

# Advertising Wearout and Loyalty: The Moderating Role of Consumer Involvement

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**Abstract.** This research discusses the effect of advertising wearout on consumers when it comes to online video advertisements. By analyzing the collected data (n=231) using partial least square SEM, it is found advertising wearout was positively correlated with irritation, while irritation was negatively correlated with loyalty. Additionally, consumer involvement moderated the relationship of irritation and loyalty.

**Keywords:** advertising wearout; irritation; loyalty; consumer involvement

## 1 Introduction

Researchers have focused their attention on the phenomenon of advertising wearout [1][2]. The impact of advertising wearout on consumers has been explored in numerous studies, for example, there is research that clarifies the relationship between advertising wearout and irritation, as well as the relationship between irritation and loyalty[1]. However, it remains to be further explored which variables affect this process. Therefore, based on existing studies, we discussed the role of consumer involvement in the relationship between irritation and loyalty.

The results of this study indicated that, similar to prior research[1], advertising wearout is positively connected with I; but, in contrast to prior research [1], irritation is negatively correlated with loyalty, providing new insight into the influence of irritation on loyalty. Thirdly, consumer involvement moderated the relationship between irritation and loyalty, which contributes to our understanding of consumer involvement 's significance in online video advertising.

## 2 Hypothesis development and conceptual model

Ad wearout represents “ excessive exposure to the same marketing and advertising campaigns” [1] (P.2).One strategy to deal with the irritation issue is to limit the commercial's exposure to the segments that are most likely to be irritated by it[3]. Thus showing the possibility that with the reducing of commercial's exposure, irritation can be reduced. And previous study already

confirmed that Customer irritation and intrusiveness can be influenced by mobile ad wearout [1]. Therefore, we proposed:

H1 Advertising wearout is positively associated with irritation.

Irritation triggers retaliatory behaviors towards the brand perceived to be responsible for negative events[1].

Irritation was defined as “the extent to which the advertising message is messy and irritating to consumers”[4] (p. 257) and it has a negative correlation with advertising value [4]. In addition, consumer irritation results in undesirable behavioral responses such as decreased consumer engagement[1]. In view of these negative effects of I on consumers, we propose:

H2 Irritation is negatively associated with loyalty.

Consumer involvement may be regarded as a lasting perception of the product, and it has long been thought to act as a moderator in the relationship between advertising perception and purchase intent [5]. Certain executional cues may have an effect on both central-route and peripheral-route processing of high-/low-involvement consumers, and the direction of this effect may depend on consumer's level of involvement[6]. Thus we propose:

H3 Consumer involvement negatively moderates the relationship between irritation and loyalty.

Accordingly, the research model is proposed as shown in Figure 1.

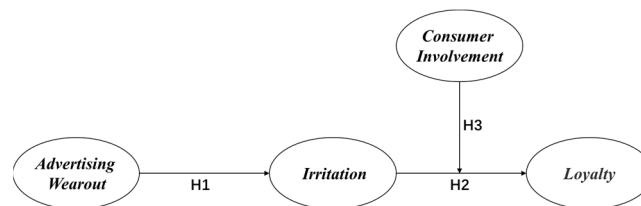


Fig. 1 Research model

### 3 Methodology

#### 3.1 Measurement

All items used to measure the constructs were derived from or adapted from previous literature[1][4][5][11] (see Appendix A) and were translated into Chinese prior to data collection. For all item responses, a seven-point Likert scale was employed (ranged from 1 to 7 representing strongly disagree to strongly agree, respectively).

#### 3.2 Data collection

Because of the Internet's rapid development, online video ads were chosen as the ad content watched by questionnaire respondents in the study. The research team chose 100 advertisements from Tencent videos (a famous Chinese online video platform) . And the following criteria are used to select advertisements: (1) the products are still on sale; (2) the

duration of the advertising is less than one minute. Following that, eight advertisements were randomly chosen from those 100 advertisements and included in online questionnaire. When respondents clicked on the questionnaire link, one of the adverts would played randomly before they filling the questionnaire. Then participants filled the online questionnaire according to the advertisements they watch. The questionnaire includes demographic information and the measurement of the variables. We collected 231 valid questionnaires and Table 1 contains detailed information on each advertisement.

**Table 1.** Advertisements and viewers

Ad brand/ product	Viewers	%	Ad brand/ product	Viewers	%
Deluxe Milk	27.0	11.7	Sprite	29.0	12.6
Mengniu milk	31.0	13.4	Mcdonald's chicken wings	28.0	12.1
Oreo cookies	30.0	13.0	Chocolate chip cookies	27.0	11.7
Ganten mineral water	32.0	13.9	White Rabbit Creamy Candy	27.0	11.7

Table 2 shows the demographic characteristics of respondents, all of whom are over the age of 18.

**Table 2.** Demographic Characteristics of the Sample (n=231)

Measure	Item	N	%	Measure	Item	N	%	
Gender	Male	77	33.3	Occupation	Financial staff/auditor	8	3.5	
	Female	154	66.7		Management personnel	15	6.5	
Monthly income	≤2000	126	54.5		Technical/R&D personnel	13	5.6	
	2001~4000	19	8.2		Teacher	12	5.2	
	4001~6000	20	8.7		Student	128	55.4	
	6001~8000	22	9.5		Sales/marketer/publicist/ Customer service	12	5.2	
	≥8001	44	19		Professional (e.g. lawyer, medical staff, etc.)	7	3	
Education	Primary school and below	3	1.3		Others	36	15.6	
	Junior high school	2	0.9		Age	18~19	89	38.5
	High school	4	1.7			20~29	80	34.6
	Junior college	97	42	30~39		53	22.9	
	Bachelor	97	42	40~49		7	3	
	Master	25	10.8	50~59		1	0.4	
	Doctor	3	1.3	≥60		1	0.4	

## 4 Analysis and results

### 4.1 Reliability and validity

The questionnaire data were analyzed using SmartPLS3.0. As shown in table 3, Cronbach's alpha values ranged from 0.886 to 0.970, exceeding 0.7 [7] and indicating good reliability; and composite reliability for each construct exceeded 0.6 [8]. Standardized factor loading

coefficients for all measurement items exceeded 0.5 [7], and the AVE for each construct exceeded 0.5 [8], indicating adequate convergent validity for all constructs.

**Table 3.** Statistics of construct items.

Construct	Item	Standardized factor loading	Cronbach's Alpha	CR	AVE
Advertising Wearout	AW1	0.913	0.886	0.930	0.815
	AW2	0.920			
	AW3	0.874			
Irritation	I1	0.969	0.970	0.981	0.944
	I2	0.976			
	I3	0.970			
Loyalty	L1	0.946	0.914	0.946	0.853
	L2	0.931			
	L3	0.892			
Consumer Involvement	CI1	0.907	0.934	0.953	0.836
	CI2	0.950			
	CI3	0.889			
	CI4	0.911			

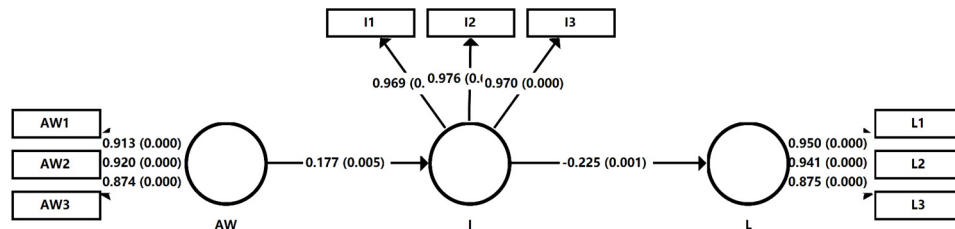
Discriminant validity requirements can be satisfied if the square of the correlation coefficient is less than the AVE [9], the square root of each construct's AVE is greater than its correlations with other constructs, indicating satisfactory discriminant validity (see Table 4).

**Table 4.** Correlation matrix and the square root of AVE.

	AW	CI	I	L
AW	<b>0.903</b>			
CI	0.247	<b>0.914</b>		
I	0.177	-0.170	<b>0.972</b>	
L	0.293	0.777	-0.221	<b>0.923</b>

## 4.2 Hypothesis testing

As shown in figure 2, H1 and H2 were tested by SmartPLS3.0 and bootstrap was applied (5,000 bootstrap resamples). The results demonstrated a positive impact of advertising wearout on irritation ( $\beta = 0.177$ ,  $p = 0.005$ ) and a negative and significant impact of irritation on loyalty ( $\beta = -0.225$ ,  $p = 0.001$ ). Thus H1 and H2 were supported.



**Fig. 2** Hypotheses testing results of H1 and H2

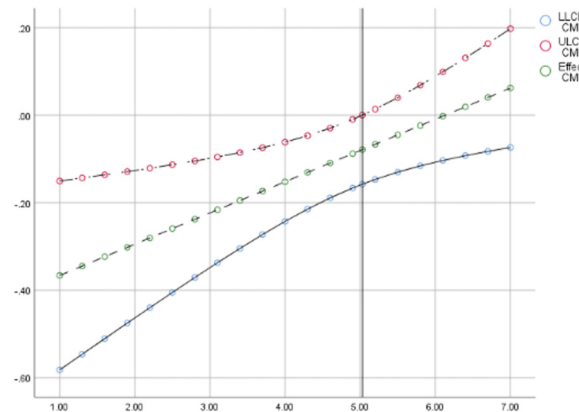
Notes: AW = advertising wearout; I = irritation; L = loyalty; CI = consumer involvement

The PROCESS macro for SPSS [10] was used to test H3. Model 1 in PROCESS was chosen (5,000 bootstrap resamples at bias-corrected and accelerated 95% confidence intervals). The results showed the moderating function of CI in the relationship between AW and loyalty ( $b = 0.0714$ ,  $p < 0.01$ ), supporting H3, which means irritation was less effective in reducing loyalty when consumer involvement is higher (see Table 5).

**Table 5.** Results of moderating effects testing

	coeff	se	t	p	LLCI	ULCI
constant	2.3793	0.416	5.7189	0	1.5595	3.1991
CONI	0.5777	0.0792	7.2958	0	0.4217	0.7338
I	-0.4377	0.1344	-3.2563	0.0013	-0.7026	-0.1728
int 1	0.0714	0.0264	2.7066	0.0073	0.0194	0.1233

In addition, the Johnson-Neyman technique was conducted when using the PROCESS macro model 1. The results showed that when  $CI < 5.029$ , consumer involvement moderated relationship between irritation and loyalty significantly, while the moderating effect was not significantly when  $CI > 5.029$ . (Fig. 3)



**Fig. 3** Results of Johnson-Neyman technique

## 5 Conclusions

### 5.1 Theoretical implications

First of all, this study challenges the existing understanding of the relationship between I and L. Previous studies have shown that irritation did not reduce consumer loyalty [1], however, the results of this study show that irritation will negatively affect loyalty significantly. Therefore, advertisers should pay attention to avoid the enhancement of I when placing advertisements. Secondly, this study found the moderating effect of consumer involvement on irritation loyalty relationship, and further confirmed that this effect would be significant when consumer involvement was less than 5.029. It shows that when consumer involvement is very

high, it will not affect the relationship between irritation loyalty. When consumer involvement is not very high, the negative impact of irritation on loyalty will be weakened with the improvement of consumer involvement. Thirdly, similar to previous studies, we confirmed that advertising wearout is a significant predictor of greater irritation [1].

## 5.2 Practical implications

The results of this study indicates that we still need to guard against the harm caused by irritation to consumer loyalty. Advertisers should try to avoid the elements in advertisements that consumers find irritating. When consumer involvement is high, the increase of consumer involvement will not weaken the negative impact of irritation on loyalty, indicating that in the case of high consumer involvement, more attention should be paid to reducing irritation.

## 5.3 Limitations and future research

The research data are mainly from Chinese consumers. Future research can further collect data from other countries and regions. The products advertised in the questionnaire for this study are mostly food and beverage, and there aren't many different types of products. We can investigate at whether impact of advertising wearout on consumers of different product categories differ from the findings of this study in the future.

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## Reference

- [1] A. A. M. Alwreikat and H. Rjoub, “Impact of mobile advertising wearout on consumer irritation, perceived intrusiveness, engagement and loyalty: A partial least squares structural equation modelling analysis,” *South African J. Bus. Manag.*, vol. 51, no. 1, Dec. (2020)
- [2] A. Kronrod and J. Huber, “Ad wearout wearout: How time can reverse the negative effect of frequent advertising repetition on brand preference,” *Int. J. Res. Mark.*, vol. 36, no. 2, pp. 306–324, Jun. (2019)
- [3] D. A. Aaker and D. E. Bruzzone, “Causes of Irritation in Advertising,” *J. Mark.*, vol. 49, no. 2, p. 47, (1985)
- [4] Y. J. Kim and J. Han, “Why smartphone advertising attracts customers: A model of Web advertising, flow, and personalization,” *Comput. Human Behav.*, vol. 33, pp. 256–269, (2014)
- [5] J. Vera and M. Espinosa, “CONSUMER INVOLVEMENT AS A COVARIANT EFFECT IN RETHINKING THE AFFECTIVE-COGNITIVE RELATIONSHIP IN ADVERTISING EFFECTIVENESS,” *J. Bus. Econ. Manag.*, vol. 20, no. 2, pp. 208–224, Mar. (2019)
- [6] D. J. Macinnis and C. W. Park, “The Differential Role of Characteristics of Music on High- and Low- Involvement Consumers’ Processing of Ads,” *J. Consum. Res.*, vol. 18, no. 2, p. 161, Sep. (1991)
- [7] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, “Multivariate Data Analysis,” 7th. Pearson Prentice Hall, (2010)
- [8] R. P. Bagozzi and Y. Yi, “On the evaluation of structural equation models,” *J. Acad. Mark. Sci.*, vol. 16, no. 1, pp. 74–94, Mar. (1988)

- [9] C. Fornell and D. F. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *J. Mark. Res.*, vol. 18, no. 1, pp. 39–50, (1981)
- [10] A. F. Hayes, *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, Second edi. New York: Guilford Press, (2018)
- [11] J. A. Busser and L. V. Shulga, "Involvement in consumer-generated advertising: Effects of organizational transparency and brand authenticity on loyalty and trust," *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 4, pp. 1763–1784, Apr. (2019)

## Appendix A

Constructs	Items	References	Constructs	Items	References
Advertising Wearout	AW1	[1]	Loyalty	L1	[11]
	AW2			L2	
	AW3			L3	
Irritation	I1	[4]	Consumer Involvement	C11	[5]
	I2			C12	
	I3			C13	
				C14	