Understanding the Influences of Consumers’ Mood States Induced by Web Page Content on Advertisement Effectiveness to Improve Internet Advertising Services

Shiu-Li Huang  
National Taipei University, Taiwan  
shuang@mail.ntpu.edu.tw

Szu-Chen Chen  
Ming Chuan University, Taiwan  
sjoyce.chen@gmail.com

Abstract  
Customers’ mood states influence the advertisement effectiveness on traditional media. This research investigates the influences of customers’ mood states elicited by webpage content on the effectiveness of web advertisements. We hypothesize that customers in webpage-content-induced positive mood would have better recall and attitude, higher purchase intention, and more clicks on the online advertisement than those in negative mood. The moderating effects of advertisement types, product types, carefulness of reading ad, and product involvement are explored. A laboratory experiment and a follow-up investigation were conducted for testing the hypotheses. The results show that mood states elicited by webpage content do affect the effectiveness of banner ads. The effects are also moderated by advertisement types, product types, involvement, and carefulness. Accordingly, guidelines for Internet advertising service providers and advertisers are provided.

1. Introduction

In recent years, online advertising revenue has grown tremendously. Advertising service providers have tried to deliver advertisements effectively in various ways in order to attract more advertisement sponsors. Yet, the advertisements are being either displayed randomly or displayed if some correlations exist with the keywords in webpage content.

Consumers’ mood states are deemed to be an important factor in effect to the advertisement effectiveness [1]. It has been widely studied for traditional media [2-4]. However, webpage readers’ mood states have not been considered for online advertising. To the best of our knowledge, little empirical research exists addressing this issue. Since World Wide Web (WWW) is an important medium for advertising and customers may have different responses to advertisements on different media [5, 6], exploring the role of webpage-content-induced mood states in Internet advertising is critical.

The research objective is to study the effects of webpage-content-induced mood states with different advertisement and product types and information processing strategies toward advertisement effectiveness. By understanding these effects, Internet advertising service providers can improve service through analyzing the mood states elicited from the webpage content and the processing strategies adopted by viewers to put advertisements with suitable ad types and product types on the webpage.

This study focuses on banner ads that are prevalent to be embedded in webpages. A laboratory experiment and a follow-up investigation were conducted to investigate the mood effects on ad effectiveness. Traditional ad effectiveness is usually measured by recall, attitude, and purchase intention [7]. Additionally, ad click is an important measure for Internet advertisements [8]. This study considers all these measures.

2. Literature review

2.1. Advertisement delivery

In order to increase the efficiency and effectiveness of online advertising, Internet advertising service providers have used various methods to deliver advertisements. Google and Yahoo deliver advertisements according to the selected keywords, the synonyms, and the specified positions in the web pages in its content network or on the search result pages. Besides, past studies had tried different approaches to deliver online ads. Kim et al. [9] had used user-specified preferences, purchase history, and clicking behaviors to recommend the product within the user-preferred product categories for new users. Deane and Pathak [10] traced a user’s clicking stream to track the
content of the visited pages and compared the similarities of the keywords from those pages with the keywords of the ads for ad delivery.

However, mood has not been considered for online advertisement delivery. Therefore, this study thinks of it as a factor toward ad effectiveness.

2.2. Impact of context-induced mood states on advertisements

2.2.1. Effects of mood states on advertisement effectiveness. Customers in a positive mood state recall more information about television commercials than those in a negative mood [3, 11, 12]. Generally, the results stayed consistent that customers have a better attitude toward television commercials when in a positive mood state than in a negative mood state [3, 13]. In addition, most of the results showed that customers have a negative attitude toward an advertisement when they are in a negative mood. But, in contrast to these studies, Kamins et al. [2] found that customers in a negative mood have better attitude toward sad advertisements.

Hadjimarcou and Marks’ study [12] indicated that a consumer in a positive mood has higher purchase intention than those in a negative mood. The consistent result had also been found by Kamins et al. [2]. According to Forgas [14], when individuals are in negative mood, they would motivate mood maintenance to repair their mood states. Additionally, mood congruent effect was also found in the Spies et al. experiment [15], which indicated that customers in a positive mood were more willing to purchase items than those in a negative mood.

2.2.2. Effects of advertisement types and product types. There are several categorizing dimensions to the advertising context, informational vs. emotional are the most common dimensions investigated in previous research [16]. The informational involvement is the thought-related reactions generated by stimuli. Emotional involvement refers to feelings and arousal elicited by stimuli.

These two dimensions had been used for advertising research [3, 17-19]. Therefore, the advertisement effectiveness may be affected when viewing different types of advertisements in different mood states. Emotional commercials may increase the influence of mood state on advertisement effectiveness. Moreover, customers in a positive mood are likely to use an experiential strategy and be favorable to emotional advertisements, and customers in a negative mood are likely to use an informational strategy and be favorable to informational advertisements. In this study, we define emotional advertisements as advertisements that would elicit viewers’ emotional feelings. In contrast, informational advertisements are those eliciting information thoughts.

Product types are often distinguished by utilitarian and hedonic [20-23]. Different product types may affect the advertisement effectiveness. Researchers have found that consumers have more emotional responses toward hedonic products and cognitive responses toward utilitarian products [23]. Moreover, there are interaction effects of product types and advertisement types that emotional advertisements with hedonic products increase consumers’ brand attitude [21]. Therefore, we consider product types with advertisement types may moderate mood effect on advertisement effectiveness.

2.2.3. Effects of carefulness of reading ads and product involvement. A recent survey by Adweek Media/Harris Poll shows that 63 percent of consumers tend to ignore or disregard all Internet ads far more than traditional media ads [24]. Users have more control to select what they want to see and web ads are hard to catch their attention [25]. Ad avoidance might encompass intentional refraining from any further action [26]. Therefore, whether viewers carefully read the ad or not may affect ad effectiveness.

Involvement refers to a person’s perceived relevance of the focal object based on inherent needs, values, and interests [27]. Depending on their level of involvement, consumers may be passive or active when they receive advertising communication, and limit or extend their processing of this communication [28]. Dens and Pelsmacker [29] found that informational appeals work especially well in high-involvement situations, whereas positive emotional appeals perform better in low-involvement situations for print ads.

2.3. Definition of mood

Emotion and mood are often used interchangeably, but are agreed to be distinct [30]. Some researchers defined them explicitly, and some researchers defined them as different types of emotions using different perspectives [7, 31]. Nevertheless, there is no single definitive description to distinguish them.

Holbrook and O’Shaughnessy [32] proposed the typology of motivational/affective constructs. By their definition, mood and emotion are both acute (short lived) and reactive (involve a response to the environment). The only difference between them is
the target specification. Mood is a general predisposition to respond in the same way to the world at large without specific target, but emotion is a reaction to some specific target.

Beedie et al. [30] had reviewed on academic papers and surveyed nonacademic respondents to investigate the differences between mood and emotion. The results showed that there are eight distinctions (cause, duration, consequences, intentionality, intensity, function, physiology, and awareness of cause) cited by both academics and nonacademics to distinguish mood and emotion.

According to the aforementioned literatures, mood is a general, reactive, transient, and mild feeling state [1, 33]. Compare with emotion, it is more general without a salient cause, and is less attention-getting [1, 2, 14, 32]. Besides, mood is a nonintentional and global feeling [34] and is less likely to interrupt ongoing behavior.

This research investigates the effects of webpage-content-induced mood states on web advertisements. After customers read the content of a webpage, they generate some emotions toward the content and these short-lived emotions consequently result in more general and enduring moods. These moods would influence the customers’ evaluations on the advertisements besides the content.

2.4. Affect infusion model

Forgas [14] proposed the affect infusion model (AIM) as a comprehensive explanation of the effects of affective states in social judgments. He defined affect infusion as affectively loaded information and exerted an influence into the judgmental process, further, adjusted the judgmental outcomes. The AIM identifies four different judgmental strategies with different affect-infusion potentials. In which, the heuristic and substantive processing strategies are most likely to be infused with affects.

The heuristic processing strategy is used in the case that the situation does not demand accuracy or detailed consideration, target is simple or highly typical, and the judge has low personal relevance of the judgment, no specific motivational objective, and limited cognitive capacity. The substantive processing strategy is used if the information about a target is novel, complex, or atypical. The judge needs to learn, select, and interpret this information and relate it to preexisting knowledge structures.

Affects are generally referred to both emotions and moods. Because emotions often have specific causes and elaborate appraisal properties, it may trigger directed, motivated processing that can override the more subtle affect infusion processes. Hence, affect infusion is generally associated with moods rather than specific emotions. There are two mechanisms of affect infusion, affect-as-information and affect-priming principles, operate during heuristic and substantive processing, respectively.

Considering the nature of advertisements, the persuasive messages are delivered to customers in order to improve their evaluation on advertised products, services, or brands. The persuasive messages can be relevant to product features, advantages, and benefits (e.g., informational advertisements); customers need more thinking effort and product knowledge to process these messages. Other persuasive messages have nothing to do with product attributes and can make customers comply by making use of peripheral cues (e.g., emotional advertisements) [35]. Therefore, substantive or heuristic processing strategy is used to deal with these two types of advertisement messages, in which affect infusion occurs.

2.5. Positive and negative mood scales

Watson et al. [36] developed two mood scales that comprise the Positive and Negative Affect Schedule (PANAS). The mood descriptors are selected under the condition that terms were relatively pure markers of either positive affect or negative affect. Ten terms for positive mood scale and ten terms for negative mood scale are identified. Several experiments were conducted and showed that the PANAS scales provide reliable, precise, and largely independent measures.

This study adopts PANAS scales to measure subjects’ mood states because this scales are developed based on mood perspective rather than emotion perspective.

3. Research framework and hypotheses

Comparing with traditional media, Internet provides better interaction and plenty of information that users can navigate according to their needs. Users have more control over advertising exposure to select what and how much commercial content they want to view [25]. Additionally, prior studies showed that TV is better to elicit emotion than Web [37, 38]. Therefore, reexamine the mood effect on Web advertisements is needed.

This study examines the influence of customers’ mood states induced by webpage content on the effectiveness of banner ads in terms of recall, attitude, purchase intention, and click-through behavior. In addition, the moderating effects of
advertisement types, product types, carefulness of reading advertisement, and product involvement are also examined. Figure 1 is the research framework; the corresponding hypotheses will be developed in the following sections.

![Figure 1. Research framework](image)

3.1. The effects of mood states on recall

From the past studies [3, 11, 12], the results are consistent that customers in a positive mood state recall more information about the ad than in a negative mood state. Therefore, this study proposes the hypothesis:

H1: Consumers in a webpage-content-induced positive mood state have more recall of an online advertisement than those in a negative mood state.

3.2. The effects of mood states on attitude

Mood can influence attitude directly with the elicitation of mood-congruent memory as the information to form the attitude [1]. It is also been explained as the direct route or affect-as-information, that judgments are made based on affective states. With this mechanism, affect is infused by heuristic processing strategy. Moreover, Gardner and Wilhelm Jr. [13] had indicated that positive attitude toward advertisements increases when customers in positive mood, but the result is not significant. Although past research does not have a confirmed result, the overall results indicated that customers in positive mood had better attitude toward the advertisements.

This study focuses on product attitude rather than ad attitude because ad attitude is a function of ad-format attitude [39]. Because Web advertisements have various formats, e.g., banner ads, pop-up ads, skyscraper ads, and so on, to eliminate the effect of ad-format preference this study measures attitude toward the advertised product. Therefore, the following hypothesis is proposed:

H2: Consumers in a webpage-content-induced positive mood state have better attitude toward the advertised product than those in a negative mood state.

3.3. The effects of mood states on purchase intention

Mood can be in effect to purchase intention. According to Batra and Ray’s research [40], mood has indirect influences to purchase intention through the attitudes toward advertised product. The overall results of the mood effects on purchase intention are consistent with mood consistency effects with the explanation of mood alleviation [2, 12]. Nevertheless, corresponding to AIM, the result of the Spies et al. study [15] is consistent with the model that customers’ behaviors are congruent to the mood states when processing without familiarity and goal-directed; so, we hypothesize:

H3: Consumers in a webpage-content-induced positive mood state will have higher purchase intention when viewing an online advertisement than those in a negative mood state.

3.4. The effects of mood states on click-through rate

Click-through rate is one measurement of the online advertisement effectiveness. Different from traditional advertisements, user can click on the advertisement link on a web page and be directed to the advertised website in order to obtain more information about the advertised product and brand. Gardner [1] mentioned that direct linkage between mood states and behaviors may be learned from repeated experience, socialization, or acculturation. Moreover, because customers in a positive mood are more risk taking [41], it is more possible to click on the unfamiliar Internet advertisements. Gardner [1] also mentioned that mood may be the main effect to customers’ purchase behavior when in the positive mood. Therefore, we hypothesize:

H4: Consumers in a web-page-content-induced positive mood state are more likely to click on an online advertisement than those in a negative mood state.

3.5. The moderating effect of advertisement types and product types

According to the past studies [3, 18], when customers are in the same mood states, the advertisement effectiveness can differ by advertisement types. Most researchers distinguished the advertisement types as emotional and informational. Goldberg and Gorn [3] had found that emotional advertisements are more effective when customers are in positive mood states, and
informational advertisements are more effective when customers are in negative mood states. Moreover, Gardner and Hill [18] had found that customers in positive mood states prefer using experiential strategy, and customers in negative mood states prefer using informational strategy. Since customers in positive mood are more likely to use experiential strategy for decision making, it is reasonable to use emotional advertisement to elicit stronger mood from customers in order to retrieve mood-congruent experiences in the past to be associated with. In contrast, since customers in negative mood states are more likely to use informational strategy for decision making, informational advertisements should be provided to enhance the processing. Furthermore, the types of the advertised products may have joint effects with the types of advertisements toward the effectiveness of the advertisements [21]. We hypothesize:

H5a: After customers are elicited positive mood states by webpage content, emotional advertisements are more effective particularly for hedonic products. 

H5b: After customers are elicited negative mood states by webpage content, informational advertisements are more effective particularly for utilitarian products.

3.6. The moderating effect of carefulness and product involvement

Elaboration Likelihood Model (ELM) postulates that attitude change can result from relatively thoughtful (central route) or thoughtless (peripheral route) processes [42]. Central route occurs when the recipient has sufficient motivation and ability otherwise the peripheral route more likely occurs as the result of simple cues in the persuasion context. Accordingly, if viewers have low product involvement (motivation) and read ad carelessly (ability) they are more likely affected by simple cue e.g., current mood states. Referring to AIM, viewers with low product involvement and carefulness tend to use heuristic processing strategy, in opposition, a substantive strategy is adopted. Both strategies could be infused with affects. We hypothesize:

H6: Customers’ induced mood states have more impact on ad effectiveness when they use a heuristic strategy than a substantive strategy.

4. Research methodology

The experimental design adopts a factorial design in which context-induced mood states (positive vs. negative) is the main factor to the advertisement effectiveness, includes the recall of the advertisement, attitude toward the advertised product, purchase intention of the product, and the number of click-through on the advertisement. Advertisement types (informational vs. emotional) with different product types (hedonic vs. utilitarian) and carefulness of reading advertisement (high vs. low) with product involvement (high vs. low) are considered as the moderators to the influence of context-induced mood states on advertisement effectiveness.

4.1. Control variables

The formats of the advertisements can have different effects on the advertisement attitude [39]. The design and the length of the advertisements have influences on the advertisement effectiveness [6, 43]. Therefore, we use text-based advertisements with similar length attached with an image to be the consistent design of the banner ads, and we manipulate the advertisement content to be informational and emotional. Additionally, we put the banner ads at the bottom of web pages. Argument quality is one of the impacts of persuasions [44, 45]. The stronger arguments are more effective in attitude change than the weaker arguments [45]. Hence, the argument quality in advertisements should be controlled.

4.2. Pretest

Articles were selected from United Daily News (udn.com) with the highest votes for emotion icons on the website, excluding political news. Since the subjects’ native language is Chinese, this experiment adopts the Chinese-version PANAS scales [46], which has good reliability and validity. Two articles, one for inducing positive mood and the other one for inducing negative mood, were read by thirty-one subjects and then the PANAS scales were used to measure their mood states. The mood states induced by the articles significantly differed (\(t = 4.196, p < 0.001\), for positive news; \(t = -3.511, p < 0.01\), for negative news).

Two products, printer and travel, were selected and tested by thirty-four subjects using utilitarian and hedonic dimensional scales adopted from [47]. The results shows that the product of printer is utilitarian \((t = 7.63, p < 0.001)\) and travel product is hedonic \((t = -2.27, p < 0.05)\). Two advertisements were designed to be informational and emotional for each product type. These ads were tested by thirty subjects rated on advertisement types and the argument strength. The scales were adopted from [48]. Both types of advertisements for utilitarian and hedonic products are significantly different \((t = -8.021, p < 0.001)\).
0.01; \( t = -5.427, p < 0.01 \), respectively). The argument strength of the four ads does not differ (\( F = 1.054, p > 0.05 \)).

4.3. Procedure

With the nature of the Internet usage environment, we build a website for experiment. Totally 247 subjects, they are university students, completed the experiment in a computer room. First, subjects read the webpage about research purpose and instructions to go through with this experiment. Second, subjects were directed to browse a webpage with one of the two articles in order to elicit their mood states. The webpage also randomly displayed one of the designed advertisements at the bottom. Finally, subjects were asked to fill out a questionnaire. This questionnaire adopted the seven-point scales from [47] to measure the attitude toward the advertised product. It measured if the subjects have the intention to purchase the product by using the seven-point scales from [12]. Five multiple-choice questions about the ad content were designed to measure their recall. Furthermore, we examined the number of clicks on the ads using a software program counting the clicks by individual users. To avoid subjects’ mood states being disturbed by filling out the questionnaire we only measure the dependent variables in this experiment to make the questionnaire as short as possible.

We further conducted a follow-up investigation one week after the experiment to understand the subjects’ carefulness of reading the ad and product involvements. Totally 218 subjects participated in this investigation. We adopted a seven point item “carefully – carelessly” to measure carefulness and used modified Personal Involvement Inventory scale from [49] to measure product involvement. We split subjects with the mean scores of involvement and carefulness and took the group with high product involvement and high carefulness as substantive-strategy group (46 subjects), and the group with low product involvement and low carefulness as heuristic-strategy group (86 subjects). Additionally, we redisplayed the ad they viewed last time and retested its effectiveness without mood manipulation to get more understanding of mood effects.

5. Experimental results

This study tests the proposed research framework and hypotheses by using ANOVA.

5.1. Advertisement recall

There is no significant difference in the amount of information recalled between subjects in positive and negative mood states. The H1 is not supported.

The subjects recalled more information if they viewed the ad more carefully (\( F = 30.717, p < 0.001 \)). Moreover, product types have a significant effect on recall. Those subjects had better recall to the advertisements of the hedonic product than the utilitarian one (\( F = 19.275, p < 0.001 \)). We take into consideration product involvement and find that product involvement itself does not have effect on recall. When treating it as a covariate, product type still has effect on recall (\( F = 29.560, p < 0.001 \)). Hence, banner ads can induce more recall for a hedonic product than a utilitarian product.

5.2. Attitudes toward advertised products

The results show that the subjects’ mood states elicited by the webpage content have a significant influence on their attitudes. The subjects in a positive mood state had better attitudes toward the advertised product than those in a negative mood state (\( F = 31.475, p < 0.001 \)). Accordingly, the H2 is supported.

Additionally, the subjects had better attitudes toward the hedonic product than the utilitarian product (\( F = 3.889, p < 0.05 \)). Although the subjects had higher involvement toward the travel product than the printer (\( t = -4.199, p < 0.001 \)), product involvement had no direct effect toward attitude (\( F = 0.003, p > 0.1 \)). Moreover, product type had no effect when treating involvement as a covariate (\( F = 3.015, p > 0.05 \)). Hence, product types influence attitude collectively with product involvements. That is, a hedonic product with high involvement can elicit better attitude.

The results also reveal that subjects who carefully viewed the ad had better attitude than those who did not carefully view the ad (\( F = 5.571, p < 0.05 \)).

5.3. Purchase intention

The subjects in a webpage-content-induced positive mood state had slightly higher purchase intention than those in a negative mood state (\( F = 3.327, p = 0.069 < 0.1 \)). Therefore, the H3 is approximately supported.

An interaction effect of mood, product involvement, and carefulness of reading ad has been found on purchase intention (\( F = 5.35, p < 0.05 \)). When subjects read an ad carefully, positive-mood subjects had higher purchase intention on a high-involvement product than a low-involvement product; negative-mood subjects had higher purchase intention on a low-involvement product. If consumers do not
read the advertisement carefully, a high-involvement product elicits higher purchase intention than a low-involvement product when they are in negative mood states.

5.4. Clicks on advertisements

The subjects in a webpage-content-induced positive mood state clicked the advertisements more times than those in a negative mood state (F = 3.832, p = 0.051 < 0.1). When measuring the number of clicks we have a more significant result (F = 4.933, p < 0.05). The H4 is supported.

Notably, advertisement types and product types have an interaction effect on ad-click behavior (F = 5.482, p < 0.05). A hedonic product promoted by an informational advertisement attracts more clicks than promoted by an emotional one. A utilitarian product promoted by an emotional advertisement attracts more clicks than promoted by an informational one.

The subjects who viewed ads more carefully are more likely to click the ad (F = 3.279, p = 0.072 < 0.1). When measuring whether the subjects clicked on the ads or not we have a more significant result (F = 5.935, p < 0.05).

5.5. The moderating effects of ad type, product type, carefulness, and involvement

The interaction effect is found with webpage-induced mood, advertisement types, and carefulness of reading ads (F = 5.136, p < 0.05). When the subjects viewed the ad carefully and in webpage-induced positive mood, they recalled more on emotional ads than informational ones; whereas in webpage-induced negative mood states, they have better recall on informational ads than emotional ones.

Furthermore, mood states, advertisement types, and product involvement have interaction effects on attitude (F = 4.215, p < 0.05). When the subjects were elicited positive mood states, they have better attitude toward a high-involvement product with an informational ad or a low-involvement product with an emotional ad. On the other hand, when the subjects are in negative mood states they have better attitude toward high-involvement product with an emotional ad or low-involvement product with an informational ad.

Mood states, product types, and product involvement have interaction effects on purchase intention (F = 7.727, p < 0.01). If subjects are in positive mood states they have higher intention to purchase a high-involvement and hedonic product, or a low-involvement and utilitarian product. On the other hand, if subjects are in negative mood states they have higher intention to purchase a high-involvement and utilitarian product, or a low-involvement and hedonic product.

These results show that ad type together with carefulness or involvement rather than product type have moderating effects on the influence of mood states. Product type together with involvement rather than ad type has a moderating effect on the influence of mood states. The hypotheses H5a and H5b are not supported.

We find that when subjects used a substantive processing strategy people in a positive mood had higher attitude (F = 16.770, p < 0.001) than those in negative mood. If subjects adopted heuristic strategy people in positive mood had higher attitude (F = 7.180, p < 0.01) and number of clicks (F = 7.337, p < 0.01) than those in negative mood. These results mean that both strategies can be infused with mood, and mood has higher impact when viewers use a heuristic strategy, hence H6 is supported.

An interaction effect of mood states, product involvement, and carefulness has been found on purchase intention (F = 5.35, p < 0.05). When subjects read an ad carefully, positive-mood subjects had higher purchase intention on a high-involvement product than on a low-involvement product; negative-mood subjects had higher purchase intention on a low-involvement product.

5.6. Effects of positive and negative mood states

Comparing ad effectiveness when subjects read or did not read Web content, Tables 1 and 2 reveal that positive mood has more influence than negative mood on clicks; negative mood has more influence than positive mood on attitude and purchase intention.

Table 1. Repeated measures ANOVA of positive webpage content

<table>
<thead>
<tr>
<th></th>
<th>Ad with positive content [mean (SD.)]</th>
<th>Ad only [mean (SD.)]</th>
<th>F (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>4.938 (1.227)</td>
<td>4.993 (1.118)</td>
<td>0.214 (0.644)</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>3.787 (1.285)</td>
<td>3.838 (1.271)</td>
<td>0.154 (0.695)</td>
</tr>
<tr>
<td>Recall</td>
<td>2.019 (1.635)</td>
<td>3.491 (1.336)</td>
<td>96.737 *** 0.000</td>
</tr>
<tr>
<td>Click (mean)</td>
<td>0.370 (0.913)</td>
<td>0.167 (0.502)</td>
<td>5.357 (0.023)</td>
</tr>
<tr>
<td>Click (binary)</td>
<td>0.231 (0.424)</td>
<td>0.120 (0.327)</td>
<td>4.977 (0.028)</td>
</tr>
</tbody>
</table>

N = 108; * p < 0.05; *** p < 0.001
### Table 2. Repeated measures ANOVA of negative webpage content

<table>
<thead>
<tr>
<th></th>
<th>Ad with negative content [mean (SD.)]</th>
<th>Ad only [mean (SD.)]</th>
<th>F (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>4.036 (1.433)</td>
<td>5.086 (1.006)</td>
<td>44.493 ***</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>3.482 (1.406)</td>
<td>3.950 (1.137)</td>
<td>9.266 **</td>
</tr>
<tr>
<td>Recall</td>
<td>2.127 (1.643)</td>
<td>3.673 (1.408)</td>
<td>107.954 ***</td>
</tr>
<tr>
<td>Click</td>
<td>0.191 (0.583)</td>
<td>0.145 (0.405)</td>
<td>0.422</td>
</tr>
<tr>
<td>Click (binary)</td>
<td>0.127 (0.335)</td>
<td>0.127 (0.335)</td>
<td>0.000</td>
</tr>
</tbody>
</table>

N = 110; ** p < 0.01; *** p < 0.001

### 7. Summary

Webpage-induced mood states have effects toward the Web advertisements embedded in the webpage. Advertisements are more effective with better attitude, higher purchase intention, and more clicks when placed on the webpages inducing positive mood. However, when mood states incorporate with other effects, the advertisement effectiveness differs.

Ad types together with carefulness of reading ad or product involvement moderate the mood effects on ad effectiveness. When consumers are in positive mood states and view the ad carefully recall more on emotional ads, on informational ones when they are in negative mood states. Consumers have better attitude toward high-involvement products with informational ads when they are in positive mood states; with emotional ads when in negative mood states. But better attitude is elicited toward low-involvement products with emotional ads when they are in positive mood, with informational ads when in negative mood.

Product types also have effects on ad effectiveness. Consumers have more recall toward ads of hedonic product than of utilitarian product. A high-involvement and hedonic product can elicit better attitude by banner ads. Emotional ads of hedonic product or informational ads of utilitarian product get more clicks. Considering high product involvement, a hedonic product induces higher purchase intention when consumers are in positive mood, and a utilitarian product induces higher purchase intention when in negative mood. Conversely, with low product involvement, consumers have higher purchase intention on utilitarian product when they are in a positive mood; on hedonic product when in a negative mood.

In addition, Internet is unlike traditional media that advertisements are separated from main content. Print media display content and advertisements on different sections; televisions do not broadcast programs and commercials at the same time. But Web advertisements can be placed beside or even inside the webpage content. We need to take into account whether viewers read the advertisements carefully or not. Consumers recall more information, have better attitude toward products, and tend to click on ads if they read advertisements carefully. Carefulness, product involvement, and mood states also have interacting effects on purchase intention.

Mood can be infused in both heuristic and substantive processing strategies; nevertheless, it has more impact on heuristic processing. Positive mood is the key factor to facilitate click-through behavior; Negative mood is the key factor to lower attitude and purchase intention.

### 8. Conclusion

This study has found that webpage content would elicit different mood states which significantly affect ad effectiveness. Advertising service providers are suggested to identify the mood states induced by web pages and price them differently – that higher price is charged for placing ads on the web pages inducing positive mood states. They can further provide a value-added service to analyze the keywords in the content or tracking users’ browsing and searching behaviors to determine if the user is involved with certain products. Informational advertisements with hedonic products are delivered onto web pages inducing positive mood when the consumer is highly involved with the product for better attitude, higher purchase intention, and more clicks on advertisements. Conversely, they are displayed on web pages inducing negative mood if the consumer does not involve with the product. Additionally, emotional advertisements with utilitarian products are delivered onto web page inducing negative mood if the consumer is highly involved with the product. Otherwise, they are delivered onto web pages inducing positive mood. Since careful watching of ads is able to improve attitude, recall, and click rate, service providers should deign more attractive ads.

For advertisers who attempt to target highly involved consumers and to attract them to click on ads, utilitarian products are designed with emotional advertisements and displayed on web pages inducing negative mood; hedonic products should be designed with informational advertisements and placed on web pages inducing positive mood.
9. References


