

Online Personalized Advertising Avoidance by Chinese Consumers: The Effect of Consumer Good Types

Hongjuan Song^{a*}, Yushi Jiang^b

^{a*,b}Economics & Management school of Southwest Jiaotong University

Abstract: This study introduces a structural model that explores the relationship of consumers' perceived goal impediment, perceived ad irrelevance, prior negative experience with Online Personalized Advertising (OPA), advertising that is customized to the user's online behavior. The study also evaluates whether the types of consumer goods being advertised influences the relationships between perceptual factors and OPA avoidance. Survey data from 462 online consumers in China were used to validate the structural model. Results show that perceived goal impediment, perceived OPA irrelevance, and prior negative experience are all associated with OPA avoidance. Prior negative experience is the most significant factor; perceived OPA irrelevance does not lead to advertising avoidance when engaged in amusement or information-seeking. When comparing the differences between convenience goods, shopping goods, and specialty goods, perceived goal impediment and prior negative experience have a stronger effect on OPA avoidance for specialty goods and shopping goods than for convenience goods.

Keywords: Online Personalized Advertising, Ad Avoidance, Perceived OPA Irrelevance, Information Theory, Social Exchange Theory.

1. Introduction

Contextual advertising involves displaying ads that are relevant based on the content a consumer views. For example, "Guess what you like" is a personalized recommendation system developed in China that delivers personalized advertising technology to increase sales. The technology is embedded in a variety of forms on the internet, such as websites, e-mail, online videos, and mobile applications. It depends on consumers' browsing history and buying histories from online stores (e.g., taobao.com, JD.com, ctrip.com). This approach capitalizes on the possibility that consumers' content browsing preferences indicate their product preferences. With upgrades to the personalized recommendation system algorithms, firms can obtain detailed information about consumers, and use this information to better target OPA.

The effectiveness of OPA is influenced by several complex factors. Algorithm technologies objectively affect OPAs accuracy, and OPA content and delivery media impact the emotions and attitudes of the targeted population (Austin and Reed, 1999). For examples, users have positive attitudes and awareness toward OPA associated with sponsor-recommended posts (Lu *et al.*, 2014). Ads emphasizing the negative health consequences of excess weight appear to elicit stronger cognitive and emotional responses from adults who are overweight or obesity (Dixon *et al.*, 2015). Children have significant pending power and are an important target group. They tend to accept food advertising depending on parental attitudes (Run, 2007).

Consumers adjust their advertising-avoidance over time decisions and can choose to accept or block online personalized advertising (Johnson, 2013). Customers generally dislike online personalized advertising (Chen *et al.*, 2016). Increased online personalized advertising leads consumers to avoid or block advertising (Brahim *et al.*, 2011). While OPA has not technically reached consumers very precisely, it represents a trend in online product marketing. For marketing and advertising to be effective, advertisers must deliver ads to consumers who are used to blocking them.

China is currently experiencing a peak in online consumption, and has had the world's largest e-commerce consumer market for three consecutive years (from 2014 to 2016). The National Bureau of Statistics of China reported that 10 Yuan was spent on retail goods for every Chinese consumer, with 1.3

of those yuan spent online in 2015. "As of December 2015, China had 688 million internet users, and was experiencing a yearly increase of 39.51 million. The internet penetration rate reached 50.3%, up 2.4 percentage points by the end of 2014" (CNNIC, 2016). With each click by online users, personalized advertising, such as "guess what you like," is delivered to consumers. This trend provides the impetus for this study.

Given this background, this study constructed a simulated online shopping store. The store included convenience goods, shopping goods, and specialty goods. The study analyzed the main psychological factors associated with OPA avoidance and the differences among the consumer good types. The impact of privacy was also assessed, by controlling the displayed OPA on shopping store. Information did not include a personal name, location, income, occupation, and other personal information; rather, only general demand orientation information was provided. (This is because the degree of personalization will affect Consumer response.)

2. Theory and Hypotheses

The existing literatures show that the specific influencing factors of the ad avoidance mainly include the characteristics of the users (gender, age, income, educational level, etc.) (Smith *et al.*, 2011), social characteristics (family size, TV usage, etc.) (Alwitt and Prabhaker, 1994), the characteristics of advertising (Content, form, context, medium, quantity, appeal, etc.) (Burns and Lutz, 2006; Dahlen, 2005; Li *et al.*, 2002) and consumers' perceived factors (perceived clutter, perceived goal impediment, perceived utility, perceived entertainment, etc.) (Baek and Morimoto, 2012; Cho and Cheon, 2004; Seyedghorban *et al.*, 2016). These studies suggest that perceived goal impediment is a major factor in ad avoidance, but pay less attention on perceived ad irrelevance, which is the core of OPA. In addition, prior negative experiences on the advertising lead to its heuristic judgments and decision-making, resulting in behavioral bias (Kolb, 1984). Facing different products, consumer refine attention and pay different efforts among them (Kim *et al.*, 2015), but it is limited for the research that the types of consumer good effect on OPA.

Prior studies have mainly used information theory and learning from experience theories to explain online ad avoidance by consumers. These two theories propose that any factor that prevents an audience from getting to desired content will be considered "noise" (Prendergast and Tsang, 2014); experiencing "noise" negatively impacts judgment and behavior (Kolb, 1984). Experiences are formed from specific activities, internalized by individualized judgment, confirmed, and then applied in new situations (Varey and Kahneman, 1992).

In addition to these two theories, this study uses social exchange theory to explain the relationships between perceived ad irrelevancy and ad avoidance, Social exchange theory proposes that consumers assess social exchanges through perceived costs and benefits. This subjective evaluation leads people to participate in social exchanges only when their expected benefits are greater or at least compensated for the cost of participation. The study also considers risk aversion theory, which explains the moderating effect of consumer good types on the study model. Risk aversion theory states that goods with different costs, searching time, and quality yield different risk perceptions for consumers (Perlman, 2013). These four theories (information theory, learning from experience theory, social exchange theory, and risk aversion theory) provide the foundation for this study's conceptual framework.

Based on the aforementioned analysis, this study chooses perceived goal impediment, perceived ad irrelevance, prior negative experiences as the independent variable, OPA as the dependent variable, the types of consumer good as the moderating variable, the consumer population characteristic as the control variable, to explore the relationships among the variables.

2.1. OPA Avoidance

OPA refers to "any form of online advertising that is based on information the advertiser has about the advertising recipient, such as demographics, current or past browsing or purchase behavior, information from preference surveys, and geographic information" (Schumann *et al.*, 2014). Ad avoidance refers as "all actions by media users that differentially reduce their exposure to online personalized ad content" (Speck and Elliott, 1997). As a consumer attitudinal response to online personalized advertising, ad avoidance is composed of cognition, affect, and behavior.

Cognitive ad avoidance is a psychological defense mechanism that involves ignoring exposure to the ads (Cho and Cheon, 2004). Affective ad avoidance is a mood state in which consumers associate online advertising with more negative emotional feelings (Alwitt and Prabhaker, 1994). Behavioral ad avoidance refers to the actions consumers take to avoid ads. In this case, consumers will become

unsettled, and may use software to avoid online personalized ads (Baek and Morimoto, 2012; Seyedghorban *et al.*, 2016).

2.2. Perceived Goal Impediment

The Internet is often a goal-oriented medium, and people like to complete specific searching and purchasing tasks, which are interrupted by targeted pop-up advertising (Burns and Lutz, 2006; Dahlen, 2005; Li *et al.*, 2002). As information theory proposes, interruptions directly human information processing. Based on this, the study proposes the following hypothesis:

H1: Perceived goal impediment is positively related with online personalized ads avoidance.

2.3. Prior Negative Experiences

According to the learning from experience theory, people make decisions primarily using heuristic judgment, based on past experience (Kolb, 1984). Consumers' prior negative experiences directly affect their willingness and future behavior to accept OPA (Rosengren and Dahlen, 2014). If consumers perceive that online personalized ads are dissatisfying, lack utility, and lack incentives, they tend to avoid them (Cho and Cheon, 2004; Seyedghorban *et al.*, 2016). This leads to the second hypothesis:

H2: Prior negative experience is positively related with online personalized ad avoidance.

2.4. Perceived OPA Irrelevance

(Schumann *et al.*, 2014) defined irrelevant advertising as advertising that is uninteresting and not of use to users, and that consumers consider unworthy of their attention. They argue that OPA is a social exchange between advisers and their users. Social exchange theory proposes that consumers evaluate social exchanges based on perceived cost and rewards. This subjective evaluation leads to behaviors where people only participate in a societal exchange when their expected return is greater than, or at least compensated by, the cost of participation (Schumann *et al.*, 2014). Based on this model, consumers avoid online personalized advertising if the expected benefits are less than the corresponding cost. Therefore, this study proposes the following:

H3: Perceived ad irrelevance is positively related with online personalized ads avoidance.

2.5. Consumer Good Types

This study assesses the impact of consumer good types on the main paths of the structural model, not including raw material products. The study draws from Copeland (1923) consumer goods classification based on consumer buying habits. Consumer goods are divided into three classes: convenience goods, shopping goods, and specialty goods. Copeland described convenience goods as low-priced daily necessities, which are used and purchased at a higher frequency than other types. For these goods, such as sugar, toothpaste, and towels, consumers already know the specifications and prices. They are purchased more casually and conveniently without much selection effort.

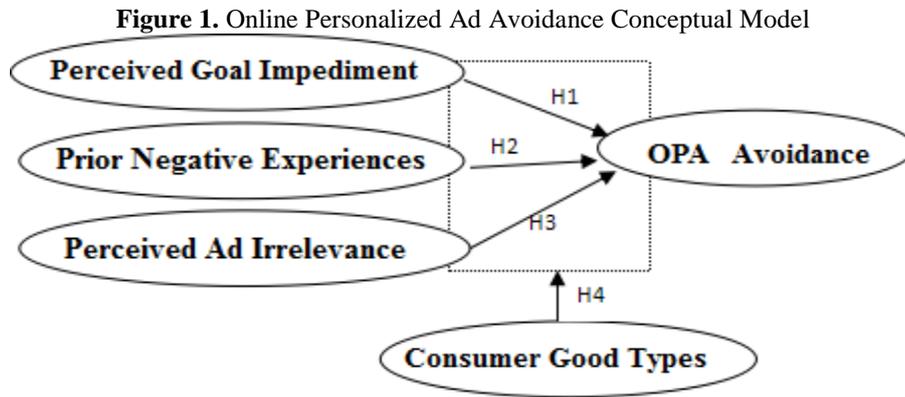
Shopping goods, such as fashion items, clothing, lamps, and cosmetics, generally have higher prices and usually require more consumer attention to style and quality. These goods are typically purchased with less frequency, require more professional knowledge, and are less familiar than convenience goods. Therefore, consumers often purchase shopping goods with more caution, soliciting others' opinions and comparing quality, price, style, and other variables across several stores.

Specialty goods refer to products that attract consumers with high quality characteristics, such as cars, televisions, and tourism products. Consumers are most cautious before buying specialty goods, and spend much more time searching for information about them. Quality, reputation, and service are the key factors affecting consumer purchasing decisions with respect to these items.

Observing real market consumer behavior, Klemenhagen (1967) validated Copeland (1923) consumer goods classification. Kim *et al.* (2015) evaluated 1,086 social media advertising pages on Facebook displaying 92 countries' brands, and identified different reactions when consumers face different types of consumer goods advertising. They found that comments on "guess what you like" demonstrate that OPA for fast-moving consumer goods are better received than ads for durable goods. Based on this, this study hypothesizes that:

H4: Consumer good types moderate the effect of (a) perceived goal impediment, (b) perceived ad irrelevancy, and (c) prior negative experience on online personalized ad avoidance. The association is more powerful for specialty goods than for shopping goods and convenience goods, in that order.

Based on the above analysis, Figure 1 shows the theoretical model and associated hypotheses for this study.



3. Methods

3.1. Sample

To avoid errors in operating convenience, questionnaires for this study were distributed and collected using an online-sampling method using WeChat, a popular social media site for Chinese people. Of the 500 engaged online participants, 38 were rejected because they had not been exposed to OPA; this left 462 valid participants. These participants represented 31 provinces of China, which included all but Tibet, Hong Kong, and Macao. Data are considered geographically representative. Table 1 shows the participant profiles.

Table 1. Participant profiles.

Variable	Frequency	% of Total	Variable	Frequency	% of Total
Gender			Income		
Male	294	63.6	<1000RMB	66	14.3
Female	168	36.4	1000-1999 RMB	36	7.8
Age			2000-2999 RMB	192	41.6
<20	60	13.0	3000-3999 RMB	72	15.6
21-30	270	58.4	4000-4999 RMB	36	7.8
31-40	42	9.1	5000-5999 RMB	42	9.1
41-50	84	18.2	6000-6999 RMB	6	1.3
>50	6	1.3	7000-7999 RMB	6	1.3
Online Age			>8000RMB	6	1.3
< one year	60	13.0	Education		
1-5years	42	9.1	Low	60	13.0
6-10 years	240	51.9	Lower medium	6	1.3
11-15 years	84	18.2	Medium	348	75.3
16-20 years	18	3.9	Upper medium	30	6.5
>20 years	18	3.9	High	18	3.9

3.2. Measuring Tools

3.2.1. Data Reliability

The survey selected OPA, such as “guess what you like” from taobao.com and JD.com, and “recommendations for you” from amazon.cn. These refer to “any form of online personalized advertising based on consumers’ information, including demographics, current or past browsing or purchase behavior, information from preference surveys, and geographic information collected by advertiser” (Schumann *et al.*, 2014). To ensure data reliability, the questionnaire started with two questions: (a) when you visit Taobao, Amazon, JD, Ctrip, and other e-commerce sites, are you exposed to the online personalized advertising as shown in Figure 3? (b) In the past six months, have you encountered online personalized advertising? If the answers to both questions were “Yes,” participants were encouraged to continue to the subsequent questions on the questionnaire, otherwise they were told to stop.

3.2.2. Scale Design

To measure the impact of consumer good types, this study created three simulated shopping malls, selling towels (convenience goods), television (optional goods), and cars (special goods). To help respondents correctly sort different types of consumer goods, definitions were provided before the question. Respondents were directed to the three malls on the web page after 20 seconds, based on their browsing history, to push personalized ads. After being exposed to the ad, if the participant chooses to block the ad, he or she was sent directly to the second stage to fill in the questionnaire.

OPA avoidance was measured with nine items adopted from prior research on advertising avoidance (Cho and Cheon, 2004; Speck and Elliott, 1997) and responses to location-based advertising (Wonsun, 2016). Perceived goal impediment was measured by nine items derived from Cho and Cheon (2004), Li *et al.* (2002), and Speck and Elliott (1997). Perceived OPA irrelevance was measured by three items adopted from Schumann *et al.* (2014). Prior negative experiences with nine items derived from Cho and Cheon (2004). The four key variables (OPA avoidance, perceived goal impediment, perceived OPA irrelevance, Prior negative experiences) were measured using five-point Likert scales.(1 = strongly disagree; 5=strongly agree). Before conducting the survey, we pretested the questionnaire with a convenient sample of 50 undergraduate students to refine the measurement instruments. Based on suggestions made by the pretest participants, some measurement items were rephrased to improve clarity. Table 2 presents the measurement items and descriptive statistics.

Table 2. Measurement items and statistics

OPA avoidance (M = 4.24, SD = 1.12, α = 0.87)
Cognitive OPA avoidance
1. I intentionally ignore any OPA
2. I intentionally don't put my eyes on any OPA, even if some draw my attention.
3. If I receive too much OPA, I intentionally stop reading it.
Affective OPA avoidance
I dislike OPA
It would be better if there were no OPA on the web
It would be better if there were no OPA on the mobile screen
Behavior OPA avoidance
I scroll down web pages to avoid OPA
I close windows to avoid OPA
I do any action to avoid OPA
Perceived goal impediment (M = 4.45, SD = 1.08, α = 0.96)
Search hindrance
1. OPA makes it harder to browse web pages
2. When texting halfway, incoming OPA disrupts the flow of texting.
3. OPA make internet navigation difficult
Disruption
1. OPA disrupts me from using other content/services (e.g. reading, playing, gaming, watching videos, calling)
2. OPA disrupts receiving desired incoming content.
3. OPA intrudes on my search for desired info.
Distraction
1. When alerted of a new incoming content, finding it OPA distracts me.
2. OPA infringes on my control over mobile devices or web
3. When expecting a reply from someone, OPA is a distraction.
Perceived OPA irrelevance (M = 4.88, SD = 1.15, α = 0.93)
1. Loss of control
2. Time consuming for repeated information
3. Feel annoyed or irritated
Prior negative experiences (M = 4.47, SD = 1.01, α = 0.96)
Dissatisfaction
I am dissatisfied with my decision to click OPA
I am not happy with my earlier decision to click OPA
I regret clicking OPA
Perceived lack of utility
1. OPA cannot raise our standard of living.

2. Increase effectiveness in managing information.
3. OPA provides useful product/service/brand information.
Perceived lack of incentives
1. continued clicking of OPA provides no benefits
2. no incentive is offered for the continued clicking of OPA
3. Provide incentives for purchasing products or services.
Note: M = Construct mean, SD = Standard deviation, a = Cronbach's alpha.

3.2.3. Control Variables

Several papers have demonstrated that consumers with different socio-demographic characteristics, such as different ages, genders, education, and incomes, react differently to online advertising (Smith *et al.*, 2011). In addition, the duration of Internet use (in years) also affects user attitudes and behaviors about OPA. As such, this study divided duration of Internet use into: advanced users (have used more than 3 years), intermediate users (have used 1-3 years), and low users (have used one year or less).

Based on this, the variables of age, gender, education, income, and duration of internet use were controlled, allowing the study to examine the main path relationships and moderating effects of the online personalized ad avoidance model.

3.2.4. Data Processing

3.2.4.1. Reliability and Validity

Confirmatory factor analysis was performed using IBM Amos 21, estimating each parameter using the maximum likelihood method and assessing the structural model using likelihood ratio χ^2 values, norms fit index (NFI), goodness of fit index (GFI), and root mean square error of approximation (RMSEA). This study has a high reliability with a Cronbach's alpha of 0.936; convergent validity is verified by standardized factor loadings (SFL>0.5), average variance extraction (AVE>0.6), and composite reliability (CR>0.7) (Table 3). All observed variables are significantly different from each other (* p <0.05), but the fit is not good ($\chi^2 / df = 201.598 / 51 = 3.953$; NFI = 0.78; AGFI = 0.81; CFI = 0.83; RMSEA = 0.058). To optimize the model's fit ($\chi^2 / df = 198.598 / 78 = 2.546$; NFI = 0.91; AGFI = 0.94; CFI = 0.93; RMSEA = 0.048), the "disruption" of the observed variables were removed (See Table 3).

Table 3. Results of CFA, Reliability, and Validity Analysis

Measurement Items	No.	SFL	T-value	Cronbach's α	CR	AVE
Perceived Goal Impediment				0.893	0.9019	0.7549
Search hindrance	3	0.87*	20.968			
Disruption	3	0.94*	22.168			
Distraction	3	0.79*	Constant			
Prior Negative Experience				0.830	0.884	0.7266
Dissatisfaction	5	0.97*	14.474			
Perceived futility	3	0.95*	14.577			
Perceived no incentive	3	0.58*	Constant			
Perceived Ad Irrelevant				0.918	0.9175	0.7879
Duplication	1	0.93*	25.397			
Inaccurateness	1	0.90*	24.453			
Inconvenience	1	0.83*	Constant			
Online personalized Ad avoidance				0.847	0.8491	0.653
Cognitive	3	0.74*	Constant			
Affective	3	0.85*	17.126			
Behavioral	3	0.83*	16.892			

Notes: Goodness of fit indices: $\chi^2 / df = 198.598 / 78 = 2.546$; NFI = 0.91; AGFI = 0.94; CFI = 0.93; RMSEA = 0.048. SFI = standardized factor loading; CR = composite reliability. AVE = average variance extracted * p <0.05 average variance extracted amount (AVE) and composite reliability (CR), when the study of standardized factor loadings greater than 0.5, AVE is greater than 0.6, CR greater than 0.7, description has good convergent validity (Seyedghorban *et al.*, 2016).

3.2.4.2. Common Method Biases Test

The same investigator completed the survey of all questionnaire variables; possibly introducing common method biases. According to Podsakoff *et al.* (2003), a questionnaire designed with clear

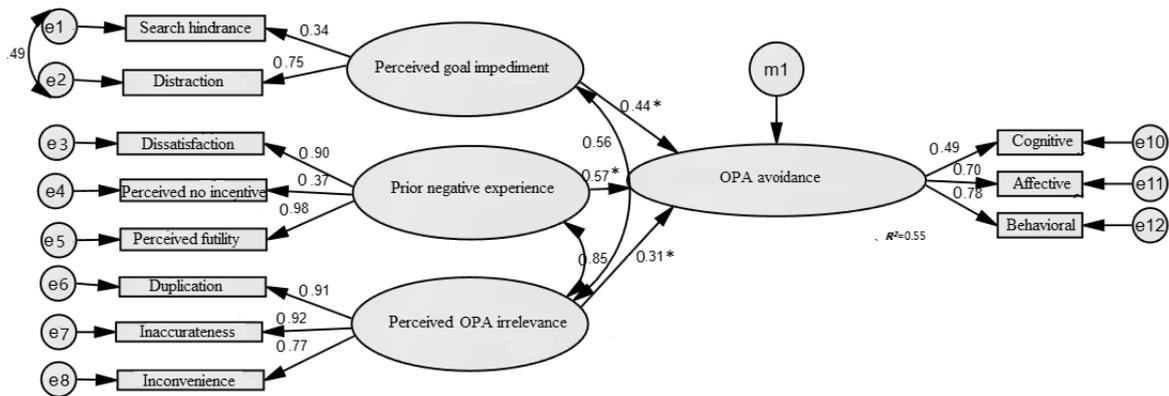
language includes an anonymous system and no right or wrong answers. Statistically, Harman’s single factor test revealed that the fitting effect ($\chi^2 / df = 198.598/78 = 8.546$; NFI = 0.31; AGFI=0.34; CFI=0.23; RMSEA=0.15) is the worse than all factors of the structural model. This indicates that common method biases do not exist in this study.

4. Results

4.1 Main Effect Test

This paper tested the reasonableness of the hypotheses using confirmatory factor analysis with the maximum likelihood method of Amos 21 (See Figure 2).

Figure 2. OPA Avoidance Structural Model for Chinese Consumers



Notes: $\chi^2/df = 198.598/78 = 2.546$; NFI = 0.91; AGFI = 0.94; CFI = 0.93; RMSEA = 0.048; * $p < 0.05$

The results showed that perceived goal impediment, perceived ad irrelevance, and prior negative experience are significantly predictive of online personalized ad avoidance. Support for hypothesis 1 (Perceived goal impediment is positively related with online personalized ad avoidance) was $\beta = 0.44$ ($p < 0.05$), hypothesis 2 (Prior negative experience is positively related with online personalized ad avoidance) was $\beta = 0.57$ ($p < 0.05$), and hypothesis 3 (Perceived ad irrelevancy is positively related with online personalized ad avoidance) was $\beta = 0.31$ ($p < 0.05$). Prior negative experience is the most significant predictor of online personalized ad avoidance.

4.2. Moderating Effect Test

When consumer good type as the moderator is a categorical variable and OPA avoidance as the independent variable is a continuous variable, testing the moderating effect requires grouping the regression analysis and then comparing the regression coefficients of the different groups (Baron and Kenny, 1986). The regression coefficients of convenience goods, shopping goods, and specialty goods vary significantly ($p < 0.001$). This indicates that the variable of consumer good types has a significant moderating effect. As Table 4 shows, the regression coefficients associated with convenience goods explained 58.3% of the dependent variable’s total variance, shopping goods explained 23.5%, and specialty goods explained 76.7%.

In contrast to hypothesis 4a, perceived goal impediment of targeted consumers has a more significant effect on OPA avoidance of specialty good ads ($\beta = 0.382$; $p < 0.01$) than shopping good ads ($\beta = 0.064$; non-significant). The effect of perceived goal impediment on OPA avoidance was weaker with shopping goods than convenience goods. Countering hypothesis 4b, perceived ad irrelevance positively affects OPA avoidance of convenience good ads ($\beta = 0.496$; $p < 0.01$), but not shopping good ads ($\beta = 0.087$; non-significant) or specialty good ads ($\beta = 0.17$; non-significant). Consistent with hypothesis 4c, prior negative experiences more significantly affects OPA avoidance for specialty good ads ($\beta = 0.669$; $p < 0.01$) than shopping good ads ($\beta = 0.387$; $p < 0.05$), and avoidance of shopping good ads are more significant than convenience good ads ($\beta = 0.34$; $p < 0.05$) (See Table 4).

Table 4. Moderating Effect of Consumer Good Types

	Convenience Goods	Shopping Goods	Specialty Goods
Constant	0.615	0.181	1.323
Perceived goal impediment	0.295**	0.064	0.382**
Perceived ad irrelevance	0.496**	0.087	0.17
Prior negative experience	0.34*	0.387*	0.669**
Correlation coefficient R	0.767	0.508	0.622
Coefficient of determination R ²	0.589	0.258	0.508
Adjusted R ²	0.583	0.235	0.767
F-value	112.065	11.25	24.857
Significance Level	0.000***	0.000***	0.000***

A. Note: Dependent Variable is OPA avoidance.

5. Discussion and Conclusion

This research explored an element of Chinese culture, examining the factors that motivate Chinese consumers to avoid online personalized advertising. The study found that the "disruption" measurement item of perceived goal impediment was not valid. This is mainly because the Chinese people's aimless "attachment" to the Internet has weakened the perceived disruption of searching. Overall, study results support the main effect hypotheses. First, prior negative experience is the strongest factor in predicting ad avoidance. Second, across consumer good groups, there are significant differences in the relationships between perceived goal impediment, perceived ad irrelevance, and prior negative experience with online personalized advertising avoidance. These results are discussed further below.

First, Chinese consumers' perceived goal impediment has a significant positive effect on online personalized ad avoidance. In this study, however, the effect of a perceived goal impediment on OPA avoidance ($\beta = 0.44$, $p < 0.05$) was weaker than was found with [Cho and Cheon \(2004\)](#) original model for online ad avoidance ($\beta = 0.52$, $p < 0.01$); however, the effect was stronger than the model replication study done by ([Seyedghorban et al., 2016](#)) ($\beta = 0.32$, $p < 0.05$).

This study's finding of the weaker effect may be because online users can more directly control online personalized advertising, intercepting ads using blocking software or browsers ([Johnson, 2013](#)). This reduces exposure to ads that are disliked. Today's Internet has become the main tool supporting people's work, life, information queries, and trusted social contacts. Study participants within the 31-40 year old age range make up 58.4% of the population; these people are of working age, and the Internet is their main tool to complete work, achieve transactions, and negotiate business. As information theory proposes, the factors and values affecting audiences' ability to get things are all considered to be "noise." As such, search hindrances and distractions are their main focus.

Second, the relationship between Chinese consumers' prior negative experiences and online personalized advertising avoidance is the strongest among the dimensions studied. As learning by experience theory proposes, people explain their behavior based on previously-learned causality, choosing to take actions based on experiential results and previous learning.

Third, for Chinese consumers, three observed variables of perceived ad irrelevance (the explanatory degree of repeated demands, inaccurate information, and inconvenient operation) all exceeded 0.7. Perceived ad irrelevance was significant, but had the weakest association with online personalized ad avoidance ($\beta = 0.31$, $p < 0.05$). This significance indicates that irrelevant ads make users perceive that expected benefits are less than the corresponding cost. As such, according to social exchange theory, they choose to avoid OPA.

One possible reason for this weakness in the relationship is that today's Internet has become an important part of Chinese life, and serves an amusement function to pass the time. In April 2016, Penguin Intelligence (企鹅智酷) published a research report called, "How Chinese people are shopping online, you may not know the 7 truths." The report noted: "According to feedback from users, 64.8% of users indicate that until they know what they want to buy, they will visit e-commerce sites. Users who aimlessly brush e-commerce sites, account for 30.4%, browsing websites and picking goods of interest to buy" (See [Figure 3](#)).

The second reason for this weakness in the relationship is that personalized recommendations benefit many consumers. According to survey data from Penguin Intelligence (企鹅智酷), although personalized recommendations cannot fully satisfy Chinese users, 54.5% of users said they still need or prefer them to explore some goods they do not know about; 20.1% of users hesitate about their use; and the remaining 25.4% of users find them to be useless ([Wang, 2016](#)) (See [Figure 4](#)). Moreover, blocking

software helps users reduce their exposure to ads they dislike. In short, some Chinese consumers may respond positively to OPA, even with repeated demands, inaccurate information, or inconvenient operation. This leads to a weak effect of perceived ad irrelevance on OPA avoidance.

Figure 3. Online Consumption Habits of Chinese

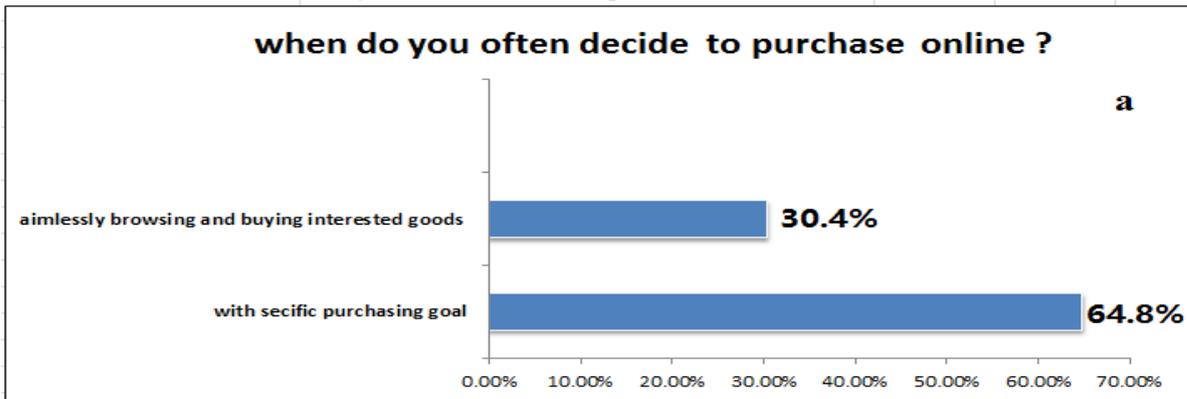
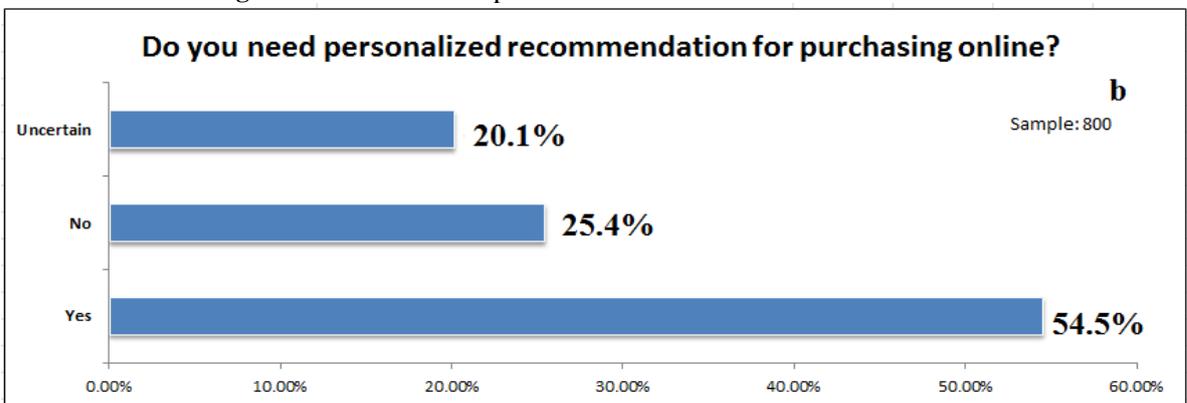


Figure 4. Need of Online personalized recommendations of Chinese



Data resources: Penguin Intelligence, <http://tech.qq.com/original/archives/b112.html>

Fourth, this study identified the moderating effect of consumer good types on the relationship between perceived goal impediment, perceived ad irrelevance, and prior negative experiences with the avoidance of online personalized advertising.

For convenience goods, perceived goal impediment and perceived ad irrelevance has a more significant effect on OPA avoidance; prior negative experience had a less significant moderating effect. This is because convenience goods are used with greater frequency, so consumers already know the convenience goods' sizes, types, and price. As such, consumers prefer spending minimal time and cost making a convenient purchase, may trigger the audience's psychological avoidance of convenience good OPA.

Shopping goods generally come with higher prices, and consumers need more time to collect information and make cognitive judgments about style and quality. This stimulates consumers' positive responses to online personalized advertising (Tang *et al.*, 2015). Because OPA can reduce search costs for consumers, even if the information is inaccurate, consumers still need the technology to choose their favorite products. As such, we conclude that the perceived goal impediment and perceived ad irrelevance are not the factors causing consumers to avoid ads.

Specialty goods generally have the highest prices and longest life cycle. Consumers tend to invest more effort to make a purchase decision, and relatively high skill is needed to process information with deep cognitive demands. The complex buying process associated with special goods prompts consumers to avoid disturbances and interruptions. This elevates the detection of perceived goal impediment (Richard and Chebat, 2016). In addition, due to the high cost of special products, previous dissatisfaction with an ad or perceived uselessness with no incentive will lead consumers to avoid loss. These prior negative experiences lead consumers to directly avoid ads.

For specialty goods, perceived ad irrelevant has little effect on the avoidance of OPA. Consumers are motivated to accept OPA if the expected rewards outweigh the cost of participation. For specialty good OPA's, when consumers acquire more information, even if irrelevant, they perceive the benefits as

greater than the corresponding cost of time; as such, OPA becomes the platform to learn about specialty goods.

This study concludes that perceived goal impediment, perceived ad irrelevance, and prior negative experiences are strongly associated with the avoidance of online personalized advertising. Perceived goal impediment and perceived OPA irrelevance differed across consumer good groups. Prior negative experiences remain a significant factor.

6. Implications and limitations

This study examined the moderating effect of consumer product type on the main model, to improve ad delivery accuracy. The paper also verified that perceived goal impediment and prior negative experiences are two main factors that lead consumers to avoid online advertising. Moreover, perceived ad irrelevance has a significant effect on online personalized advertising avoidance.

This study has important implications for advertisers. Advertisers should be aware that consumers may react differently to the online personalized advertising associated with different consumer goods. For ads that consumers generally dislike, advertisers should identify friendlier ways to deliver them to win consumer trust

First, convenience goods are characterized by low prices, repeated purchases, lower involvement, and random purchases based on experience or habit. Advertisers should choose advertising forms that consumers easily accept, such as picture and text combinations that draw consumer interest (Flores *et al.*, 2014). This will enhance consumers' perceived value, improve consumers' involvement, and construct a good experience.

Second, for shopping goods, consumers concerned about the price and style, there will be psychological imbalance. As with commodity purchases, customers pay attention to other similar products, the advantages and characteristics of other brands, so they try to get more information to prove the correctness of its purchase decision. Online shopping is not only an exchange; it is also a brand loyalty forming process. As such, the advertising platform should try to help consumers avoid losses, increasing their confidence in the brand. When considering advertising platforms, advertisers should analyze reasons for consumer turnover from online personalized advertising, to alleviate tensions between users and the ads they see.

Third, for special goods, there is complex preparation before a purchase, which requires high involvement. Advertisers should implement appropriate policies to deliver consumer advertising based on their browsing history. This provides targeted consumers more opportunities to learn more about the performance, advantages, and disadvantages of goods, influencing the consumer's final brand choice.

Online personalized ad avoidance is influenced by many complex factors. This study focused primarily on consumer perceptions. Future research could examine the effect of consumers' family structure, personal life, and individual lifestyle behaviors on OPA avoidance. Advertisers should focus on consumer engagement with advertising, gradually improving inaccuracies of personal information, and enhancing consumer trust in the Internet.

References

- Alwitt, L. F. and Prabhaker, P. R. (1994). Identifying who dislikes television advertising: Not by demographics alone. *Journal of Advertising Research*, 34(6): 17-29.
- Austin, J. M. and Reed, M. L. (1999). Targeting children online: Internet advertising ethics issues. *Journal of Consumer Marketing*, 16(6): 590-602.
- Baek, T. H. and Morimoto, M. (2012). Stay away from me: Examining the determinants of consumer avoidance of personalized advertising. *Journal of Advertising*, 41(1): 59-76.
- Baron, R. M. and Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6): 1173-82.
- Brahim, N. B. E., Lahmandi-Ayed, R. and Laussel, D. (2011). Is targeted advertising always beneficial? *International Journal of Industrial Organization*, 29(6): 678-89.
- Burns, K. S. and Lutz, R. J. (2006). The function of format: Consumer responses to six on-line advertising formats. *Journal of Advertising*, 35(1): 53-63.
- Chen, X. j., An, L. and Yang, S. F. (2016). Zapping prediction for online advertisement based on cumulative smile sparse representation. *Neurocomputing*, 175(PA): 667-73.
- Cho, C. H. and Cheon, H. J. (2004). Why do people avoid advertising on the internet? *Journal of Advertising*, 33(4): 89-97.

- CNNIC (2016). Statistical report on internet development in china CNNIC (China Internet Network Information Center). Available: <http://www.academia.edu/4863797/StatisticalReportonInternetDevelopmentinChina>
- Copeland, M. T. (1923). The relation of consumers' buying habits to marketing methods. *Harvard Business Review*, 1(3): 282-89.
- Dahlen, M. (2005). The medium as a contextual cue: Effects of creative media choice. *Journal of Advertising*, 34(3): 89-98.
- Dixon, H. M., Scully, S., Durkin, E. and Brennan, T. (2015). Finding the keys to successful adult-targeted advertisements on obesity prevention: An experimental audience testing study. *BMC Public Health*, 15(1): 804.
- Flores, W., Chen, J. V. and Ross, W. H. (2014). The effect of variations in banner ad, type of product, website context, and language of advertising on internet users' attitudes. *Computers in Human Behavior*, 31(10): 37-47.
- Johnson, J. P. (2013). Targeted advertising and advertising avoidance. *RAND Journal of Economics*, 44(1): 128-44.
- Kim, D. H., Spiller, L. and Hettche, M. (2015). Analyzing media types and content orientations in facebook for global brands. *Journal of Research in Interactive Marketing*, 9(1): 4-30.
- Klemenhagen, A. K. (1967). Shopping convenience goods, specialty. *Journal of Retailing*, 42(4): 32-67.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hal.
- Li, H. R., Edwards, S. M. and Lee, J. H. (2002). Measuring the intrusiveness of advertisements: Scale development and validation. *Journal of Advertising*, 31(2): 37-47.
- Lu, L. C., Chang, W. P. and Chang, H. H. (2014). Consumer attitudes toward blogger's sponsored recommendations and purchase intention: The effect of sponsorship type, product type, and brand awareness. *Computers in Human Behavior*, 34(5): 258-66.
- Perlman, Y. (2013). The effect of risk aversion on product family design under uncertain consumer segments. *International Journal of Production Research*, 51(2): 504-14.
- Podsakoff, P. M., MacKenzie, S. B., Le, J. Y. and Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879-903.
- Prendergast, G. P. and Tsang, A. S. L. (2014). Predicting handbill avoidance in Hong Kong and the UK. *European Journal of Marketing*, 48(1/2): 132-46.
- Richard, M. O. and Chebat, J. C. (2016). Modeling online consumer behavior: Preeminence of emotions and moderating influences of need for cognition and optimal stimulation level. *Journal of Business Research*, 69(2): 541-53.
- Rosengren, S. and Dahlen, M. (2014). Exploring advertising equity: How a brand's past advertising may affect consumer willingness to approach its future Ads. *Journal of Advertising*, 44(1): 1-13.
- Run, D. E. C. (2007). Ethnically targeted advertising: Views of those not targeted. *Asia Pacific Journal of Marketing and Logistics*, 19(3): 265-85.
- Schumann, J. H., Wangenheim, F. V. and Groene, N. (2014). Online personalized advertising: Using reciprocity appeals to increase acceptance among users of free web services. *Journal of Marketing*, 78(1): 59-75.
- Seyedghorban, Z., Tahernejad, H. and Matanda, M. J. (2016). Reinquiry into advertising avoidance on the internet: A conceptual replication and extension. *Journal of Advertising*, 45(1): 120-29.
- Smith, J. H., Dinev, T. and Xu, H. (2011). Information privacy research: An interdisciplinary review. *MIS Quarterly*, 35(4): 898-1015.
- Speck, P. S. and Elliott, M. T. (1997). Predictors of advertising avoidance in print and broadcast media. *Journal of Advertising*, 26(3): 61-76.
- Tang, J., Zhang, P. and Wu, P. F. (2015). Categorizing consumer behavioral responses and artifact design features: The case of online advertising. *Information Systems Frontiers*, 17(3): 513-32.
- Varey, C. and Kahneman, D. (1992). Experiences extended across time: Evaluation of moments and episodes. *Journal of Behavioral Decision Making*, 5(3): 169-85.
- Wang, X. (2016). What is the truth of chinese consumers online shopping. Available: <Http://Tech.Qq.Com/Original/Archives/B112.Html>
- Wonsun, S. T. T. L. (2016). Who avoids location-based advertising and why? Investigating the relationship between user perceptions and advertising avoidance. *Computers in Human Behavior*, 63(10): 444-452., 63(10): 444-52.