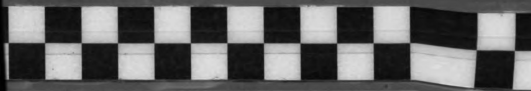




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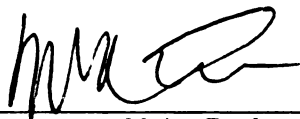
THE EFFECTS OF MOBILE ADVERTISING FORMATS

presented by

Jung hwean Kim

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of the requirements for the

M.A. degree in Telecommunication



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THE EFFECTS OF MOBILE ADVERTISING FORMATS

By

Jung hwean Kim

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

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2005

ABSTRACT

THE EFFECTS OF MOBILE ADVERTISING FORMATS

By

Jung Hwean Kim

This research examines the effects of three mobile advertising formats (Mad with text, still image, or moving image) and the influence it may have on one's intention to watch movies. With three PDA's, each PDA for three specific types of mobile advertising formats, this experiment shows that each group of people has different emotional responses (pleasure and arousal) towards his or her attitude towards advertising (A_{ad}), and attitude towards movies (A_m), which in turn affect his or her intention to watch movies. The results of the laboratory experiments show that the format of a moving image does not cause the intention to watch movies that was expected. However, the arousal brings out the intention in all formats of advertising. Especially, moving image is more effective to the advertising than other formats. On the contrary, the pleasure is not directly related to the type of advertising formats (text, still image, or moving image) for movie advertising on mobile media. Although this modified new model shows that all of the paths from emotional response to intention to watch are not supported, the success of generating mobile commerce revenues from advertisings presented in the mediated context may be originated from various factors not just volumes of contents and technical bandwidth developments. Using moving or text advertising formats will not directly affect consumer's intentions to behave in the desired manner, but various integrated formats among advertising types may stimulate significant effect on people's intention to watch a movie.

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INTRODUCTION

Mobile advertising is spreading rapidly through mobile devices (e.g., cell phones, PDAs, and handheld computers), and is strongly considered to be one of the success factors for mobile commerce (Skygo, Inc. 2001). Although few consumers are familiar with the traditional or online advertising markets, mobile advertising will become a hot issue due to the fast development of wireless networking, technology, and the significant increase of mobile device users (Vitte-Philippe, p., & Navarro, J.M. 2000).

Bruno (2001) said one of the most popular mobile services is mobile advertising. According to Bruno (2001), the UK has shown the dramatic growth in the usage of mobile devices, with the overall penetration at almost 70 percent of using mobile advertising services (Jupiter Media Metrix consulting group 2002). Underlying the above facts, data show that advertising with mobile devices would prove to be a big success factor in the mobile business of the future (Harvey, 2001).

In the GFK NOP market research company's study, twenty-four UK mobile device owners agreed to mobile advertising services, and expected to get better advertising services (NOP world 2001). The Kelsey Group estimated that U.S. companies spent just \$35 million on mobile advertising in 2000 (Kelsey Group. 1999). Moreover,

Jupiter Media Metrix predicted that the market would grow to over \$900 million by 2007 in U.S while the worldwide mobile advertising market would be \$6.5 billion (AllNet Devices Staff. 2001).

Mobile Advertising has already become a useable advertising technique today with mobile technology, which is improving at a fast pace. There are many possibilities for services that advertiser can offer customers such as special communication platforms, customizing content, Mobile Commerce, remote access to databases or voice mail services. With tools like these, the customers receive not only an advertising message, but also a bonus service.

Today, many people are already aware of Push- and Pull-applications, and they have several ways of receiving advertising formats in their lives. According to the fast growth of mobile technology and increasing volumes of mobile device users, advertisers think that several formats are essential to capture customers' attention to influence a buying intention (Avesair, Inc. Push Marketing. 2002).

This study is about Mobile Advertising as a new kind of advertising channels via the use of mobile communication devices such as PDAs. These devices make it possible to get the message or advertising across to customers in a "mobile way." The new

mobile advertising channel enables a much more effective business-to-customer communication. The target group is now reachable all the time and anywhere.

Although mobile devices have many limitations (e.g., tiny screen display, limited screen resolution, small and compact keyboards, troublesome input mechanisms), there are several advantages of mobile advertising: cost effectiveness, a personal touch and customization (Avesair, Inc. Push Marketing. 2002). Unlike traditional e-commerce applications, mobile applications offer ubiquity, location awareness and personalization. Mobile-commerce applications should be adapted to the client's device infrastructure and can offer broadcasting in order to disseminate information of common interest to users within a specific geographical region (Tsalgatidou, A. Veijalainen, J & Evaggelia, P. "Challenges in Mobile Electronic Commerce," In Pros. of 3rd International conference on innovation through E-commerce, UK 2000).

Some analysts point out that in order to make mobile advertising work, it is crucial to attract the attention of people in the current and future generations. However, it is more complicated (R. Prasad, "Mobile Advertising: The Emerging Revolution", Advertising Express, January) than existing media forms (e.g., newspaper, magazine, TV, radio, and online advertising). Mobile advertising can offer a more individual advertising service to customers with individual needs.

Undaunted, early advertisers have tested a variety of advertising formats. The viability of these advertising formats depends primarily on the type of products and consumers an advertiser wants to target. Recently, advertising providers have worked with entertainment service providers to offer people advertising along with a movie or music service. In particular they have been creating and implementing advertising and promotional efforts designed to make a movie stand out in a competitive market environment: movie advertising typically uses the same methods other products do. However, movie advertising can take months of planning and organization and its success can make or break a movie.

Mobile advertising providers expect people to focus on several formats of advertising such as text, still image and moving image. Some people are more attracted by text or a brief story-like review. Some focus on viewing through an image, a still cut, or a moving image. Because of the limitations of mobile advertising, people are restricted, not only to the screen's real size, but also to its limited emotive powers.

From the many previous studies "the emotional response" is a term has been used to describe the increased use of emotional advertising appeals over the past decade. Researchers have recently begun to place more emphasis on the study of emotional advertising appeals (Batra and Ray 1985), emotional responses, and the role that this

effect can play in decision-making and the intentions of the viewers (MacKenzie, Lutz, and Belch 1984).

The main purpose of this study is to examine which mobile format (mobile advertising with text, still image, or moving image) is more effective in influencing people's intentions to watch a movie. It is a focus on the feelings and attitudes toward the advertising (A_{ad}), and the attitude toward how the movie models how mobile advertising works. While emotion can be distinguished from other effective constructs, there is still an uncertainty about different types or dimensions of emotional responses and how to measure them. Thus, this study will investigate consumers' emotional responses to advertising and examine how to affect their intentions to watch a movie, in addition to examining how these effects may differ as result of mobile advertising exposure.

This study provides theoretical and managerial contributions; it also describes an empirical investigation of the effects of advertising formats on emotional response. Managers can benefit from the knowledge of how different emotional advertising formats and their responses ultimately affect the intention to watch a movie. This is especially important given the increasing use of emotional advertising in the mobile environment. In addition, this study shows that attitudes toward the advertising (A_{ad}) can directly affect intentions and behavior without a set attitude toward the brand (A_b).

Chapter I provides a literature review for this study. It begins with a review of the literature about responses from emotional feelings, attitudes toward the advertising (A_{ad}), and attitudes toward the brand (A_b).

Chapter II contains the Research model, hypotheses, and then chapter III presents a description of the methodology and data collection used to test hypotheses. Chapter IV contains data analysis. Chapter V follows with general discussion, implication, and limitation.

I. LITERATURE REVIEW

1-1. Dimensions of Emotion to Advertisement

Generally, psychologists have studied the concept of emotion and have tried to reveal its dimensions for many years. While there are a very large number of possible emotions, it would be desirable to know if different emotions share any underlying dimensions. Both theatrical and empirical perspectives have been taken in attempting to identify the dimensions of emotion.

The most popular typology of emotional content is categorized as three dimensions: Pleasure, Arousal, and Dominance (PAD) (Holbrook and O'Shaughnessey. 1984). According to the positive area, factors are happy, pleased, satisfied, contented, hopeful,

and relaxed. Stimulated, excited, frenzied, jittered, wide awaked, and aroused are examples of the positive as well.

Empirical support for PAD typology comes from the work of Russell and Mehrabian (1977) who found three dimensions both necessary and sufficient to define emotional states. They found that forty-two verbal report emotion scales could be considered to be a function of the three dimensions, and, in a second study, found that subjects' ratings of 151 emotion-denoting terms could be adequately categorized into the three dimensions as well. Additional support for the PAD dimensions comes from Plutchik's review of studies examining facial expressions (Plutchik 1980, pp. 250-253). Seven studies (ranging in time from 1938 through the mid 1960s) essentially supported a three-dimension conceptualization of emotion with two of the dimensions equivalent to the Pleasure and Arousal dimensions; although in most of these studied, the third dimension was uninterruptible. Holbrook and Westwood (1985) have attempted to validate the Emotions Profile Index (EPI) from Plutchick (1980) in an advertising situation.

Other conceptualizations of emotions can be found in the advertising literature. Stout and Leckenby (1984) coded respondent verbatim repores after exposure to an advertisement and developed three categories of "Energizing" (feelings of arousal),

“Hedonic Tone” (pleasant / unpleasant feeling), and “State Anticipation” (feelings of appraisal) emotional reactions. They emphasized that for a response to be coded as an emotional reaction, the respondent would have to indicate that the emotion was felt personally rather than simply recognizing that the actors in the commercial were experiencing that emotion. Notice that the “Hedonic Tone” and the “Energizing” categories correspond directly to the “Pleasure” and “Arousal” dimensions.

Stout and Leckenby (1984) distinguish between what they call “progressive” types of emotional feelings. The first type of response is a “Descriptive” or “Non-affective” emotional reaction where the individual can recognize the feelings the characters in an advertisement feels. A meaningful emotional response would involve an interpretation of the event in the context of consumers’ personal experiences and include an emotional response that may occur when a person sees an event in the advertisement.

Mitchell (1997), in a summary of the theoretical issues confronting research on emotional response to advertising, concluded that one of the most critical concerns is conceptualizing and measuring emotion. Mandler stated, “... there is no commonly, even superficially, acceptable definition of what a psychology of emotion is about” (Mitchell. 1986. 1979, p. 279). Thus, there is a need to define “emotion” and “emotional response to advertisement.”

Kreshel (1984) noted a tendency to confound emotion with affect, attitude, liking and preference. Batra and Ray (1986) identify the term “Affect” which encompasses all emotions, moods, feeling and drives. Therefore, affect is too broad a description. Holbrook and O’Shaughnessy (1984) differentiated emotion from each concept as sentiment and mood. Emotion is a short-lived response whereas sentiment is a persistent reaction to external stimuli but emotion is a response to some specific stimulus (e.g., an advertisement) while mood is a general reaction. “Emotion,” then, can be defined as a short-lived reaction to a specific stimulus. “Emotional response to advertisement” specifies the advertisement as the stimulus.

There is little consensus on what constitutes emotional response to an advertisement or how to measure it (Batra and Ray 1986). Izard (1972) identified two approaches to defining emotional response: the typological and the dimensional. The former stipulates that there are different types of emotions that are distinct qualitatively. Each emotion is a special state that has particular experiential properties. “Basic” emotions, evoked by a stimulus, are identified and measured for their intensity.

The dimensional approach holds that emotion is not a special state but part of a more general process of arousal. Emotional experience is a function of physiological and attitudinal processes. Indices of these processes can be obtained by developing

dimensions of the verbal expression of emotion.

Many researchers have used data reduction methods, such as factor analysis, cluster analysis, and multi-dimensional scaling to explore the dimensions of emotion. All recovered multiple factors. The two factors found consistently are labeled “Pleasure” and “Arousal”. The former appears to be a physiological manifestation of emotion; the latter an emotional evaluation of arousal (Table 1).

Table 1. Dimensions of emotion

Researchers	(Un) Pleasantness	Arousal	Others
Frijda & Philipszoon (1963)	Pleasantness Unpleasantness	Intensity	Attentional Activities vs. Disinterest, Social Submission vs. Condescension
Osgood (1966)	Pleasantness	Activation	Interest. Control
Davitz (1969)	Pleasantness Unpleasantness	Activation	Relatedness, Competence
Frijda (1969)	Pleasantness Unpleasantness	Level of activation	Attention – Rejection, Social, Evaluation, Surprise, Self- Awareness
Izard (1972)	Pleasantness (Hedonic Tone)	Arousal or Activation	Self-Awareness
Averill (1975)	Evaluation	Activation	Depth, Uncontrolled
Bottenberg (1975)	Pleasantness Unpleasantness	Activation	Depth
Osgood, May & Miron (1975)	Evaluation	Activity	Potency
Russell & Mehrabain(1977)	Pleasure Displeasure	Degree of Arousal	Dominance

Russell (1978)	Pleasure Displeasure	Degree of Arousal	Control, Potency, Dominance, Depth of Experience, Locus of causation
Mehrabian (1980)	Pleasure	Arousal	Dominance
Russell (1980)	Pleasure Displeasure	Arousal Sleepiness	
Russell & Steiger (1982)	Pleasure Displeasure	Arousal Sleepiness	
Daly, Lancee & Polivy (1983)	Pleasantness	Intensity	Activity

Applied to advertisements with several types of media, an interpretation of these two factors is that advertisements generate arousal in the view. The arousal felt triggers an appraisal of how pleasant or unpleasant the advertisement makes viewer feel. That is, arousal causes an (un) pleasant reaction to the advertisement. The appraisal is the emotional response to the advertisement.

Several researchers have shown similar explanations. Russell and Steiger (1982) proposed that emotional response to advertisements “exhibits valence feelings occurring as reaction to self-relevant event”.

“Valenced feelings” may correspond to the (un) pleasantness factor since advertisements with arousal and pleasantness can affect the viewer’s emotional response to the advertisement and to subsequent advertisements.

1-2. Effect of Emotion in Advertisement

The earlier researcher on affect in advertising considered differences in “emotional and rational appeals” (Prestion 1968), and “thinking versus feeling appeals” (Golden and Johnson 1983). Since emotion is multidimensional in nature, any further study of emotion in advertisement would benefit by considering the type of emotion present in the advertisement. In particular, Holbrook and O’Shaughnessey (1984) give suggestions of when one of the PAD dimensions may be more effective than another.

The following two articles show explanations of the benefits of generating emotional responses through advertisements. Ray and Batra (1983) give several reasons why what they refer to as “affective advertisement” may be more effective advertising. To begin, affective advertising may generate greater attention since an individual’s feelings act as a screen in selecting incoming information. A favorable or unfavorable feeling evoked by an advertisement can allow the message to pass through the screen. And an affective reaction may increase the amount of processing or thought the individual gives to the advertisement after it has caught that individual’ attention. Next, since judgments are influenced by a person’s affective state, a positively evaluated affective advertisement may lead to more positive judgments. In result, affective advertising seems to be better remembered. There exists the most empirical support for the assertion of increased memory for emotional advertisements.

Mizerski, White, and Hunt (1984) provide a discussion of how emotion can be effectively used in advertising. They discuss how emotion can be used to generate increased attention.

Many of the empirical studies of affective responses to advertising have usually focused on Attitude toward the advertising (A_{ad}) and Attitude toward the brand (A_b) as responses. But, one study has considered consumers' feeling after being exposed to an advertisement as a response separate from A_{ad} . Allen and Madden (1985a) empirically evaluated responses to humorous and serious radio commercials for a new milk product. They found that the positive feelings (called "positive affect") that subjects had after listening to the humorous radio commercial had a small, yet significant, effect on the subjects' A_{ad} and A_b depend on the product.

1-3. Attitude toward the advertisement (A_{ad}) and Attitude toward the brand (A_b)

The role of emotional response to advertisements has been studied in the context of consumers' attitudes toward the advertisements (A_{ad}). And several studies indicate that the attitudes toward brands (A_b) can be influenced by ad attitudes as well as beliefs about product attributes. Following the theorization in Petty and Cacioppo's ELM, researchers in recent years have paid increased attention to the notion that peripheral cues in advertising stimuli may evoke favorable emotional, affective reactions that in turn will be

transferred to the advertised brand (Batra & Ray, 1986; Holbrook & Batra, 1987). As a specific form of viewers' affective response to advertising stimuli a large number of researchers have shown an interest in the construct of attitude toward the advertisement (A_{ad}).

Shimp (1981) first suggested that A_{ad} consisted of both cognitive and affective dimensions. The cognitive dimension of A_{ad} was conceptualized as a result of consciously processing specific elements of the advertisement. The affective dimension, on the other hand, was seen as those emotional feelings such as happiness which occurred without any conscious processing of exceptional elements. He also argued these different dimensions would have differential effect on the viewer's A_b because of the different underlying mechanism.

Lutz (1985) noted that little systematic study had been conducted concerning the conceptual origins of A_{ad} . Consistent with Petty and Cacioppo (1981, 1986) and Shimp (1981), he also viewed A_{ad} as having different degrees of cognitive and emotional antecedents such as perceived credibility of the advertisement.

Mackenzie and Lutz (1989) proposed that the cognitive and emotional reacting to an advertising stimulus should be treated as antecedents to the general attitudinal response to a specific advertisement denoted as A_{ad} . Lutz (1985) also noted the transitory

nature of A_{ad} by saying that “ A_{ad} focuses on a particular exposure to a particular advertising and not on consumers’ A_{ad} in general or even their A_{ad} stimulus of interest at another point in time”.

Many researchers have empirically investigated the relationship between A_{ad} and A_b and have documented the significant explanatory power of A_{ad} . Presented below is a review of empirical literature. This literature is also summarized in Table 2.

Table 2. Summary of empirical study about A_{ad} and A_b

Authors(s) & Purpose	Finding	Contribution
Mitchell & Olson ,1981 Determine if A_{ad} is a mediator of the effects of as on A_b	Significant effects in ANOVA & regression of A_{ad} on A_b , A_{act} , and PI (purchasing intention).	Discuss conceptual meaning of A_{ad} construct. Empirically found A_{ad} effects.
Galb & Pickett, 1983 Examine effects of A_{ad} on A_b , credibility & persuasiveness of the advertising, and buying intention. Also considered effects of humor on A_{ad} .	A_{ad} significantly related to the four effectiveness measures independent of perceived humor in the A_{ad} .	Considered a specific appeal.
Mitchell, 1983 Raise a number of issues regarding visual & emotional ads & present results of the three experiments	No difference in A_{ad} for processing conditions. A_{pic} has stronger effect on A_{ad} than the number of positive or negative ad statements given by subject	Considered components of the ads and how they affected A_{ad} . Presented a conceptual model of the process.
Mitchell, 1986 Discover effect of affective photos and verbal components of ads on A_{ad} and A_b .	Photos affect A_{ad} & A_b but not attribute beliefs. A_{ad} also affects A_b for ads with no photograph.	Additional empirical findings of effect of A_{ad} on A_b and effects of visual and verbal

		components on A_{ad} .
Lutz, MacKenzie, & Belch, 1983 Find potential moderating variables of the $A_{ad} \rightarrow A_b$ relationship.	A_{ad} had strong effect on A_b ; C_b had no effect on A_b .	Provided a discussion of a large number of possible causal antecedents of A_{ad} .
Gardner, 1985 Examine causal effects of A_{ad} & brand beliefs on A_b under different processing	Effect of A_{ad} on A_b equivalent for both processing sets.	Empirical analysis of processing effects.
MacKenzie, Lutz, & Belch, 1986 Test four alternative structural models.	See Figure 1.	Empirical test of alternative models.

Mitchell and Olson (1981) found that A_b and A_{act} (attitude toward act) could be explained by both belief structure and A_{ad} rather than by belief structure alone. They also found that A_{ad} mediates advertising effect on brand attitude.

Regarding affective responses (A_{rs}), Batra and Ray (1985, 1986) confirmed that affective responses represent strong mediating influences on brand attitudes and affective responses appear to be antecedents of the A_{ad} to have impact on A_{ad} . They, therefore, suggested the relevant chain of effect is: $A_{rs} \rightarrow A_{ad} \rightarrow A_b$

Galb and Pickett (1983) examined the effects of A_{ad} on A_b , credibility and persuasiveness of the advertisement, and buying intentions. They also considered the effects of humor in the advertisement on A_{ad} . Advertisements for stop-smoking kits were mailed along with a questionnaire to 2,400 subjects. One half of the subjects received a humorous advertisement. An analysis of the twenty percent of the questionnaires returned

indicated that A_{ad} was significantly related to the four effectiveness measures independent of the level of humor the individual perceived in the advertisement.

In a series of experiments, Lutz, MacKenzie and Belch (1983) have significantly advanced the literature by considering variables simultaneously and hypothesizing about the causal relations among them. This sequence of studies is below. This model of the first study (Lutz, MacKenzie, and Belch 1983) illustrated an alternate model that was specified to explain the mediating role of A_{ad} on brand attitude and intention. All of the models include the relationships specified by solid lines. Figure 1 shows the relationship among the A_{ad} , A_b , and PI as alternative Specifications of the Mediating Role of A_{ad}

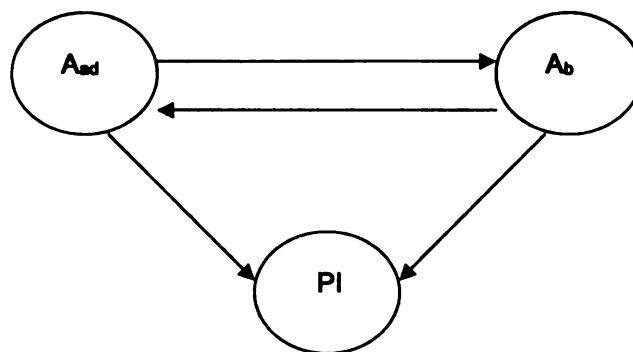


Figure1. From Alternative Specifications of the Mediating Role of A_{ad}
Source: Lutz, MacKenzie, and Belch (1983).

This model showed two of the facts related to this study; this illustrated mutual causation between A_{ad} and A_b . And A_{ad} and A_b will have independent effects on purchase intentions (PI).

Batra and Ray (1985) examined the effect of A_{ad} on what they call attribute-sensitive brand attitudes (pleasant and nice ratings of the brand) and execution-sensitive brand attitudes (usefulness and importance ratings of the brand). They found that A_{ad} had a significant effect on both brand attitude constructs. However, their measures for A_{ad} included ad liking, the emotion of advertising, and the net valence of “feeling” statements given during cognitive response listing. It is possible that what they actually found was that emotional feelings have an effect on brand attitude.

1-4. Relationship Emotional response, Attitude toward the advertising (A_{ad}), and Attitude toward the brand (A_b)

In this section, for an overview, theoretical explanations on the aspects of the relationship between emotional response, A_{ad} , and A_b are reviewed. The explanations will be extended into dynamic views in the following section. The theoretical perspectives, (a) Classical Conditioning theory, (b) Balance theory offer convergent interpretations of how A_{ad} and A_b are related with emotional response.

(a) Classical Conditioning Theory

Shimp (1981) posited that A_{ad} is transferred to A_b via a conditioning effect. He expected that the pairing of a connotative response (e.g. a feeling of pleasure) with a denotative response (e.g., a new brand name) would lead to a conditioned emotional

affect to A_b . When an advertisement creates positive A_{ad} , the advertised brand can precipitate the same positive attitude toward the brand due to classical conditioning

Summarizing classical conditioning theory could give a good explanation of the A_{ad} and A_b association. Based on the theory, a positive relationship is expected between A_{ad} and A_b . Therefore, it is expected that a positive A_b would be formed when a positive A_{ad} is developed from advertisements. Figure 2 shows the relationship among the advertisement, A_{ad} , and A_b as balance theory in advertising context

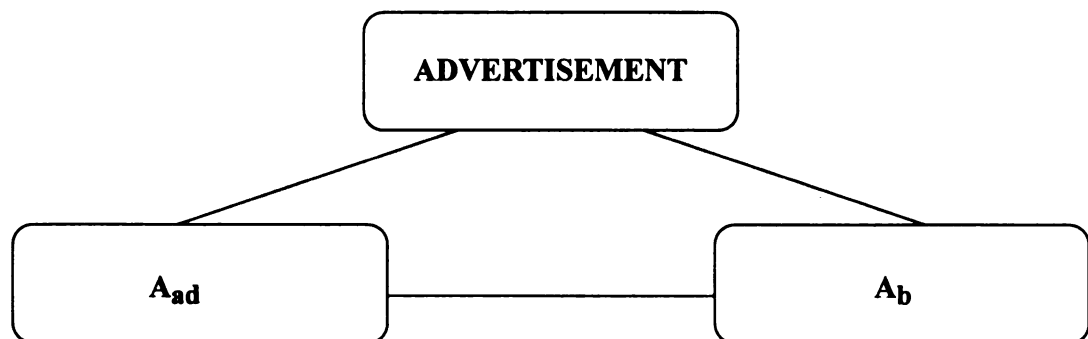


Figure 2. Balance theory in advertising context

(b) Balance theory

Figure 2 represents balance theory in the advertising context. Since the relationship between the advertisement and the brand is always positive, the consumer must either like both the advertisement and the brand or dislike them both (Edell and Burke, 1984). In the same vein, if A_{ad} is positive then A_b must be positive and if A_{ad} is

negative then A_b must be negative to maintain the balance. The expected relationship is a reciprocal between A_{ad} and A_b . That is, A_b also can influence A_{ad} . The theory has received partial support by Messmer (1979) in the study of un-broadcasted TV advertising for well-known products. After measuring A_b before measuring A_{ad} , he found that prior A_b favorably influenced A_{ad} .

In summary, balance theory predicts a positive relationship between A_{ad} and A_b . Based on the theory, the expected relationship is that positive (negative) A_{ad} will cause positive (negative) A_b and vice versa. To summarize the empirical literature, Table 3 illustrates that many researchers have found relationships between A_{ad} and A_b .

Table 3. Theoretical Explanations for Relationships of A_{ad} , A_b , and PI

Relationship	Tested by	Relationship of the Theoretical Hypothesis
$A_{ad} \rightarrow A_b$	Michell & Olsen, 1981 Gelb & Pickett, 1983 Mitchell, 1983 Lutz, Mackenzie, & Belch, 1983 Mackenzie & Lutz, 1983 Gardner, 1985 Mackenzie, Lutz, & Belch, 1986 Batra and Ray, 1985 Gresham & Shimp, 1985 Madden, Dillon, & Twible, 1984	Classical Conditioning between A_{ad} and A_b
$A_{ad} \rightarrow A_b$ $A_b \rightarrow A_{ad}$	Mackenzie, Lutz, & Belch, 1986 Mackenzie and Lutz, 1983	Balance Theory

$A_{ad} \rightarrow A_b$	Mackenzie, Lutz, & Belch, 1986	Cognitive Response
$A_{ad} \rightarrow PI$	Mackenzie, Lutz, & Belch, 1986	Howard's Two Attitudinal constructs
$A_b \rightarrow PI$	Mackenzie & Lutz, 1983	

II. RESEARCH MODEL & HYPOTHESES

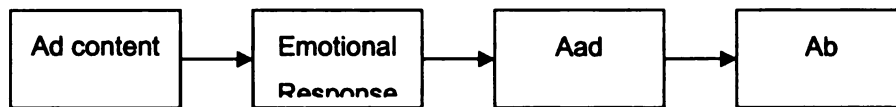


Figure 3. The communication model by Holdbrook and Batra (1987)

This model establishes the mediating role of A_{ad} as a variable that intervenes between advertising content and A_b . With this many previous studies dealt with a forward flow of effects from advertising content through several variables to intervening variables to brand attitude. However, this study assumes that emotional response affects directly both ways to A_{ad} and A_b . Following model (Figure 4) is modified from Figure3.

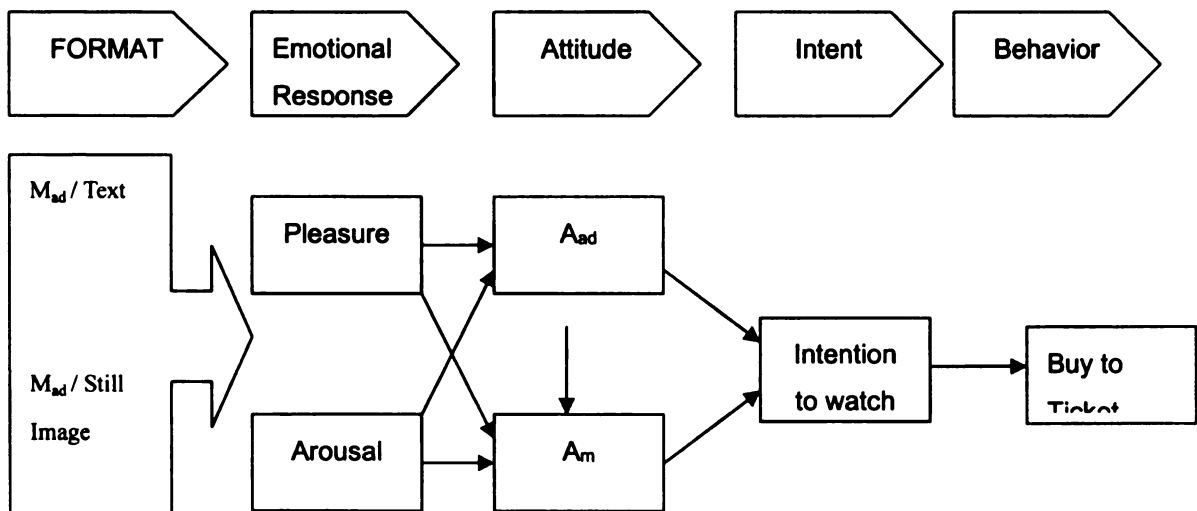


Figure 4. Proposed theoretical model for the effects of mobile advertising formats on emotional response, A_{ad} and A_m .

This model showed the framework that was used in this study from analysis of the emotional response, attitude toward advertising (A_{ad}), and attitude toward movie (A_m) in a mobile environment setting. Especially, this study deals with several media formats that chose a specific brand, the movie "THE TEXI." This adjusted framework assumes that three different mobile formats (mobile advertising with text, still image, or moving image) with a movie advertisement. This study estimates three different advertising formats will generate different emotional feelings, A_{ad} , and A_m . In addition, in this study, the variables that are described as the mobile environment to be mobile formats depended on whether the person was presented with mobile advertising with text, still image, or moving image. Verbal and visual preferences were substituted for individuals' preference, depending on individual differences such as emotional feeling, attitude, and rate. It is also associated with how consumers understand their information processing about advertising. This area is investigated in marketing and consumer behavior. Different consumers, faced with a variety of situations, have been shown to get different information and to make different decisions (Bettman 1979; Bettman and Park 1980; Capon and Burke 1980; Capon and Davis 1984; Jacoby, Chestnut, and Fisher 1978;

Moore and Lehmann 1980; Park 1976). Studies have found that individuals differ significantly in their acquisition of information. In this study, some of the people might feel more emotionally familiar with advertising in mobile formats. Furthermore, dependency on several advertising formats shows reveals people's attitudes are different toward the advertisement and toward the movie itself. The result of intention to watch a movie is further mediated by consumer' tendency from emotional rate, A_{ab} , and A_m .

Basically, intention to watch is based on buying intention' theory. Although buying tendency is often considered by many previous studies, intention to watch a movie is a more practical issue than buying intention in this study. Thus, for this study the personal inclination of verbal, visual, and intention to watch were specified and considered mediating variables.

2-1. Emotional response

Proposition: Respondents have different emotional response depending on the three different advertising formats.

In a general approach to understanding interaction between individual and emotional factors with various environments, it is essential to identify those responses that are the result of stimulation and which occur in varying states in all environments.

The study of emotion and psychological reaction shows that emotional reactions represent the common core of human emotional response to all types of environments. This contains the rationale and the supporting evidence for the designation of pleasure and arousal as two basic emotional reactions. However, most environments that are encountered are much more complex and simultaneously include stimulation in all sense modalities (e.g., the many colors in a typical setting, together with various combinations of sound, image, and text).

Rossiter and Percy (1983) studied advertising images in information processing and Scott (1994a) thought that peripheral processing influenced consumer emotions. Research in this area has concluded that moving images can stimulate consumers' feeling to evaluate a product. (Edell and Staelin 1983) In addition, this research indicates that moving images elicit superior recall when compared to low imagery copy (Babin and Burns 1997).

The following research by Scott (1994a) concluded that a complex image is a more meaningful element in advertising than verbal copy because still images can help consumers to interpret and understand.

To figure out the knowledge of image effects developed through the information processing approach, advertising researchers turned to the study of rhetoric. Although

researchers had examined advertising images in symbolic ways before (e.g., Mick and Politi 1989; Stern 1993), Scott's (1994a) fresh way of thinking about advertising images brought new interest to this line of research. From a rhetorical perspective, an image is a meaningful element in an advertising that by itself can convey advertising's implicit message from its images. Scott (1994a) and other researchers argue that many of the images found in advertising deserve study as meaningful rhetorical elements.

These studies implied that the effect of the different understanding could depend on different format as an environment (Mick and Politi 1989).

To find out the plausible relationship between advertising formats and emotional responses, this study propose that people exposed to moving images have more positive emotions than people who are exposed to still images and than a text image on mobile environment.

H1a: people exposed to moving image experience more pleasure than people exposed to still image experience, followed by people exposed to text experience on mobile situation.

H1b: people exposed to moving image experience more arousal than people exposed to still image experience, followed by people exposed to text experience on mobile situation.

2-2. Emotional Response with A_{ad} & A_m

Empirical evidence shows that emotional matters could be positively related with the attitude in the assessment of the effectiveness of advertising (Edell and Burke 1987). Asker, Atayman, and Hagerty (1986) found that emotion, a volatile feeling, made a positive link to an advertisement and behavior intention. And Bagozzi, Gopinathg, and Nyer (1999) also found that a consumer in a positive emotional state compared with a negative emotional state, tends to be better at integrating information and at attaining the goal. Several other studies show that people tend to form their preference on the basis of elements such as feeling, emotions induced by advertising or familiarity triggered by exposure to advertising (Batra and Ray, 1986; Stuart, Shimp and Engel, 1987).

Bartra and Ray (1986) showed the relevant chain of effect is “affective responses $\rightarrow A_{ad} > A_b$ ” and following research in a positive emotional state tends to believe that systematic processing of a message would help maintain their emotion, and therefore may engage in more detailed processing (Bagozzi, Gopinath, and Nyer 1999).

On top of that, Holbrook and Batra (1987) also suggest the possibility of the direct relationship between emotional response and A_b .

Emotions and the attitude toward the ad mediate the relationship between content factors and the attitude toward the brand remains, mostly due to the direct positive contribution

of cerebral content

This direct relationship between emotional response and the A_b was supported by Kroeber-Riels' (1983) experiment which tested and revealed that a brand name alone aroused significant emotional reactions and the stronger the emotional scenes the more effective attitude toward the brand that resulted. The direct association between affect and brand attitude was also supported by Bierley, McSweeney, and Vannienwkerk (1985).

Consequently, this study hypothesizes that the status of positive feeling with mobile advertising leads to both A_{ab} and A_b .

H2a: The more people feel a positive pleasure, the more they have positive the attitude toward the advertising

H2b: The more people feel a positive pleasure, the more they have positive the attitude toward to the movie

H3a: The more people feel a positive arousal, the more they have positive the attitude toward the advertising

H3b: The more people feel a positive arousal, the more they have positive the attitude toward to the movie

2-3. Attitude toward the advertising and Attitude toward the movie

There is support for the following two theories: Classical Conditioning Theory

and Balance Theory.

As one of empirical study Classical Conditioning Theory shows the relationship between emotional response, A_{ad} , and A_b . Shimp (1981) posited that an A_{ad} is transferred to an A_b via a conditioning effect. Shimp (1981) expected that the pairing of a connotative response (e.g. a feeling of pleasure) with a denotative response (e.g., a new brand name) would lead to a conditioned emotional affect toward the advertised brand. When advertising creates positive A_{ad} , the advertised brand can precipitate the same A_b due to classical conditioning.

Another researcher represents balance theory in an advertising context. Since the relationship between the advertising and the brand is always positive, the consumer must either like both the advertisement and the brand or dislike them both (Edell and Burke, 1984). In the same vein, if A_{ad} is positive then A_b must be positive and if A_{ad} is negative then A_b must be negative to maintain the balance. The theory has received partial support by Messmer (1979) in the study of unbroadcasted TV ads for well-known products. After measuring A_b before measuring A_{ad} , he found that prior A_b favorably influenced A_{ad} .

The affect transfer hypothesis (ATH) that posits a direct one-way causal flow from A_{ad} to A_b , has received the most attention in the literature (Gardner 1985; Mitchell and Olson 1981; Moore and Hutchinson 1983, 1985; Park and Young 1984; Shimp 1981).

The affect transfer hypothesis has some empirical support. Using covariance analysis, Michell and Olson (1981) found that A_{ad} explained significant variance in A_b beyond that contributed by measures of brand beliefs and evaluations. Moore and Hutchinson (1983, 1985) observed a positive linear relationship between A_{ad} and A_b .

In summary, balance theory predicts a positive relationship between A_{ad} and A_b . Based on the theory; the expected relationship is that positive A_{ad} will cause positive A_b . In this study, people feeling positive toward the ad after an experiment were the people feeling positive toward the movie as well. Thus, this study assumes that both positive A_{ad} affect A_m in one way.

H4: The more positive people's attitude toward the advertising will be, the greater they have positive attitude toward the movie

2-4. Attitude toward the advertising (A_{ad}), attitude toward the movie (A_m), and Intention to watch

A_{ad} , A_b , and intention to perform a certain behavior have long been examined as advertising outcome variables. The independent influence hypothesis (IIH), Scott B. MacKen (1996) shows no causal relationship between A_{ad} and A_b ; instead, following Howard (1977, p. 22-33), A_{ad} and A_b are assumed to be independent determinants of behavioral intention to act. In this analysis Howard showed as representing "consumers' feelings about the conditions of behavior" (Journal of Marketing Research, May 1986).

Although A_{ad} and A_b are independently and positively affect intention to behavior, Howard (1977) seems to have intended attitude to capture all aspects of the behavioral situation of a product that are remarkable at least momentarily but are not enduring properties of brand. In an advertising situation, it appears to be a rather straightforward extension of Howard's logic to assert that A_{ad} and A_b are reflections of reactions to one aspect of behavioral situation to product. Hence, in this movie advertising, attitude is represented by A_{ad} and A_b . As shown "the independent influence hypothesis (IIH)", Scott B. MacKen (1996), showed that A_{ad} and A_b would exert independent causal influence on intention to act, and would have a positive relationship between A_{ad} , A_b , and intention to act independently each other. The present study proposes those relationships in A_{ad} , A_b , and intention to watch with following hypothesis:

H5a: The more positive people's attitude toward the advertising will be, the greater they have intent to watch movie

H5b: The more positive people's attitude toward the movie will be, the greater they have intent to watch movie

III. Research Methodology

The hypotheses for this study have been specified in the form of a causal model and it is essential that enough variability be present in the measures to adequately estimate the causal parameters. The experiment consisted of two steps. First, post-test

between subjects experiment, movie advertising, was conducted. Second, all data from the experiment that are collected through a survey to measure the following variables: emotional response (pleasure and arousal), A_{ad} , A_m , and intention to watch movie.

To measure the factors are three mobile formats (M_{ad} with text, still image, or moving image), which are measured with advertising effectiveness from above four factors.

3-1. Stimuli and material

The experimental stimuli included three different mobile advertisements that utilized the two different emotional advertising appeals for the movie preview of mobile advertising. This product was selected for two reasons. First, a movie is a very interesting subject to everyone, especially, college students. Also East Lansing is a college town. In a survey after the experiment, movie previews weren't just playing anybody and any place. This is more effective to trigger student to expect which advertisement will be playing. Moore and Hutchinson (1983) have shown that prior attitude toward a brand can affect advertising attitudes and related construct, and results. Thus, for a familiar subject, prior brand attitudes may account for variations in relationships involving advertising attitudes.

Second, established brand attitudes toward a familiar subject are unlikely to be as

strongly affected by advertising attitudes as are brand attitudes toward novel brands about which consumer has little other information (Johnson & Eagly, 1989).

The preview of the movie, “THE TAXI” is from France, and has not played in the US yet; however the film director is very famous in US and other western countries. The preview is playing with a different movie “THE TEXI” (US version) which is modified from original one, but is different. It is possible to see people who are wondering about the original “THE TEXI” from France after seeing the US version. It is enough to attract experiment participants.

For the experiment, there were designed three pages on PDAs; first, a text stimulus contained the movie poster and text format with a brief synopsis. Second, an image stimulus contained the movie poster as well and a still image from the movie. The last, it did not show any text or still image, just a moving graphic for 45 seconds after one clicked the movie title such as SMS (shore message service) on screen. Following by figure 5 shows the three different advertising formats with PDAs.

1> Mobile advertising with moving image



2> Mobile advertising with still image



3> Mobile advertising with text



Figure 5. Three different mobile advertising formats on PDAs.

3-2. Data Collection

Participants were recruited from undergraduate and graduate students at Michigan State University in the U.S. and offered extra credit in their class for their participation. The experiments were administrated in three different mobile devices, PDAs in the communication, art and science buildings. The participants made appointments to participate in the study at intervals of 10 min. The experiment was started after the researcher-received approval from Michigan State University's Committee for Research Involving Human Subjects (UCRIHS). The participants were randomly assigned to one of three forms of experiments (Mad with moving image, with still image, and text).

After they completed the experiment, participants were asked to fill out a paper-based questionnaire containing self-report measures about their emotions response, attitude toward ad, attitude toward the movie, and intention to watch movie. Only those who volunteered for participation for this study will be considered as subjects and they will receive extra credits (the points will be depends on instructors' decision). Final sample size was 61 (55.5%) male participants and 49 (44.5%) female participants. The birth of year was distributed from 1977 to 1985 years. The people consisted of the birth of 1982 (21.8 %), 1983 (29.1%), and 1984 (28.2%), the high distribution. With regard to

education level the sample consisted of undergraduates were 98.2 % and graduates were 2 %. Thirty-seven respondents were exposed to both the still image and the moving image stimulus, and thirty-six respondents viewed the text stimulus.

3-3. Measures

Based on the literature review, measurement items were chosen for each questionnaire. All of the items were measured with semantic differential scales that range from 1 to 5 to derive an emotional response, attitude toward the advertising format, and attitude toward the movie. Intention to watch was measured by five-point scale with three items.

Emotional responses were measured by 12 items modified from Mehrabian and Russell's (1994a) scale that consisted of three emotional response factors (pleasure, arousal, and dominance). In this study, however, dominance was not assessed, since this experiment assumed that there is no control for participants to decline the mobile advertising. Thus, two emotional factors, pleasure and arousal, were only considered, and, as suggested by Russell (1980; Russell, Weiss, and Mendelsohn 1989), the dominance dimension can be dispensed with. A_{ad} and A_b were considered as key links in the communication model and advertising effects (Morris B. Rajeev 1987). Those two attitudes were measured by four factors with five scales respectively from Morris B and

Rajeev (1987). In this study, the movie title can be representative of a brand.

Intention to watch the movie was measured using three items about the likelihood of watching the movie. By Bearden, William O., Donal R. Lichtensteirt, and Jessie E. Teel (1984) and Doo-Hee Lee (1990) behavior intentions regarding the likelihood of purchasing product in the future. Since this study is more focused on movie advertising, the intention to watch the movie was substituted for purchasing intention. The likelihood was operational zed on five point scales differentials.

IV. Data analysis & Results

Table 4. ANOVA result for H1a and H1b

Variables	Pleasure				Arousal				Number of participant
Format	Mean	SD	F	df	Mean	SD	F	df	
Text	3.111	.679	1.496	2	2.648	.697	5.658*	2	37
Still image	3.263	.619			2.928	.795			36
Moving image	2.986	.760			3.207	.628			37

Hypothesis 1a and Hypothesis 1b predicted that people have different emotional responses such as pleasure and arousal depending on the three different advertising

formats (i.e. text, still image, and moving image). Hypothesis 1a examined if people exposed to moving image on mobile station experience more pleasure than either people exposed to still image or people exposed to text, while hypothesis 1b looked at if people exposed to moving image on mobile station experience more aroused than either people exposed to still image or people exposed to text. Analysis of ANOVA was used to examine the effects of each advertising format on subjects' pleasure and arousal. In these hypotheses, pleasure and arousal were separately studied. The result of hypothesis 1a for pleasure showed that there was no difference among the three types of formats, $F(2,107) = 1.496$, $p < .005$, $\eta^2 = .09$. This suggested hypothesis 1a was not supported so that the subjects' three different types (Mad with text, still image, or moving image) of orientation as a covariate on emotional responses (i.e. pleasure) were found as non-significant.

Hypothesis 1b predicted that people who are treated by different advertising formats would be different in their arousal for each advertising format. ANOVA was also employed to examine the arousal differences among three types of format. The result showed there were differences among groups, which meant that types of format had a significant effect on arousal, $F(2,107) = 5.658$, $p < .005$, $\eta^2 = .79$. Post hoc comparisons using tukey's procedure at 95% confidence level showed that people who watched the format of moving images ($M=3.21a$, $SD=.63$) had more been aroused by the adverting

than people who watched the format of the text ($M=2.65b$, $SD=.70$), while people who watched the format of still images ($M=2.93ab$, $SD=.80$) did not differ from either people who watched the format of moving images or people who watched the format of the text.

Hypothesis 2a investigated the relationship between pleasure and A_{ad} . This relationship was examined with Partial Least Square path analysis. From the table, one can find that these two constructs explain 80% of validity of X (positive pleasure) and 87% of that of Y (positive attitude toward the advertising). The examination of the path coefficient ($b=.534$, $p<.001$) between two variables showed that positive pleasure is mainly responsible for positive attitude toward the advertising. The predictor X times a beta effect of .534 resulted in the prediction equation of $Y'=.534X$. Considering the finding of the test, hypothesis 2a was supported. This means that positive pleasure is associated with the positive attitude of the advertising.

Hypothesis 2b examined the relationship between pleasure and A_m . This relationship was also observed by PLS. The path coefficient between two variables was -.065 which was not statistically meaningful. This suggested that pleasure had a non-significant effect on attitude toward the movie. Given the test results, hypothesis 2b was not supported. This means that there was no positive relationship between positive pleasure and attitude toward the movie.

Hypothesis 3a investigated that there would be a relationship between arousal and A_{ad} . This relationship was also examined using PLS. The examination of path coefficient ($b = .340$, $p < .001$) showed that positive arousal has a relatively weak, but statistically significant, impact on positive A_{ad} . The relationship between positive arousal (X) and positive A_{ad} (Y) could be explained by the prediction equation $Y' = .340X$. Therefore, the hypothesis was supported, meaning that there would be a positive relationship between arousal and A_{ad} .

Hypothesis 3b looked at the relationship between arousal and A_m . This relationship was also observed by PLS. The path coefficient between two variables was .080, which was not statistically significant. It suggested that there was no significant relationship between arousal and A_m . The test results did not support hypothesis 3b, indicating that the true effect of positive arousal on A_m was of no practical importance.

Hypothesis 4 examined the relationship between A_{ad} and A_m . The result of PLS path analysis indicated that the path coefficient between two variables was .856 and $p < .001$, which showed that A_{ad} was mainly responsible for A_m . The coefficient of .856 was so meaningful that it suggested that A_{ad} had a significant effect on positive A_m . Given the test results, hypothesis 4 was supported.

Hypothesis 5a investigated the relationship between A_{ad} and intention to watch the movie. The intention to watch the movie (Y) was examined how much it might be predicted by the attitude toward the advertising (X), employed PLS. The path coefficient between two variables was $-.029$, which was not statistically significant. Therefore, hypothesis 5a was not supported, which reflected a virtually no effect of A_{ad} on intention to watch the movie. It suggested that people with a positive A_{ad} did not always intend to go out to see the movie.

Hypothesis 5b examined the relationship between A_m and intention to watch the movie. The result of PLS showed that the path coefficient between two variables was $.679$ and $p < .001$, suggesting that that attitude toward the movie (X) had a main impact on intention to watch the movie(Y). The coefficient of $.679$ was statistically significant and the prediction equation of two variables is $Y' = .679X$. Given the finding of the test, hypothesis 5b was supported.

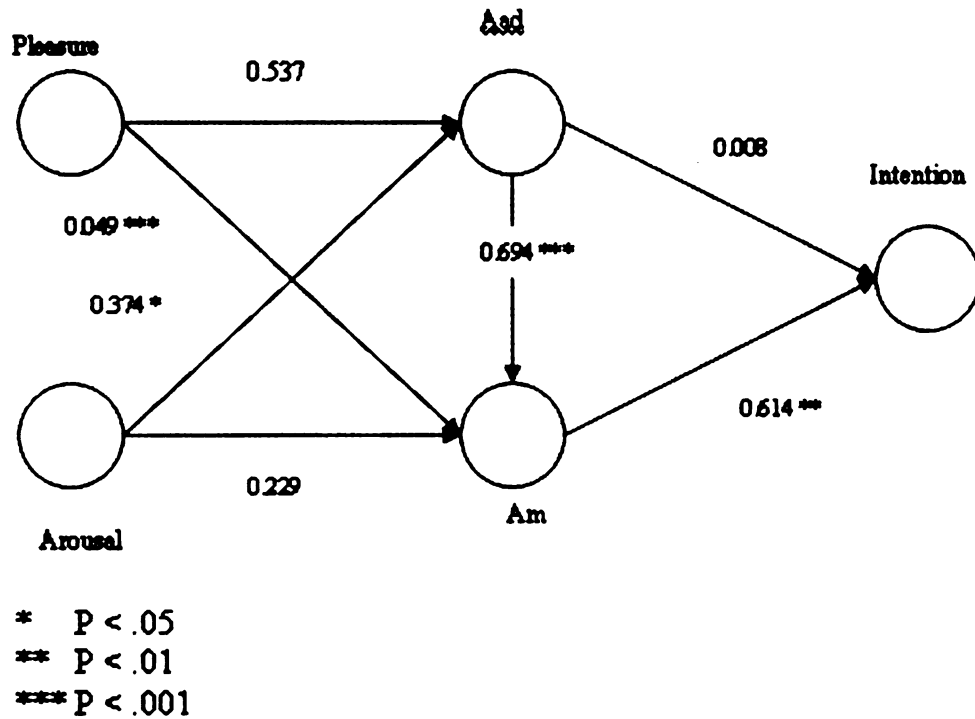


Figure 6. The path coefficient from causal effects with a text

Figure 6 shows the standardized direct and causal effects represented by model. All types of hypothesis 2a, 2b, 3b, 4, and 5b were statistically significant. Beginning with A_m , the outcome of ultimate effect, the determinant with the largest causal effect (0.694) was A_{ad} . The second most important determinant of intention was A_m with an effect of 0.614. The next most important determinant of A_{ad} was pleasure with 0.537. The forth most important determinant of A_{ad} was arousal with 0.374. The remaining determinants of A_m had effect of 0.049 respectively. The model explained substantial variance in case of intention ($R^2=0.386$), and modest variance in both A_{ad} ($R^2=0.615$) and film ($R^2=0.793$)

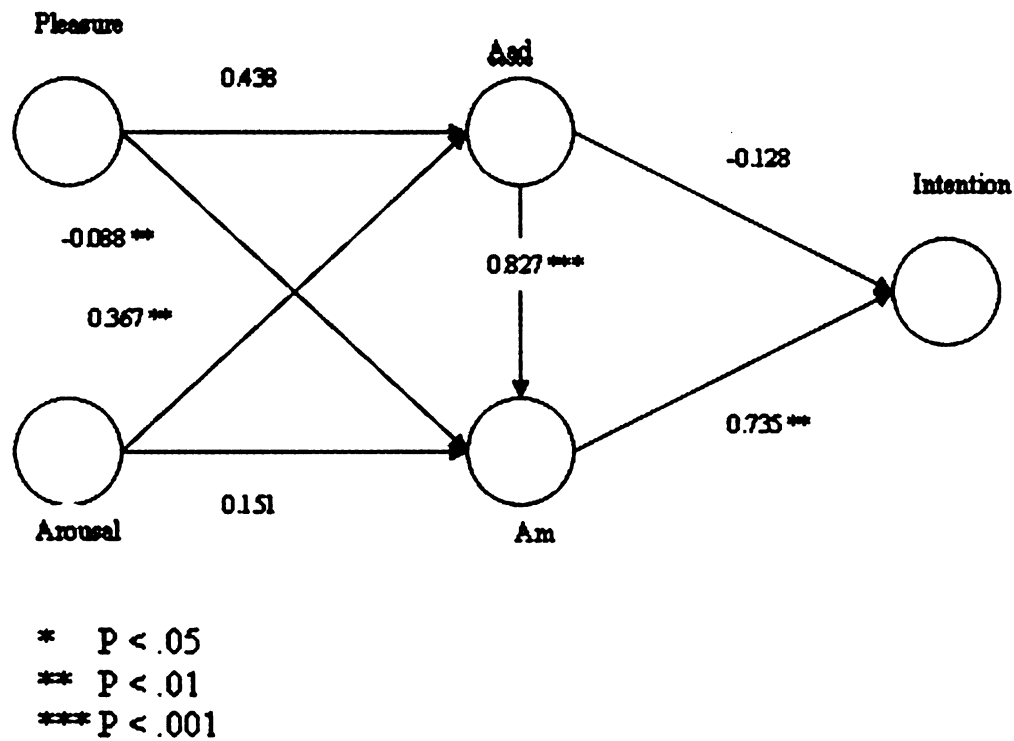


Table 7. The path coefficient from causal effects with a still image

Figure 7 shows the standardized direct and causal effects represented by model. All types of hypothesis 2a, 3a, 4, and 5b were statistically significant. Beginning with A_m , the outcome of ultimate effect, the determinant with the largest causal effect (0.827) was A_{ad} . The second most important determinant of intention was A_m with an effect of 0.735. The next most important determinant of A_{ad} was pleasure with 0.438. The remaining determinants of A_{ad} had effect of 0.367 respectively. The model explained substantial variance in case of intention ($R^2=0.395$), and modest variance in both A_{ad} ($R^2=0.510$) and film ($R^2=0.760$)

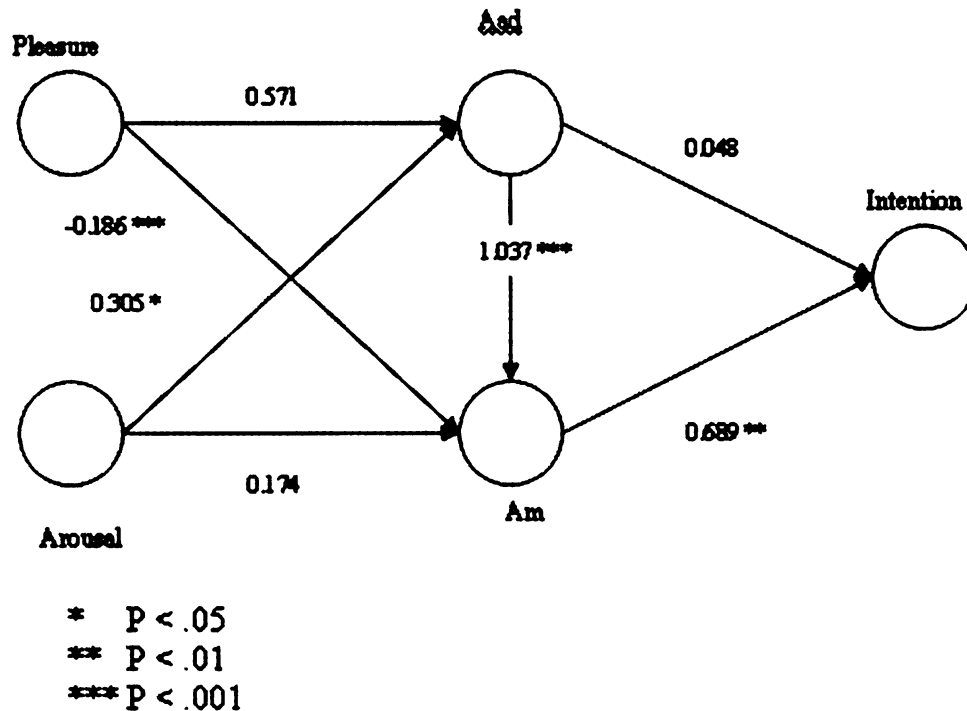


Figure 8. The path coefficient from causal effects with a moving image

Figure 8 shows the standardized direct and causal effects represented by model. All types of hypothesis 2a, 3a, 4, and 5b were statistically significant. Beginning with Am, the outcome of ultimate effect, the determinant with the largest causal effect (1.037) was Aad. The second most important determinant of intention was Am with an effect of 0.689. The next most important determinant of Aad was pleasure with 0.571. The remaining determinants of Am had effect of 0.305 respectively. The model explained substantial variance in case of intention ($R^2=0.342$), and modest variance in both Aad ($R^2=0.510$) and film ($R^2=0.760$)

The following figure 8 shows the statistic result of all paths from emotional response to intention.

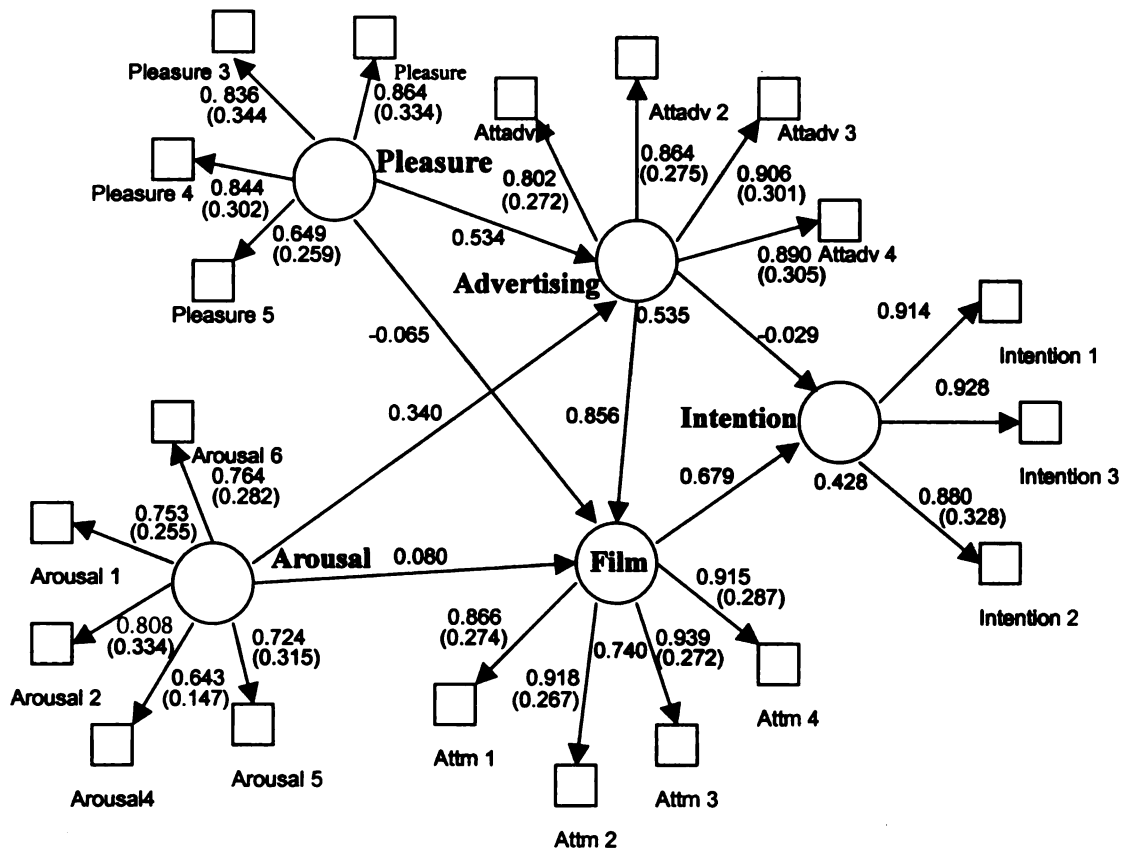


Figure 9. The pooled data from PLS analysis

V. General Discussion, Implication, and Limitation

General Discussion

The result of this study indicated that the presence of a moving image did not generate the degree of intention to watch movies that was expected, nor did not the exposure of moving images increase more arousal about movie advertising on mobile media. On the contrary, the pleasure was not an influence to any advertising formats (text, still image, and moving image) on mobile media.

It can be expected as an operational definition that the arousal variable is explained as a state of feeling that varies from stimulation, alertness or activeness such as environmental stimuli (Mehrabian and Russell 1974). Otherwise, the pleasure variable can be defined as a state of feeling as the degree to which person feels happy, pleased, or hopeful without specific stimulation from environment (Mehrabian 1980). Mehrabian (1972b) stated that pleasure can be reliably scored on a dimension of just pleasancess, which is independent of both their arousal variables. In this study, arousal variables were stimulated from the mobile environment; using PDAs and unfamiliar experience from participants, new mobile advertising formats. Moreover, the explanations from the results would reveal why moving images have a greater influence than other types of advertising in relations

to an emotional response. Several empirical studies in this area concluded that moving images could stimulate consumers' feeling in evaluating a product (Edell and Staelin 1983). In addition, this research indicated that moving images elicited superior recall when compared to low imagery copy (Babin and Burns 1997; Unnave and Burnkant 1991). As it was indicated by empirical studies, moving images could create a higher recall, attention, and emotional effect on consumers compared to other types of images.

A second explanation could be that although Holbrook and Batra (1987) suggest the possibility of the direct relationship between emotional response and A_{ad} ; the relationship of between emotional response and A_b , as well as the path between emotional response and A_m is not supported. Since a positive emotional response could make a positive attraction towards an advertising, it could be possible for people to want to see the advertising again. Otherwise, positive emotional response has no direct relationship to A_m . Alba and Hutchinson (1987), Suan (1985) described that "in an information processing context, ability to defined as skill or proficiency in interpreting brand information in an advertising". If a consumer's ability to interpret advertising is low, or the provided information from the advertisement cannot be interpreted well, the consumers will not have a favorable A_b compared to others. In this study, without the A_{ad}

process, this advertising couldn't be interpreted for what it is. It could be possible for some people to misunderstand what the advertising is about. Without cognition of advertising with information about the brand, people will not be able to interpret what is the displaying scene on the screen is about. Thus, this study could not support the direct relationship between emotional response and A_m without A_{ad} ' process.

Thirdly, moving images could bring strong relationships between emotional response (pleasure and arousal) and A_{ad} . While A_{ad} could be potentially influenced by a number of advertising execution elements, visual imagery in advertising has been shown to be an important determinant of A_{ad} (Rossiter and Percy 1980, Mitchell and Olson 1981, Mitchell 1983). Otherwise, the text is the strongest path between emotional response and A_m . In the advertising context, the large majority of inference research has focused on examining the effects of verbal message content on consumers' evaluations of partially described brand. This literature suggests that partially described objects are less favorably evaluated than fully described, (Yates, Jagacinski, and Faber 1987) because the inferred value of missing attributes is discounted due to uncertainty (Meyer 1981). It is also clear that consumers use available information about partially described brands and other brands in the product category as the basis for verbally based inference (Meter 1981; Huber and McCann 1982; Johnson and Levin 1985). The study found that text is less

complicated in comprehension of the content than other advertising formats, e.g., still and moving images. Particularly, mobile situations with PDA's may transmit much more information; people can also pay more attention to what the advertising is about.

Moreover, based on the balance theory, a positive relationship exists between A_{ad} and A_b , which results in positive A_{ad} causing positive A_b . In the study, people who feel positively toward the advertising also feel positively toward the movie after the experiment. Movie advertising such as previews that briefly summarize storylines are especially effective, making it easier for people to understand about movies.

Lastly, attitude is represented by A_{ad} and A_m in this study. As proved by Acott B. MacKen's "the independent influence hypothesis (IIH)" (1996), A_{ad} and A_b exert causal influences on intentional acts independently from each other. However, the relationship between A_{ad} and intention to watch movies is not supported; it cannot be possible to recognize the exact kind of advertising. Without A_m ' process, it could not be explained. Moreover, the still image is the strong relationship between A_m and intention to watch movies, because major still shots from movies could help people to understand with small screens. Overly complicated moving images and extremely small texts on mobile situations are paid less attention by people than still images.

Limitations and Implications

This study seeks to propose a theoretical model of which mobile advertising formats may influence the intention to watch movies and tests several parts of overall models. However, this work was subject to some limitations.

First, utilizing college students as participants in this study may be a concern that limits the generality of the results. However, undergraduate students are particularly appropriate for experiments because they comprise a homogeneous target market for electronic marketer.

This study also recognizes that participants were exposed to several different types of stimuli in a field study as opposed to laboratory. This possibly yielded different results, because new modified model is not supported and not fitted with full hypotheses.

Third, this experiment is not a real situation. Originally, the experiment should be designed that mobile advertising sends to participants directly on mobile situations. But in this experiment, each format of advertising was saved in each PDA. Thus, every time, participants clicked on screen to see advertising without any notice in PDAs. In addition, the movie "THE TEXI" was a French movie, not in English on the moving image format. Future studies should change to fit the correct language for participants.

The result of this study may assist theoretical and managerial contributions; it also describes an empirical investigation of the effects of mobile advertising formats with emotional response and attitude. Managers can benefit from the knowledge of how different emotional advertising format responses ultimately affect intention to watch movies. This is especially important given the increasing use of emotional advertising in the mobile environment. In addition, advertising manager could know easily which format is more fit and available to each of different situation (e.g., Arousal $\rightarrow A_{ad}$).

In overall, the result from this study implies that moving images may not be as effective of an advertising tool as it was initially thought to be. Therefore, the success of generating mobile commerce revenues from advertisings presented in the mediated context may be dependent on other characteristics rather than the simple increase of associated content and bandwidth. Affecting consumers' intention of behaviors may not always be achieved by moving images or text advertising formats. Rather, the integration of many different advertising formats that are related to each other can accomplish the greatest effect.

APPENDIX 1

You are being asked to participate in a study about the effects of mobile advertising formats. We study the kinds of factors that influence emotional response, attitude toward advertisement, and attitude toward the movie. Especially, movie advertisement with a mobile handset such as cellar phone or PDA, we may feel to intent to watch, but it depends on different factors. Probably, major factor is your interest in the movie. Beside that factor, we think some other factors will effect on your intention. We believe that advertising factor affects your intention to watch the movie. This is focus on the effects of the advertising formats in mobile context. Your responses to the questions on the questionnaire are very important for us.

We would like you to answer the survey questionnaire, based on your experience with mobile advertisement. This procedure should take around 10 minutes to complete, and all answers will be strictly anonymous. Your participation in this study and completion of the questionnaire is voluntary. You may withdraw from participation at any time during study. You may refuse to answer any questions you wish. You will be rewarded with extra credits as our way of saying thanks.

If you have any questions about this study, please contact Jung Hwean, Kim, kimjung9@msu.edu or Dr. Dan. J. Kim, dankim@msu.edu, phone number at (517) 353-6712. If you have any aspect of this study, you may contact - anonymously, if you wish – peter Vasilenko, Ph.D., Chair of University Communittee on Research Involving Human Subject (UCRIHS) by phone: (517) 432-4503, email: UCRIHS@msu.edu, or regular mail: 202 Old Hall, East Lansing, MI 48823

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Michigan State University

APPENDIX 2

Survey Questionnaire

Welcome. Your answers will be kept completely confidential. Select your answers by clicking the appropriate circle next to each question.

General description: This movie advertising is for preview of the movie. This movie was never played on any movie theaters in United State.

General instruction: Most of the scales used in this survey use a rating system with descriptions at either end. The end position points of the scales take the form of continuum such as “happy, somewhat happy, neutral (so-so), somewhat unhappy, and unhappy”. You are asked to answer circling one of the numbers in a box.

Example

<input checked="" type="radio"/> Happy	5	4	3	2	1	<input type="radio"/> Unhappy
--	---	---	---	---	---	-------------------------------

: By circling the number five, you would be saying you are happy

1. Which is your belief to describe your feeling more appropriate after seeing mobile advertising?

1-1	I am happy	5	4	3	2	1	I am unhappy
1-2	I am pleased	5	4	3	2	1	I am annoyed
1-3	I am satisfied	5	4	3	2	1	I am unsatisfied
1-4	I am contented	5	4	3	2	1	I am melancholic
1-5	I am hopeful	5	4	3	2	1	I am despairing
1-6	I am relaxed	5	4	3	2	1	I am bored
1-7	I am stimulated	5	4	3	2	1	I am relaxed
1-8	I am excited	5	4	3	2	1	I am calm
1-9	I am frenzied	5	4	3	2	1	I am sluggish
1-10	I am jittered	5	4	3	2	1	I am dulled
1-11	I am wide awaked	5	4	3	2	1	I am sleepy
1-12	I am aroused	5	4	3	2	1	I am unaroused

2. How would you rate your feeling about this mobile advertisement?

2-1	I react favorable	5	4	3	2	1	I react unfavorable
2-2	The ad is good	5	4	3	2	1	The ad is bad
2-3	I like the Ad	5	4	3	2	1	I dislike the Ad
2-4	I'm positive toward the advertising	5	4	3	2	1	I'm negative toward the advertising

3. How would you rate your feeling about this movie?

3-1	I react favorable	5	4	3	2	1	I react unfavorable
3-2	The movie is good	5	4	3	2	1	The movie is bad
3-3	I like the movie	5	4	3	2	1	I dislike the movie
3-4	I'm positive toward the movie	5	4	3	2	1	I'm negative toward the movie

4. How would you rate your intent to watch the movie, TAXI, after seeing the mobile advertising?

4-1	I am likely to watch	5	4	3	2	1	I am unlikely to watch
4-2	It is possible to watch	5	4	3	2	1	It is impossible to watch
4-3	I am probable to watch	5	4	3	2	1	I am improbable to watch

5. My mobile handset (PDA & Cell Phone)

- 5-1 Have you experienced with mobile handset such as PDA
1) Yes 2) No
- 5-2 If you used one, did you receive any mobile advertisement? (e.g. mobile ad through SMS)
1) Yes 2) No
- 5-3 If you received mobile ad, how many ads did you receive per month?
1) Never 2) 1-5 3) 5-10 4) 11-15 5) More than 15

6. Here are just a few personal questions to help us classify your responses.

- 6-1 Are you? 1) Female 2) Male
- 6-2 What is your year of birth? 19_____
- 6-3 What is your current academic level?
1) Undergraduate (Freshman, Sophomore, Junior, 2) Graduate Senior)

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