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DO SOCIAL AND COMPETITIVE ADVERGAMES AFFECT BRAND ATTITUDE IN ASIA?

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ABSTRACT

The aim of this paper is to examine the advertising effectiveness between mobile competitive advergames and social advergames. A laboratory experiment was adopted to evaluate the advertising effectiveness of two types of mobile advergame. Under randomly assigned experimental conditions, 152 people were assigned to competitive advergames which emphasizes on the efficiency of user to complete the task, and 143 people were assigned to social advergames which emphasizes the user's task is repetitive, and even communicates with other users and collaborates to finish a goal. The results indicated that mobile competitive and social advergames exert distinct effects on advertising effectiveness. Specifically, competitive advergames enhance game attitude, whereas social advergames promote brand recall. The results also indicated that both competitive and social advergames are highly effective tools for enhancing brand attitude. The results assist in filling research gaps regarding the effect of mobile advergame type on advertising effectiveness.

Keywords: Mobile, Advergames, Advertising Effectiveness, Game Attitude, Social Advergames

1. INTRODUCTION

The rapid development of mobile technologies has led to an increase in the number of people using mobile devices for communicating and disseminating information to other people [1-3]. Mobile devices are characterized by portability, personalizability, wireless connectivity, and location- and context-awareness [4,5], which overcome temporal and spatial barriers and create new forms of communication and consumer markets [6,7]. Thus, many enterprises and advertising agencies use mobile applications and advertising to disseminate information and communicate with

consumers. Marketers typically use mobile advertising to build long-term relationships between consumers and enterprises [8-12].

Advertising agencies use mobile devices to deliver timely messages regarding new products and services. Mobile advertising combines the feature of sociability, localization, and mobility to assist marketers in observing consumer behavior, and it provides a new cost-effective communication channel for delivering personalized messages to specific customer segments [9,13-17].

An increasing number of mobile advergames are being used in marketing campaigns to promote products and brands, thereby improving branding, boosting product awareness, and collecting detailed data on existing and potential customers, clients, and supporters [18-20]. Therefore, this study focuses on mobile advergames and discusses the effect of advergame type on advertising effectiveness.

"Competitive advergames" are the most frequently used type of mobile advergame [21]. People who play competitive advergames are active competitors because they must complete a given time-based task faster than competing players to receive a reward. Hence, competitive advergame players must exert a high level of cognitive effort. A previous study reported that competitive games have higher participant rates than do other types of game [21,22]; therefore, this type of advergame is more likely to elicit an emotional response. Moreover, positive attitudes toward a game can be converted into attitudes toward a product or brand [21].

In addition to traditional competitive games, playing games on mobile devices has become a type of social activity; accordingly, "social advergames" has emerged as a genre [23]. Social advergames allow users to interact with each other [24-26]; however, unlike competitive advergames, social advergames offer no specific goal or benefit from completing a task within a given time [27]. The primary motivation for playing social advergames is social interaction, which allows users to retain more cognitive resources for perceiving advertising-related information while playing the game [26,28,29]. Elucidating the difference between competitive and social advergames is crucial because it will allow enterprises and application developers to provide highly specific advertising content in advergames. Therefore, this study was conducted to determine whether a difference exists between the advertising effectiveness of the discussed mobile advergames genres.

A laboratory experiment was adopted to evaluate the advertising effectiveness of two types of mobile advergame. The results assist in filling

research gaps regarding the effect of mobile advergame type on advertising effectiveness. In addition, the results in this study complements previous research conducted in Wei, Yang[27] which assessed the influence of social games, and further clarified the types of mobile social advergame that promote brand attitude. This study addressed a crucial subject, as there was insufficient empirical evidence exists to substantiate theoretical models that explain the factors influencing the success of mobile advergames currently. The findings of this study provide a valuable contribution to research in this field.

2. THEORETICAL BACKGROUND

2.1 Mobile Advergames

Advergames are defined as the use of interactive gaming technologies that deliver embedded advertising messages to consumers [30-32]. Competitive advergames are designed to facilitate user participation by offering challenges and rewards [33]. When playing competitive games, such as sports and racing games, users become active competitors in that game [34]. To accomplish a given objective in time-limited, player involvement is high, and they commit a high level of cognitive resources [32,35,36]. Thus, competitive games have a higher participation rate, and they are more likely to elicit an emotional response from consumers than other types of game [21]. When a game and brand are closely aligned in advergames, users are more likely to transfer their positive attitude toward the game to their attitude toward the product or brand [21,35]. For example, Nike launched a game that incorporated running shoes and the Nike brand. The event increased consumer knowledge regarding the features and advantages of the advertised product, and it enhanced positive attitude toward the Nike brand.

Social advergames, which are a relatively new development in the gaming industry, offer a virtual space for players to control and inhabit. Users can build, grow, tend, decorate, or otherwise craft elements that constitute a personalized play experience [24,26]. Social advergames typically employ a simple design that allows users to socialize, send and receive gifts, visit virtual places, challenge and compete with friends, and communicate with other users; moreover, these features require only limited playing time to interact with each other [25,28]. The resources do not have the property of mutual exclusion in social advergames, but can be effectively used as the players share and exchange with others [37,38].

Players engage in various types of social activity or express certain behaviors depending on the genre of game they are playing, such as

spontaneity, sociability, symbolic physicality, and narrativity [24]. For example, a player in social advergames can select an avatar as a virtual representation for interacting with other players. Players can enjoy a social game even if none of their friends play it, although their progress is generally be more difficult, and the overall experience is less enjoyable [25,26,39]. Based on this discussion, we compared these two types of advergame, and examined their advertising effectiveness.

2.2 Effects of Advertising Effectiveness

The primary purpose of various advergames is to "wrap" the brand message by incorporating it into the entertaining game features, and to evoke a positive attitude toward the brand, thereby facilitating consumer intention to purchase. In this study, the effect of attitude toward the game, attitude toward the brand, brand recall, and purchase intention were applied to compare the differences between competitive and social advergames.

Attitude toward the game. A previous study indicated that attitude toward a game is crucial because it can be transferred to the brand [21,40]. Persuasion is a primary objective of advertising and it is crucial to examine if and how advergames generates positive attitudes [41]. A previous study proposed that people have a relatively more positive experience of and attitude toward a game when they expend more cognitive resources and effort [42].

Game involvement is a motivational state involving the exertion of cognitive effort while playing a game [35]. Advergames that require more cognitive effort to play, such competitive advergames, elicit positive affective responses toward both the game and brand [21]. By contrast, social advergames involve more focus on social interaction in the game. Players are more likely to focus their cognitive resources on communication content and objects, implying that the game is effectively a type of communication platform. Therefore, users who play social advergames typically exhibit low game involvement. Consequently, their positive affective response toward the game is minor. Based on this discussion, we propose the following hypothesis:

H1: Players exhibit a more favorable game attitude after playing competitive advergames than after playing social advergames.

Attitude toward the brand. Brand attitudes are evoked through both cognitive mechanisms and the direct transfer of positive affect by presenting aesthetically pleasing visual images [12,43,44]. Advergames are an evolved form of product placement wherein the game design is based on a given brand, and positive attitude toward the game can be transferred to the product or

brand [20,21]. Compared with social advergames, competitive advergames provide more product- and brand-related tasks to attract the attention of players, and they are therefore more likely to elicit an emotional response.

Previous studies have indicated that the brand's relevance to a game objective leads to increased attention and elaborate processing, thereby affecting cognitive reactions toward the brand [35,36]. Another study showed that people who play highly thematic games exhibit a strong positive relationship between attitude toward advergames and attitude toward the brand [21]. Accordingly, we asserted that competitive advergames can improve attitude toward a brand, as reflected in the following hypothesis:

H2: Players exhibit a more favorable brand attitude after playing competitive advergames than after playing social advergames.

Brand recall. The limited-capacity model of attention indicates that people have limited mental capacity for devoting effort to a task [45,46]. When game-play is the primary focus of attention, players process the presence of brands as a secondary focus (such as the case with competitive advergames), which is performed with cognitive resources that are not allocated to performing the primary task [42]. Thus, because of the high involved in competitive advergames, users focus on gameplay; consequently, no cognitive capacity is available for processing brand-related content.

By contrast, social interaction is the primary motivation for participating in social advergames; thus, they do not need to achieve a specific goal within a limited time [27,28], which leaves more attention capacity for processing brand-related content. Thus, people who play social advergames have more opportunity and cognitive capacity to elaborate cognitively on the connection between game content and brand recall. Based on this discussion, this study posits the following hypothesis:

H3: Players exhibit greater brand recall after playing social advergames than after playing competitive advergames.

Purchase intention. Purchase intention refers to the extent to which a product motivates a consumer to engage in purchasing behavior, as well as the immediacy with which the consumer intends to purchase the product [47,48]. Because social advergames do not involve time-based objectives, players of these games can retain more cognitive resources, which render them more susceptible to noticing brand-related information during gameplay. Hence, players of social advergames are concerned with entertainment characteristics, perceived enjoyment, and ease of use [38,49].

To enhance their entertainment experience, people who play social

advergames are more willing to purchase items for customizing their own characters, or for accessing certain features in game [27]. Consequently, this study asserts that social advergames are more likely to induce consumer purchase intention. Accordingly, we propose the following hypothesis:

H4: Players exhibit stronger purchase intentions after playing social advergames than after playing competitive advergames.

3. METHOD

3.1 Procedures

A laboratory experiment was conducted to test the proposed hypotheses. Upon arrival at the laboratory, participants were given an information package and mobile device. Subsequently, they were randomly assigned to one of two groups with distinct experimental conditions (i.e., competitive advergames and social advergames). The package contained information on their rights, as well as instructions on the tasks involved in the experiments.

After providing written consent, they familiarized themselves with the mobile device and read the game instructions. To maintain consistent experimental conditions, the participants were requested to read the instructions and play the game for approximately 5 min. Subsequently, they completed a questionnaire measuring their attitude toward the game and brand, as well as a series of items that served as a manipulation check. Finally, self-reported demographic information was collected, and they were thanked for their participation.

3.2 Participants

A total number of 295 volunteers were recruited to participate in the game (151 men, 144 women). All participants have experience on using mobile device and mobile application. The mean age of this sample is 21.38 years (SD=4.27). The average mobile advice usage experience of participants is 3.2 years (SD=1.43). The average daily usage of mobile device among the participants is 1.25hr, (SD=.87). Under randomly assigned experimental conditions, 152 people were assigned to competitive advergames which emphasizes on the efficiency of user to complete the task, and 143 people were assigned to social advergames which emphasizes the user's task is repetitive, and even communicates with other users and collaborates to finish a goal.

3.3 Manipulations

Inspired by existing mobile advergames, two versions of advergames were designed by professional game designers for this study. To eliminate bias related to actual brand images, both advergames were designed based on a fictional brand (iCoffee Café), and the advergame was designed as a marketing campaign activity for the café shop. The brand and relevant products were incorporated into the game. In addition to the attribution of the advergames, the description of the advergames was identical for both conditions. A pretest involving 30 undergraduate students confirmed the appropriate selection of the stimuli. Figure 1 presents the simulated login page used in the experiment, which is similar to typical mobile advergames.

Figure 1. The simulated login page in the experiment

During the game, participants had to search in various locations for and collect specific items by using the phone's camera lens (Figure 2).

Figure 2. The simulated operating page and dashboard in the experiment

Competitive advergames. Competitive advergames are typically designed to offer a reward for successfully completing a time-based challenge, with a specific emphasis on the efficiency of task completion [33,35]. Therefore, the tasks involved in the competitive advergames in this study required users to collect specific items within a limited time. Accordingly, we provided the following instructions for participants:

iCoffee Is Looking for Beans!

For a limited time, a limited-edition luxury gift is waiting for you!

To celebrate the opening of a new flagship store, iCoffee has launched a regional virtual activity for collecting coffee beans. Use your mobile to download the "iCoffee Is Looking for Beans" app, and activate the automatically locate function to see nearby coffee beans on the map. When a coffee bean is nearby, you can see it through your AR lens. Once you wave your phone to collect the coffee beans, they are placed into your bean collection box.

You can collect different types of coffee bean from different locations; just look at the dashboard to see what types of bean you still need to collect. The first 10 people who collect all types of coffee bean and return to the flagship store will receive a limited edition deluxe gift from iCoffee! Of course, the number of each type of coffee bean is limited, so if you move too slowly, your coffee beans will be collected by other players!

Social advergames. Social advergames typically employ a simple design that emphasizes repetitive tasks. Moreover, players can communicate and collaborate with other players to complete the task [24]. The resources in game can be effectively used because players can share and exchange them [37,38]. Therefore, the objective of social advergames in this study was designed to encourage players to collect and exchange various virtual resources. Accordingly, we provided the following scenario description for participants:

iCoffee Is Looking for Beans!

Collect coffee beans and exchange them with your friends for a special deal!

To celebrate the opening of a new flagship store, iCoffee has launched a regional virtual activity for collecting coffee beans. Use your mobile to download the "iCoffee Is Looking for Beans" app, and activate the automatically locate function to see nearby coffee beans on the map. When a coffee bean is nearby, you can see it through your AR lens. Once you wave your phone to collect the coffee beans, they are placed into your bean collection box.

You can collect different types of coffee bean from different locations; just look at the dashboard to see what types of bean you still need to collect. Each type of coffee bean you collect gives you different features and benefits, including iCoffee coupons, gift vouchers, fortunes and jokes, and other entertainment information. Exchange coffee beans and share information on various offers with your friends on Facebook or Twitter to get additional special offers!

3.4 Measures

Attitude toward the game. To measure attitude toward the game, the study used a standard measure of attitude toward the advertising that previous research demonstrates is reliable and valid [50]. A four-item, 5-point semantic differential scale (not very likable/very likable, not interesting/interesting, bad/good, not appealing/appealing) was used to respond to the question, "How would you rate this mobile advergame along these scales?" An index was produced by averaging the responses to the items (Cronbach's α=.96).

Attitude toward the brand. The measure of attitude toward the brand was measured with four-item, 5-point semantic differential scale (not very likable/very likable, not interesting/interesting, bad/good, not appealing/appealing) was used to respond to the question, "How would you rate this brand along these scales?"[50-52] (Cronbach's α=.94).

Brand recall. Using open-ended question, participants were first asked to write down any brands they remembered after exposure to the game. This measure was taken from Nelson[53] and Lin, Hsu[11] that recall was a dichotomous variable equal to one if the participants listed the brand name and zero otherwise.

Purchase intention. Purchase intention was measured using four-item 5-point semantic differential scale modified from [50] and [48] (not very likely/very likely, very improbable/very probable, very impossible/very possible, very nonexistent/very existent) was used to respond to the question, "How likely do you feel it is that you would purchase the product if you were in the market for it?). Responses were averaged to produce an index (Cronbach's α=.83 in this study).

4. RESULTS

To elucidate the difference between the advertising effectiveness of mobile competitive and social advergames, this study performed an independent sample t-test. The results are shown in Table 1. First of all, the results indicated that the participants who played the competitive advergames exhibited a more favorable game attitude compared with those who played the social advergames ($M_{competitive}$=4.34, $SD_{competitive}$=.82; M_{social}=3.86, SD_{social}=.73; p<0.01); thus, H1 was supported.

H2 was formulated based on the assumption that people have more favorable brand attitudes after playing competitive advergames than after playing social advergames. However, contrary to the anticipated outcome, the brand attitude of participants who played the competitive advergames did not differ significantly from that of the participants who played the social advergames (p=.68). Although H2 was unsupported, the results indicated that the participants in both groups exhibited high brand attitudes ($M_{competitive}$=4.14, $SD_{competitive}$=.83; M_{social}=4.10, SD_{social}=.85), which explains the statistically nonsignificant difference.

H3 proposes that people have greater brand recall after playing social advergames than after playing competitive advergames. The t-test results indicated that the participants who played the social advergames retained sufficient cognitive resources regarding the game's rules and functions, which might have assisted them in recalling the brand ($M_{competitive}$=.40, $SD_{competitive}$=.49; M_{social}=.84, SD_{social}=.37; p<.01); thus, H3 was supported. Finally, the t-test results indicated that a nonsignificant difference existed between the purchase intention of the participants who played the competitive advergames and those who played the social advergames ($M_{competitive}$=3.15, $SD_{competitive}$=.63; M_{social}=3.24, SD_{social}=.70; p=.27); thus, H4 was unsupported. (see Table 1)

Table 1. The advertising effectiveness between competitive advergames and social advergames

Dependent variables	Section	*N*	*M*	*S.D.*	*t*	*p*
Game attitudes	competitive	152	4.34	.82	3.46	.01*
	social	143	3.86	.73		
Brand attitudes	competitive	152	4.14	.83	.62	.68
	social	143	4.10	.85		
Brand recall	competitive	152	0.40	.49	10.16	.01*
	social	143	0.84	.37		
Purchase intention	competitive	152	3.15	.63	.79	.27
	social	143	3.24	.70		

Note: *N*=number of participants; *M*=mean; *SD*=standard deviation; *p*=*p*-value

5. CONCLUSIONS

5.1 Discussion

This study examined the advertising effectiveness between mobile competitive advergames and social advergames. A laboratory experiment was conducted to test the proposed hypotheses. The results of this study yielded several findings, which are detailed as follows. First, competitive advergames appear to be more effective than social advergames for enhancing attitudes toward the game. A previous study [42] indicated that when game-players exhibit high involvement and cognitive resources, advergames can successfully create favorable affective responses. Therefore, after playing mobile competitive advergames, users have a more favorable attitude toward the game, and thus they have a more favorable attitude toward the advertisements.

Second, although the H2 test results were nonsignificant, playing either competitive or social advergames can enhance brand attitude. The findings of previous studies can explain this result; specifically, mobile device users actively browse and use mobile advertising applications that do not interrupt their consumer goals [10,54]. Moreover, mobile advergames are a new advertising type that is more interactive and interesting than traditional advergames. This might also explain why both groups of participants

exhibited positive brand attitudes. Consequently, mobile advergames can easily provide an emotional link between entertainment and a brand, thereby generating a favorable attitude toward the brand.

Third, the results confirmed that people have greater brand recall after playing social advergames than after playing competitive advergames. As expected, people who played the social advergames retained more cognitive resources to focus on the information in the game environment, which provided a clearly memory of the advertising and brand information.

Finally, consumer purchase intention did not differ significantly between the two groups. Although previous studies have indicated that people who play social advergames are more willing to purchase and customize their own characters in game [27,47], this might not be applicable in the context of mobile games. The results of this study indicated that the participants in both groups had weak intentions toward purchasing the products related to the game itself or real-word products relevant to the game.

5.2 Theoretical and practical implications

This study provides several contributions to the literature. First, although numerous studies have discussed the advertising effectiveness of advergames [18,19], few have examined advergames in the context of mobile devices. This study extends the concept of advergames by examining the advertising effectiveness of mobile advergames. Second, no previous study has distinguished between distinct types of advergame. This study established a clear distinction and compared the advertising effectiveness of competitive and social advergames. The results can assist in filling the research gap regarding the effects of specific features in advergames.

Third, the results of this study complemented the research conducted by Wei, Yang[27] and Wei and Lu[26], which assessed the influence of social games, and further clarified the new type of social advergames can enhance brand attitude on mobile devices. In conclusion, the results of this research indicated that mobile competitive and social advergames exert distinct effects on advertising effectiveness. Specifically, competitive advergames enhance game attitude, whereas social advergames promote brand recall. The results also indicated that both competitive and social advergames are highly effective tools for enhancing brand attitude. The results reconfirmed that mobile advergames are more effective for building customer relationships and brand awareness rather than for generating revenue. Thus, mobile advergames can provide a novel channel for reaching customers and expressing their vision of mobile lifestyle.

The practical contributions of this study are detailed as follows. First, our results clarify the influence of advergames on advertising effectiveness in the context of mobile devices. The results encouraged marketers and advertisers should consider mobile devices as a platform for branded entertainment. Second, the findings clarified the difference advertising effectiveness of mobile competitive and social advergames. Advertisers can apply the results of this research to use distinct types of advergames in specific situation. For example, competitive advergames should be developed by advertisers seeking to enhance consumer attitudes toward their game and brand, whereas social advergames are suitable for strengthening brand attitudes and recall.

Finally, advertisers must apply a balanced approach to ensure that they do not irritate customers by observing their behavior too closely, and they should educate customers about the benefits of allowing mobile advertisers to follow their usage behavior and patterns.

5.3 Limitations and directions for future studies

Although the results yielded insightful findings, several limitations warrant further discussion. First, this study was conducted in a laboratory setting that forced participants to focus on the mobile advergames. Although this design ensured incidental processing, the incentives and purposes might affect consumer willingness to play advergames, thereby affecting their attitudes toward advertisements in reality. Future studies can investigate the influence of incentives and purposes on playing mobile advergames.

Second, the factors of context and location are crucial in mobile advertising, which can affect consumer attitudes toward advertising and products [55], which were not discussed in this study. In addition, consumer privacy is pivotal for mobile advertising, because consumers remain fearful of exposing real-time location-based information. Additional research is necessary to confirm and expand the findings of this study.

Third, whether users have friends who also play the game can influence the degree to which people participate, specifically because they are reassured by companionship in an unfamiliar setting. Providing a friends list can allow players to quickly determine their friends' progress in a game. Additional studies should examine the factors that may influence on mobile advertising fully. Fourth, although this research distinguished between two types of advergame, the features and functions were not examined in detail. Therefore, to clarify the relationship between competitive and social advergames and their functionality, future researchers can improve the understanding and effectiveness of the interaction features in competitive

advergames, as well as that of comparative features in social advergames.

Finally, interacting with mobile device interfaces is more time-consuming and requires more effort and concentration because of space limitations and constrained user interfaces. Hence, message content must be relevant to engage in meaningful interactions with consumers. Therefore, future studies should further distinguish the influence of advertising content on mobile advergames.

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