2] and [Table 3], results indicate the Wilks' lambda was significant for type of information collection and usage agreement ($F = 4.63$, $p < .01$). Thus, H1 was supported in the study.

H2 and H3 investigate the differential effects of type of information collection and usage agreement among subjects. H2 posits that individuals who provide firms with information

collection usage and usage agreement will have more favorable attitudes toward an online behavioral ad as well as toward the brand than those who do not. H3 posits that among individuals who provide firms with information collection usage, those who are to receive a reward for being exposed to online behavioral ad will have more favorable attitudes toward the ad and toward the brand than those who are not to receive one.

To test H2 and H3, Bonferroni post-hoc tests were conducted to determine where differences existed between groups. The Bonferroni method is one of the most commonly used approaches for multiple comparisons. In some situations, the Bonferroni is substantially conservative. As shown in [Table 4], post-hoc contrasts reveal that Condition A group (no agreement) differed significantly from Condition B group (agreement) regarding attitude toward the ad ($p = .001$) and attitude toward the brand ($p = .025$). Condition A group (no agreement) also differed significantly from Condition C group (agreement with a reward) when it came to attitude toward the ad ($p = .001$) and toward the brand ($p = .025$). Therefore, H2a and H2b were supported. However, Condition B group was not so different from Condition C group when it came to attitude toward the ad ($p = .001$) and toward the brand ($p = .025$), thus providing no support for H3a and H3b.

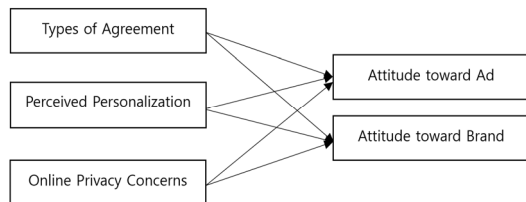


Figure 1. Research Model

Table 1. No. of Items, Means, SD, and Correlations

	No. of Items	Means	SD	1	2	3	4
1 Perceived Personalization	3	4.59	1.02	1	-.153 *	.169**	.160*
2 Online Privacy Concern	6	5.38	1.12		1	-.258**	-.179**
3 Attitude toward Ad	3	3.88	1.21			1	.705**
4 Attitude toward Brand	5	4.14	1.10				1

* $p < .05$, ** $p < .01$

Table 2. MANOVA Results

Effects	Wilks' Lambda	df	F	P
Main Effects				
Types of Agreement (A)	.93	(2, 240)	4.63	.001
Level of Perceived Personalization (B)	.97	(2, 240)	3.53	.031
Level of Online Privacy Concerns (C)	.96	(2, 240)	5.14	.007
A X B	.99	(2, 240)	.83	ns
A X C	.95	(2, 240)	.14	ns
B X C	.99	(2, 240)	.84	ns
A X B X C	.96	(2, 240)	.22	ns

Table 3. Tests of Between-Subject Results

Source	Dependent Variables	df	F	p
Types of Agreement (A)	Ad Attitude	2	6.24	.002
	Brand Attitude	2	9.37	.000
Level of Perceived Personalization (B)	Ad Attitude	2	6.76	.010
	Brand Attitude	2	5.45	.020
Level of Online Privacy Concerns (C)	Ad Attitude	2	9.79	.002
	Brand Attitude	2	8.00	.005
A X B	Ad Attitude	2	1.38	ns
	Brand Attitude	2	.32	ns
A X C	Ad Attitude	2	.98	ns
	Brand Attitude	2	.14	ns
B X C	Ad Attitude	1	.78	ns
	Brand Attitude	1	1.03	ns
A X B X C	Ad Attitude	2	2.12	ns
	Brand Attitude	2	3.00	ns

Table 4. Bonferroni Post-Hoc Test

Dependent Variables	(I) Group	(J) Group	Mean Difference (I - J)	S.E.	p
Attitude toward ad	Condition A (n=87)	Condition B	-.53	.17	.006
		Condition C	-.88	.18	.000
	Condition B (n=91)	Condition A	.53	.17	.006
		Condition C	-.35	.18	.146
	Condition C (n=75)	Condition A	.88	.18	.000
		Condition B	.35	.18	.146
Attitude toward brand	Condition A (n=87)	Condition B	-.57	.17	.003
		Condition C	-1.18	.18	.000
	Condition B (n=91)	Condition A	.57	.17	.003
		Condition C	-.61	.18	.003
	Condition C (n=75)	Condition A	1.18	.18	.000
		Condition B	.61	.18	.003

2. Effects of Perceived Level of Personalization

H4 posits that how much consumers perceive an ad being personalized to them will impact their attitudes toward the ad and the brand. As seen in [Table 1], results show that the Wilks' lambda was significant for perceived level of personalization ($F = 3.53, p < .05$). Thus, H4 was supported in this study. Since perceived level of personalization was a significant factor, further analyses were conducted to examine its effects on attitude toward the ad and brand.

An examination of mean differences between low levels of personalization and high levels of personalization suggested that high levels yielded more positive attitudes toward the ad ($F = 6.76, p < .05$; Mean high level of personalization = 4.37 vs. Mean low level of personalization = 4.00) and toward the brand ($F = 5.45, p < .05$; Mean high level of personalization = 4.24 vs. Mean low level of personalization = 3.88). Hence, H5a and H5b were supported in this study.

3. Effects of Level of Online Privacy Concerns

H6 predicts that the degree to which consumers are concerned with their online privacy will impact their attitudes toward an ad and brand. As [Table 2] illustrates, results show that the Wilks' lambda was significant for the level of online privacy concerns ($F = 5.14, p < .01$). Thus, H6 was supported in this study. As the level of online privacy concerns was a significant factor, further analyses were conducted to examine its effects on attitude toward the ad and brand.

An examination of the mean differences between low privacy concerns and high ones suggested that the latter yielded more positive

attitudes toward both the ad ($F = 9.79, p < .01$; Mean *high level of online privacy concerns* = 3.96 vs. Mean *low level of online privacy concerns* = 4.41) and the brand ($F = 8.00, p < .01$; Mean *high level of online privacy concerns* = 3.84 vs. Mean *low level of online privacy concerns* = 4.28). Hence, H7a and H7b were supported in this study.

IV. Discussion

The findings of this empirical research provide some insights to both researchers and online marketing practitioners. Study findings suggest that type of information collection and usage agreement plays a pivotal role in the evaluation of online behavioral ads. As indicated in the study results, individuals with the informed consent regarding online behavioral advertising showed more favorable attitude toward the ad and the brand than those without it. Individuals who provided the informed consent form with the chance at a reward indicated a more favorable attitude toward the brand than those with the informed consent form by itself. Practical implications may be drawn. Companies can enhance the effectiveness of their online behavioral advertising by providing consumers with information collection and usage agreements. The most suitable consumer data collection strategy might well be to provide consumers with an information collection and usage agreement along with a possible marketing reward if the consumer consents to being exposed to online behavioral advertising. In short, if some incentives are provided, consumers are likely to be less reluctant to

receive online behavioral advertising and be less negative toward the advertised brand.

This study found that consumers' attitudes toward both a brand and its online behavioral ad were impacted by the degree to which they perceived the ad to be personalized for them. Those who found it highly personalized had more favorable attitudes toward it and the brand than those who found it not personalized. These study findings are consistent with prior research that suggests that personalized advertising may enhance customer satisfaction and improve consumers' attitude toward the ad [26][28].

However, the role of personalization of online behavioral advertising warrants further investigation. Initially, consumers may be curious about online behavioral advertising and, because the personalized ad may seem "relevant" or "necessary," may search online for information. But consumers are continually being exposed to personalized online behavioral advertising. This may eventually give rise to a sensation that they are "being watched" or that their privacy has been violated. These types of ads could generate significant privacy concerns[20][37]. Not only the relationship between the level of personalization and online privacy concerns, but the relationship between and relevance/involvement of the brand need further investigation to understand how these variables mediate the effects of personalization.

Finally, this study supports the notion that online privacy concerns have impacts on consumers' attitudes toward online behavioral ad and brand[37][42][43]. Individuals little concerned with online privacy were found to have more favorable attitudes toward the ad

and brand than those highly concerned with online privacy.

Future research may delve into which factors influence online privacy concerns. As found in this study, personalization is a significant factor and has a direct effect. In addition, Phelps and colleagues' conceptual model[20] for understanding consumer privacy concern suggests that important factors in consumer privacy concerns include type of information requested, amount of information control offered, potential consequences and benefits, and consumer characteristics. Another factor that may have a mediating effect on consumer privacy concern is Internet self-efficacy. Internet self-efficacy refers to one's beliefs in one's capabilities to organize and execute courses of Internet actions required to produce given attainments[49].

Appendix A 1 Study Questionnaire

Items	Measures	Loading
Perceived Personalization (Saadeghvaziri & Hosseini, 2011, $\alpha = .89$)	Ad is relevant to my needs	.93
	As is relevant to my job and activities.	.89
	Ad is relevant to my location	.94
Online Privacy Concerns (Malhotra, 2004, $\alpha = .85$)	All things considered, the Internet would cause serious privacy problems	.87
	Compared to others, I am more sensitive about the way online companies handle my personal information.	.90
	To me, it is the most important thing to keep my privacy intact from online companies	.93
	I believe other people are too much concerned with online privacy issues	.88
	Compared with other subjects on my mind, personal privacy is very important	.89
	I am concerned about threats to my personal privacy today	.92
Attitude toward Ad (Mackenzie & Lutz, 1989, $\alpha = .91$)	very bad / very good	.91
	very favorable / very unfavorable (R)	.88
	dislike very much / like very much	.89
Attitude toward brand (Spears & Singh, 2004, $\alpha = .92$)	appealing / unappealing (R)	.94
	bad / good	.93
	unpleasant / pleasant	.91
	unfavorable / favorable	.87
	likeable / unlikeable (R)	.88

참고 문헌

[1] Internet Advertising Bureau (2018). IAB internet advertising revenue report. Retrieved in January 9, 2019 from <https://www.iab.com/wp-content/uploads/2018/05/IAB-2017-Full-Year-Interne>

- t-Advertising-Revenue-Report.REV2_.pdf
- [2] Cheil Worldwide, Advertising Yearbook. Cheil Worldwide, 2018.
- [3] J. Chen and J. Stallaert, "An economic analysis of online advertising using behavioral targeting," *MIS Quarterly*, Vol.38, No.2, pp.429-449, 2014.
- [4] S. C. Boerman, S. Kruijemeier, and F. J. Zuiderveen, "Online behavioral advertising: A literature review and research agenda," *Journal of Advertising*, Vol.46, No.3, pp.363-376, 2017.
- [5] C. D. Ham and M. R. Nelson, "The role of persuasion knowledge, assessment of benefit and harm, and third-person perception in coping with online behavioral advertising," *Computers in Human Behavior*, Vol.62, pp.689-702, 2016.
- [6] A. M. McDonald and L. F. Cranor, "Beliefs and behaviors: Internet users' understanding of behavioral advertising," In Presented at the proceedings of the 2010 research conference on communication, information and internet policy, 2010.
- [7] C. E. Tucker, "Social networks, personalized advertising, and privacy controls," *Journal of Marketing Research*, Vol.51, No.5, pp.546-562, 2014.
- [8] E. Aguirre, D. Mahr, D. Grewal, K. de Ruyter, and M. Wetzels, "Unraveling the personalization paradox: The effect of information collection and trust-building strategies on online advertisement effectiveness," *Journal of Retailing*, Vol.91, No.1, 34-49, 2015.
- [9] A. Lambrecht and C. Tucker. "When does retargeting work? Information specificity in online advertising," *Journal of Marketing Research*, Vol.50, No.5, pp.561-576, 2013.
- [10] J. Van Doorn and J. C. Hoekstra, "Customization of online advertising: The role of intrusiveness," *Marketing Letters*, Vol.24, No.4, pp.339-351, 2013.
- [11] S. S. Sundar and S. S. Marather, "Personalization versus customization: The importance of agency, privacy, and power usage," *Human Communication Research*, Vol.36, No.3, pp.298-322, 2010.
- [12] G. R. Milne, S. Bahl, and A. Rohm, "Toward a framework for assessing covert marketing practices," *Journal of Public Policy & Marketing*, Vol.27, No.1, pp.57-62, 2008.
- [13] A. L. Montgomery and M. D. Smith, "Prospects for Personalization on the Internet," *Journal of Interactive Marketing*, Vol.23, No.2, pp.130-137, 2009.
- [14] P. C. Verhoef, R. Venkatesan, L. McAlister, E. C. Malthouse, M. Krafft, and S. Ganesan, "CRM in data-rich multichannel retailing environments: a review and future research directions," *Journal of Interactive Marketing*, Vol.24, No.2, pp.121-137, 2010.
- [15] L. F. Cranor, "I didn't buy it for myself," In *Designing personalized user experiences in eCommerce*, pp.57-73, Springer, Dordrecht, 2004.
- [16] B. Ur, P. G. Leon, L. F. Cranor, R. Shay, and Y. Wang, "Smart, useful, scary, creepy: perceptions of online behavioral advertising," In *proceedings of the eighth symposium on usable privacy and security*, p.4, ACM, 2012.
- [17] G. Van Noort, E. G. Smit, and H. A. Voorveld, "The online behavioural advertising icon: two user studies," In *Advances in Advertising Research*, Vol.IV, pp.365-378, Springer Gabler, Wiesbaden, 2013.
- [18] J. W. Brehm, "Psychological reactance: Theory and applications," *ACR North American Advances*, 1989.
- [19] C. D. Ham, "Exploring how consumers cope with online behavioral advertising," *International Journal of Advertising*, Vol.36, No.4, pp.632-658, 2017.
- [20] J. Phelps, G. Nowak, and E. Ferrell, "Privacy concerns and consumer willingness to provide personal information," *Journal of Public Policy*

- & Marketing, Vol.19, No.1, pp.27-41, 2010.
- [21] K. B. Sheehan and M. G. Hoy, "Dimensions of privacy concern among online consumers," *Journal of Public Policy & Marketing*, Vol.19, No.1, pp.62-73, 2000.
- [22] T. B. White, "Consumer disclosure and disclosure avoidance: A motivational framework," *Journal of Consumer Psychology*, Vol.14, No.1 & 2, pp.41-51, 2004.
- [23] R. K. Chellappa and R. G. Sin, "Personalization versus privacy: An empirical examination of the online consumer's dilemma," *Information Technology and Management*, Vol.6, No.2-3, pp.181-202, 2005.
- [24] B. P. S. Murthi and S. Sarkar, "The role of the management sciences in research on personalization," *Management Science*, Vol.49, No.10, pp.1344-1362, 2003.
- [25] F. Robins, "The marketing of 3G," *Marketing Intelligence & Planning*, Vol.21, No.6, pp.370-378, 2003.
- [26] S. Gao and Z. Zang, "An empirical examination of users' adoption of mobile advertising in China," *Information Development*, Vol.32, No.2, pp.203-215, 2016.
- [27] D. J. Xu, "The influence of personalization in affecting consumer attitudes toward mobile advertising in China," *Journal of Computer Information Systems*, Vol.47, No.2, pp.9-19, 2006.
- [28] B. Rao and L. Minakakis, "Evolution of mobile location-based services," *Communications of the ACM*, Vol.46, No.12, pp.61-65, 2003.
- [29] R. T. Rust and T. S. Chung, "Marketing models of service and relationships," *Marketing Science*, Vol.25, No.6, pp.560-580, 2006.
- [30] J. H. Song and G. M. Zinkhan, "Determinants of perceived web site interactivity," *Journal of Marketing*, Vol.72, No.2, pp.99-113, 2008.
- [31] J. Vesanen, "What is personalization? A conceptual framework," *European Journal of Marketing*, Vol.41, No.5-6, pp.409-418, 2007.
- [32] A. Ansari and C. F. Mela, "E-customization," *Journal of Marketing Research*, Vol.40, No.2, pp.131-145, 2003.
- [33] C. Gurău and A. Ranchhod "Consumer privacy issues in mobile commerce: a comparative study of British, French and Romanian consumers," *Journal of Consumer Marketing*, Vol.26, No.7, pp.496-507, 2009.
- [34] G. J. Nowak and J. Phelps, "Direct marketing and the use of individual-level consumer information: Determining how and when "privacy" matters," *Journal of Direct Marketing*, Vol.9, No.3, pp.46-60, 1995.
- [35] A. Cavoukian, *Privacy by design in law, policy and practice, A white paper for regulators, decision-makers and policy-makers*, 2011.
- [36] United States Department of Commerce. *Privacy Act, Personally Identifiable Information (PII), and Business Identifiable Information (BII)*. Retrieved in January 9, 2019 from http://www.osec.doc.gov/opog/Privacy/DOC_PII_BII_and_PA_Breach_Response_Plan_Version_3_Final.pdf.
- [37] T. H. Baek and M. Morimoto, "Stay away from me," *Journal of Advertising*, Vol.41, No.1, pp.59-76, 2012.
- [38] H. Cho, J. S. Lee, and S. Chung, "Optimistic bias about online privacy risks: Testing the moderating effects of perceived controllability and prior experience," *Computers in Human Behavior*, Vol.26, No.5, pp.987-995, 2010.
- [39] J. H. Song and G. M. Zinkhan, "Determinants of perceived web site interactivity," *Journal of Marketing*, Vol.72, No.2, pp.99-113, 2008.
- [40] N. Limpf and H. A. Voorveld, "Mobile location-based advertising: how information privacy concerns influence consumers' attitude and acceptance," *Journal of Interactive Advertising*, Vol.15, No.2, pp.111-123, 2015.
- [41] T. Dinev and P. Hart, "Internet privacy concerns and social awareness as determinants of intention to transact," *International Journal of Electronic Commerce*,

Vol.10, No.2, pp.7-29, 2005.

- [42] Y. Feng and W. Xie, "Teens' concern for privacy when using social networking sites: An analysis of socialization agents and relationships with privacy-protecting behaviors," *Computers in Human Behavior*, Vol.33, pp.153-162, 2014.
- [43] E. G. Smit, G. Van Noort, and H. A. Voorveld, "Understanding online behavioural advertising: User knowledge, privacy concerns and online coping behaviour in Europe," *Computers in Human Behavior*, Vol.32, pp.15-22, 2014.
- [44] A. D. Miyazaki, "Online privacy and the disclosure of cookie use: Effects on consumer trust and anticipated patronage," *Journal of Public Policy & Marketing*, Vol.27, No.1, pp.19-33, 2008.
- [45] F. Saadeghvaziri and H. K. Hosseini, "Mobile advertising: An investigation of factors creating positive attitude in Iranian customers," *African Journal of Business Management*, Vol.5, No.2, pp.394-404, 2011.
- [46] N. K. Malhotra, S. S. Kim, and J. Agarwal, "Internet users' information privacy concerns (UIPC): The construct, the scale, and a causal model," *Information Systems Research*, Vol.15, No.4, pp.336-355, 2004.
- [47] S. B. MacKenzie and R. J. Lutz, "An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context," *Journal of Marketing*, Vol.53, pp.48-65, 1989.
- [48] N. Spears, and S. N. Singh, "Measuring attitude toward the brand and purchase intentions," *Journal of Current Issues & Research in Advertising*, Vol.26, No.2, pp.53-66, 2004.
- [49] C. C. Tsai, S. C. Chuang, J. C. Liang, and M. J. Tsai, "Self-efficacy in Internet-based learning environments: A literature review," *Journal of Educational Technology & Society*, Vol.44, No.4, 2011.

저 자 소 개

엄 남 현(Namhyun Um)

정회원



- 1999년 12월 : 미국 워싱턴 주립대 (석사)
- 2011년 8월 : 미국 텍사스 대학교 (박사)
- 2015년 9월 ~ 현재 : 홍익대 광고홍보학부 부교수

〈관심분야〉 : 유명인 광고, 정치광고, 게이광고, 모바일 광고

김 소 정(Sojung Kim)

정회원



- 2003년 5월 : 미국 미시건 주립대 광고홍보학과(석사)
- 2012년 8월 : 미국 텍사스 대학교 광고학과(박사)
- 2013년 8월 ~ 2018년 1월 : 홍콩 중문대학교 신문방송학과 조교수
- 2018년 3월 ~ 현재 : 경북대 신문

방송학과 조교수

〈관심분야〉 : 광고, 위기 커뮤니케이션, 뉴미디어