모바일 광고 수용에 영향을 미치는 요인들: 젊은 소비자들은 온라인 모바일 광고에 어떻게 반응하는가

Factors Affecting Mobile Advertising Acceptance: How Young Consumers React to Online Mobile Ads

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요약

모바일 기기는 가장 영향력있는 미디어 플랫폼으로 거듭났다. 따라서, 모바일 광고는 다른 종류의 광고들보다 가장 빠른 성장세를 보인다. 본 연구는 짜증, 개인화, 그리고 온라인 개인정보 사생활 근심을 모바일 광고에 대한 선행요인으로 살펴보았다. 또한, 본 연구는 소비자들의 모바일 광고에 대한 태도를 모바일 광고 수용의 선행요인으로 살펴보았다. 연구결과, 짜증은 소비자의 모바일 광고 태도에 영향을 미치지 않는 것으로 나타났지만, 개인화 및 온라인 개인정보 사생활 근심은 소비자의 모바일 광고 태도에 각각 긍정적 또는 부정적인 영향을 미치는 것으로 나타났다. 마지막으로, 소비자의 모바일 광고 태도는 모바일 광고 수용에 긍정적인 영향을 미치는 것으로 나타났다. 토의를 통해 실무적인 함의를 제안하였다.

■ 중심어 : | 모바일 광고 수용 | 짜증 | 개인화 | 온라인 개인정보 사생활 근심 |

Abstract

Mobile devices have become the most influential media platform. Mobile advertising has thus grown much faster than any other type of advertising. This study is designed to examine antecedents of attitude toward mobile ads, antecedents such as irritation, personalization, and online information privacy concerns. The study also examines consumers' attitudes toward mobile ads as an antecedent of mobile advertising acceptance. Study findings suggest that irritation is not a statistically significant predictor of attitude toward mobile ads. An antecedent found to be positively related to attitude toward mobile ads is personalization and one found to be negatively related is online privacy concerns. Finally, consumers' attitudes toward mobile ads are found to be positively related to a general acceptance of mobile advertising. Practical implications are discussed.

■ keyword: | Mobile Advertising Acceptance | Irritation | Personalization | Online Information Privacy Concerns |

I. Introduction

Today, mobile phones have become integral to our daily lives. In fact, when it comes to consumers' purchase process, experts now consider mobile to be the most powerful media platform. Thus, marketers are expected to invest a great deal of their budgets on mobile marketing. Mobile advertising worldwide is expected to reach \$158.6 billion by 2019. In 2016, it reached \$95.6 billion (48.9 % growth over 2015). Just in Korea, it reached \$1.3 billion. According to the DMC report "Mobile Advertising Market and Effectiveness of Mobile

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Advertising"[1], Korea's most rapidly growing media has been mobile advertising.

Obviously, marketers view mobile phones as a great platform on which to advertise, build, and develop customer relationships, and to even receive direct responses from those customers[2]. Research on mobile advertising has drawn a great deal of attention from marketing practitioners as well as academics. One area, however, still in need of investigation is the factors that affect mobile advertising effectiveness.

The current study, therefore, is designed to extend our knowledge on which factors influence mobile advertising acceptance and its relationship with consumers' attitudes toward mobile ads. This study investigates antecedents of consumers' mobile advertising acceptance; those antecedents are irritation, personalization, and online privacy concerns. And as an antecedent of consumers' attitude toward mobile ads, the current study also looks at advertising acceptance. marketing practitioner's perspective, the study's findings ought to be useful in enhancing mobile marketing efforts. From an academic perspective, the study ought to extend the baseline understanding of such concepts as irritation, personalization, and online privacy concerns.

II. Background Information

1. Irritation

Irritation with advertising is an emotional feeling evoked by an ad as a consequence of perceived intrusiveness[3]. People often grow irritated when their TV programs are

interrupted by frequent TV commercials[4]. In the mobile context, irritation can be defined as an evoked feeing that is likely to occur through unsolicited mobile advertising or spams.

Prior studies found that irritation can be considered as affective antecedents of attitude toward mobile advertising[5][6]. Irritation has been examined as an emotional outcome or a consumer's reaction to mobile advertising[6][7]. In terms of the effects of irritation, research has found that irritation leads to a more negative attitude toward the ad [8-10]. In the mobile context, Tsang et al. [11] and Van der Waldt et al. [6] found that irritation influences consumers' attitude toward mobile advertising. Thus, the following hypothesis is posited.

H1: Irritation is negatively related to consumers' attitude toward mobile ads.

2. Personalization

Leppäniemi and Karjaluoto [12] defined personalization of mobile advertising as "the degree to which the advertising message is customized to reflect a consumer's preferences, needs, mind-set, lifestyle, and specific cultural and geographical characteristics". Much research suggests that the degree of personalization has significant impact on how consumers perceive mobile advertising[13-17].

Studies have found, for instance, that consumers are more receptive to advertising messages that are personalized and relevant (Carroll, Barnes, & Scornavacca, 2005; Muk, 2007); personalized mobile advertising has a positive effect on consumers' attitudes toward mobile advertising[15]. Another study found that consumers feel they are being respected when they are exposed to personalized messages[17].

Furthermore, Rao and Minakais[16] found that

personalized advertising tended to enhance customer satisfaction. Therefore, the following hypothesis is proposed.

H2: Personalization positively affects consumers' attitude toward mobile ads.

3. Online Information Privacy Concerns

Baek and Morimoto [18] defined privacy concerns 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" (p. 63). Privacy concerns can also be understood as individuals' beliefs about the risks and potential negative consequences associated with sharing information[19][20]. Computer hackers steal and misuse or sell personal information[18], and they often are able to do so through mobile advertising.

Prior studies have found that people are more likely to avoid or reject mobile advertising[21] or doing transactions online out of privacy concerns[22]. When users had high levels of privacy concerns, they tended to generate higher levels of perceived intrusiveness and more negative app attitudes [23] When users have low levels of privacy concerns, they tend to have more positive attitudes toward online behavioral advertising[18][24].

In terms of the relationship between consumers' attitude toward mobile ads and mobile advertising acceptance, previous literature has found а strong positive correlation[11][25-28]. For instance, college students' attitude toward mobile ads influenced their acceptance of SMS advertising[29]. Another study found a relationship between attitude toward SMS advertising and the behavior intention to adopt SMS advertising[30]. Hence, the following hypotheses are put forth.

- H3: Online information privacy concerns negatively relates to consumers' attitude toward mobile ads
- **H4**: Consumers' attitude toward mobile ads positively relates to mobile advertising acceptance.

III. Method

1. Sample and Data Collection

To collect data from college students, researchers created an online survey. They then sent out emails inviting students in introductory advertising or PR courses to take the online. Next, researchers selected only students who agreed to participate and provide consent. Before taking the online survey, participants were briefed about the purpose of the study, its duration, and any potential risk associated with participating. Finally, they were asked to click on the "Proceed" button to complete the survey.

A total of 285 subjects (university students) participated in this study in return for course students College were deemed appropriate for this study, as people in their 20s, especially in Korea, are known to be the heaviest mobile users (Ministry of Sciences & ICT, 2018). After removing subjects who failed to complete the survey, a total of 253 remained for further analysis. 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).

2. Measures

Irritation was measured with 4 items from a

scale developed by Docoffe[31]. A sample item included the statement "Mobile advertising is irritating." The study used four items on a 7-point, Likert-type scale ranging from very strongly disagree to very strongly agree. Personalization was measured with three 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[32]. Online privacy concerns were measured with nine items on a 7-point, Likert-type scale ranging from very strongly disagree to very strongly agree[33]. Attitude toward mobile ads was measured using three, 7-point semantic differential scales: very bad-very good, very unfavorable-very favorable, like very much-dislike very much ($\alpha = .91$)[34]. Finally, mobile advertising acceptance was measured with three items, using a scale developed by Merisavo et al.[35].

IV. Results

[Table 1] shows the relationships among irritation, personalization, online privacy concerns, attitude toward mobile ads, and mobile advertising acceptance. The correlation results in [Table 1] indicate significant relationships among measured variables.

(n = 253)	A	В	С	D	E
Irritation (A)	1.00				
Personalization (B)	151*	1.00			
Online Privacy Concerns (C)	365**	.346**	1.00		
Attitude toward Mobile Ad (D)	177**	.251**	.305	1.00	
Mobile Advertising Acceptance (E)	295**	.268	.408**	.668**	1.00
No. of Items	4	3	9	3	3
Cronbach's Alpha	.83	.89	.76	.94	.95
Mean	5.41	4.59	3.17	3.79	3.82
SD	1.09	.91	.79	.81	1.01

(** indicates $P \le .001$)

To test the structural model concerning the relationships among the variables, a path analysis was performed via SPSS AMOS 21.0. As shown in [Table 2] and [Figure 1], the overall fit indices for the model were not acceptable, revealing a weak fit of the model to the data ($x^2 = 8.9$, df = 6, p < .001; GFI = .90; AGFI = .88; CFI = .83; IFI = .87; RFI = .88; RMSEA = .125). A model is regarded acceptable if the normed fit index (NFI) and goodness of fit index (GFI) exceed .90 and the comparative fit index (CFI) exceeds .93, and when RMS is less than .08 [36][37].

Thus, the original model was rejected and, as a way of improving the model fit, researchers examined the modification indices[38]. The modification indices showed that the model fit could be improved by adding covariance paths between the following: irritation and online privacy concerns, irritation and personalization, and lastly personalization and online privacy concerns.

Table 2 Parameter estimates for causal paths: Original Model

Hypotheses	Causal Paths	Standardized Parameter Estimates	Standard Error	t-value
HI	Irritation -> Attitude toward Mobile Ad	077	.069	-1.12
H2	Personalization -> Attitude toward Mobile Ad	1.42	.054	2.60 **
H3	Online Privacy Concerns -> Attitude toward Mobile Ad	.29	.087	3.32 ***
H4	Attitude toward Mobile Ad -> Mobile Advertising Acceptance	.81	.057	14.23 ***

Goodness-of-fit statistics X^2 = 8.9, df = 6, p < .001; GFI = .90; AGFI = .88; CFI = .83; IFI = .87; RFI = .88; RMSEA = .125*

p < .05, ** *p* < .01, *** *p* < .001

Figure 2. Path Model of Mobile Advertising Acceptance: Modified Model

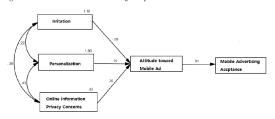
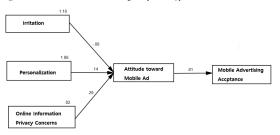


Figure 1. Path Model of Mobile Advertising Acceptance: Hypothesized Model



According to prior research, advertising irritation has negative impacts on online privacy concerns and personalization[13-17]. In addition, studies have found that as the level of personalization increases, so does the level of online privacy concerns[18][24]. Therefore, these covariance paths are justifiable. After the model modification, the goodness of fit statistics demonstrated that the modified model provided a better fit ($x^2 = 3.06$, df = 3, p < .05; GFI = .99; AGFI = .94; CFI = .98; IFI = .98; RFI = .88; RMSEA = .065). [Figure 2] shows the modified model and [Table 3] indicates the parameter estimates for paths.

H1 posits that irritation negatively relates to attitude toward mobile ads. According to Anderson and Gerbing[38], a t-value of greater than 2 for each coefficient indicates a statistical significance. Study results show that, against expectations, irritation does not negatively relate to attitude toward mobile ads (t = -1.12, p > .05). H2 proposes that personalization positively relates to attitude toward mobile ads. Study results show that, as expected, personalization is positively related to attitude toward mobile ads (t = 2.61, p < .01). H3 states that online privacy concerns negatively relates to attitude toward mobile ads. [Table 3] shows that the study results bear this position out (t =- 3.23, *p* ⟨ .001).

Table 3 Parameter estimates for causal paths: Modified Model

Hypotheses	Causal Paths	Standardized Parameter Estimates	Standard Error	t-value
H1	Irritation -> Attitude toward Mobile Ad	07	.069	-1.21
H2	Personalization -> Attitude toward Mobile Ad	.14	.054	2.61 **
Н3	Online Privacy Concerns -> Attitude toward Mobile Ad	.29	.087	3.32 ***
H4	Attitude toward Mobile Ad -> Mobile Advertising Acceptance	.81	.057	14.23 ***
	Irritation <-> Online Privacy Concerns	36	.066	-5.44 ***
	Personalization <-> Online Privacy Concerns	.43	.082	5.19 ***
	Irritation <-> Personalization	22	.094	-2.36 *

Goodness-of-fit statistics $X^2 = 3.06$, df = 3, p < .05; GFI = .99; AGFI = .94; CFI = .98; IFI = .98; RFI = .88; RMSEA = .065

Finally, H4 posits that attitude toward mobile ads positively relates to mobile advertising acceptance. As shown in [Table 3], attitude toward mobile ads is positively related to mobile advertising acceptance. (t = 14.23, p < .001). In sum, while H1 was not supported in the study, H2, H3 and H4 were.

Three additional paths were added in the modified model. As shown in [Table 3] and [Figure 2], study results suggest that irritationonline privacy concerns path coefficient is -.36 with a *t*-value of - 5.44 (p < .001). Results suggest that people who find mobile advertising irritating may have high online privacy concerns and vice versa. The personalizationonline privacy concerns path coefficient was .43 with a *t*-value of 5.19 (p < .001). This indicates that people with high levels of online privacy concerns are likely to find mobile advertising more irritating. Lastly, the irritationpersonalization path coefficient was -.22 a t-value of -.36 (p < .05), which suggests that more personalized mobile advertising is likely to cause more irritation.

IV. Discussion

Unlike prior research on effectiveness of

^{*}p < .05, **p < .01, ***p < .001

traditional media advertising, the current research touches on irritation, personalization, and online privacy concerns. These factors are salient especially in mobile advertising which enables marketers to deliver personalized advertising messages to their target audiences. Thus, this study provide unique contributions when it comes to understanding how mobile advertising works.

As antecedents of consumers' attitude toward mobile ads, this study examined irritation, personalization, and online privacy concerns. At the same time, consumers' attitude toward mobile ads was examined as an antecedent of consumers' mobile advertising acceptance. Prior research has found that irritation influences consumers' attitude toward mobile advertising [6][11]. However, the current study's findings did not support the notion that irritation has a negative impact on attitude toward mobile ads. It is plausible to assume that people may not be irritated when they enjoy the mobile ads they view.

Study results support the notion that personalization has a positive effect on consumers' attitudes toward mobile advertising [15]. As discussed in the literature review, consumers feel they are being respected when receiving personalized messages. People may feel more attached to the personalized mobile ads than to the non-personalized ads. It is important to note, however, that the degree of personalization could play a significant role when it comes to how people evaluate personalized mobile ads. For instance, highly personalized mobile ads may feel like "a privacy breach." To help prevent a negative backlash, marketers need to employ a "moderately personalized mobile advertising" practice.

Study findings suggest that online privacy concerns are negatively related to consumers' attitude toward mobile ads. This finding is consistent with previous studies that found online privacy concerns are likely to negatively affect intentions to accept mobile advertising or to make online transactions[21][22]. As suggested in this study, online privacy concerns have negative impacts on consumers' attitude toward mobile ads, which also directly impact consumers' acceptance of mobile advertising.

Lastly, the current study found that attitude toward mobile ads is positively related to consumers' mobile advertising acceptance. This finding is also consistent with prior research that suggests a strong positive correlation between attitude toward mobile ads and consumers' mobile advertising acceptance[11] [25-27]. Thus, marketers contemplating their mobile marketing practice would do well to consider such factors as irritation, personalization, and online privacy concerns.

This study, like any other research, has its limitations. This study limited its responses to students from a university. University students may have different perceptions of mobile advertising than the general population. The study results would be different if its sample were the overall population, For future research, broadening samples demographically by including various age groups could be useful in investigating how consumers perceive mobile advertising in Korea. To make the study results more representative and generalizable, it is essential to use the general population. In terms of the future research, mobile social networks (MSNs) have been adopted as an innovative advertising channel. It would be interesting to investigate how consumers perceive mobile advertising in mobile social networks[39]. Since mobile advertising will be a major marketing method, much research is required to examine effectiveness of mobile advertising[40][41].

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