

A Study on an Effective Process Strategy Model of Interactive Advertising in Smart Media

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Abstract

One of the typical characteristics of smart media is that it is interactive, which shows a different form and property from the existing mass media, and also changes the way users use it. This change requires a different system from the existing method in the advertising process strategic model for effective interactive advertising in smart media. We attempted to derive an effective smart media interactive advertising process strategic model by understanding the interactive advertising process in smart media that is expected to continue to grow as the main market of the advertising market and identifying the constituent factors. To this end, We analyzed the preliminary research results of interactive advertising and organized expert panels for the Delphi method and reflected their opinions and evaluations. The components and factors of interactive advertising were found and the effective interactive advertising process strategy model in smart media was derived from this study.

Keywords: *Interactive advertising, Advertising process, Strategy model, Smart media*

I. Introduction

Media, advertising media, is changing rapidly. The media environment has changed into that of smart media with a completely different characteristic from traditional mass media. As media changes, audiences are also creating new media values. One of the typical characteristics of smart media is that it is interactive, which shows a different form and property from the existing mass media, and also changes the way users use it. This change requires a different system from the existing method in the advertising process strategy model. Especially in the field of advertising, the necessity and demand for the advertising strategy model to comprehensively improve the effectiveness of smart media advertising is increasing. This would be achieved by understanding the system of the advertising effect process for interactive advertising in smart media, which is growing as a new form of advertising media. At the academic level, it is necessary to study the interactive advertising process of smart media to organize, systemize, and propose an effective smart media interactive advertising process strategy model.

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2. Study Background

2.1 Current Situation of Smart Media Advertising

With the development of digital technology, media convergence has accelerated and the spread of high-speed wired and wireless Internet has led to the increase of various smart media advertising platforms that can interact with audiences. Smart media advertising based on digital convergence and IP technology continues to grow, incorporating new technologies emerging from smart TV broadcast ads, smart mobile ads, smart Internet ads, and social media ads. [1]

The global TV advertising market (including smart broadcast advertising) was projected to grow at an average annual rate of 6.1% for five years from 2015 to 2020, with a negative growth of -0.8% in the newspaper market and -2.2% in the magazine market over the same period. It is estimated to record. The Internet advertising market, including smart mobile, is expected to grow by 18.9%. Also, social media advertising is expected to become a larger market than print advertising from 2020. [2] What is noteworthy here is that traditional media advertising continues to decline, and the market for smart media advertising continues to expand, including online advertising, smart mobile, smart TV, and social media such as YouTube and Facebook . [3]

Audiences of Smart Media may use smart TV, smartphones, and various smart media-connected devices to interact with the advertising, determine whether to watch them, request additional information such as brochures or catalogs, or participate in promotional activities such as receiving samples or discount coupons. Users can also buy goods directly. Therefore, smart media advertising continues to grow as advertising for all media that can realize two characteristics of interactivity and personal customization through smart media such as smart TV, Over The Top(OTT), Internet, smart mobile, and social media.

Accordingly, it is time to devise a plan for the smart media interactive advertising process strategic model. Moreover, it is necessary to formulate how to respond to the model to effectively plan and produce interactive advertising in smart media.

2.2 Concept of Interactive Advertising

According to Strain, interactivity in a multimedia context allows the user to actively select and determine what, when, and how content is delivered to the user. Different levels of interaction exist according to technical sophistication. [4]

Traditional media, which remained passive media, is transforming into smart media that implements more active and interactive services by adopting digital technology and convergence with communication, computers, and the Internet. As such, smart media that realizes two-way interactivity by giving users coordination and control have become the center of media.

From the above, it can be seen that the possibility of the user's "coordination and control" of information or certain elements in the physical world is a core concept of interactivity. This notion of coordination and control also appears in defining interactivity in advertising. That is, interaction is fundamentally in the coordination and control of information, while in traditional advertising, consumers are exposed to product information passively and unilaterally. Interactive advertising has the property to select the product information. That is, interactive advertising is not passive exposure like traditional advertising, but a form in which a consumer can actively control and coordinate whether or not the advertising information is searched for . [5]

3. Contemplation of Related Theories

3.1 Audience Theory

Smart media advertising is operated on a smart media platform that applies both digital convergence and IP technology and continuously develops new technology. For this reason, the factors affecting the acceptance of new technology by the audience are important.

Davis' Technology Acceptance Model (TAM) is a major theory for the acceptance of new technologies. According to Davis, the user's intention to use the new technology determines its actual use, and the user's intention to use the new technology is influenced by the user's attitude toward its use. The user's attitude regarding the use of new technologies is directly influenced by two key variables: perceived usefulness and perceived ease of use. Perceived ease of use is the degree to which an individual perceives that no effort is required to use a particular new technology. Perceived usefulness is the degree to which performance will be enhanced by the use of a particular new technology. It is defined to the extent that the individual believes the performance will be enhanced. [6] This innovative TAM has proved to be widely applicable in the broadcasting and telecommunications sector.

In particular, this model is also adopted and empirically verified for the acceptance of interactive advertising of digital TV and smartphone with innovative technologies as smart media . [7]

On the other hand, Kurtz and Clow said that the attitudes of audiences are affected by the following types of factors: internal, external, situational, and corporate. Internal factors suggested personal needs, the level of involvement, and past experiences. Three external factors influence audiences' expectations about their services: competitive alternatives, social situations, and the impact of word of mouth. Situational factors affecting the attitudes of the audiences are also suggested, such as the consumer's mood, weather, and time constraints. The corporate factors include advertising, price, distribution, service staff, tangible clues, and corporate image . [8]

Wang also found that the perception of individual consumer relevance of advertising messages affects consumer commitment and attitude towards advertising, and it is necessary to increase the contextual relevance of advertising messages to consumers. [9]

3.2 Theory of Involvement and Elaboration Likelihood Model

First introduced into the field of marketing by Krugman, involvement was initially incorporated in the study of the role of involvement in the process of communication in social psychology. Krugman studied the concept of involvement as a cognitive process. He said that the effect of media differs by the level of audience involvement. [10]

In terms of influencing factors that influence involvement, Young-Kyun Choi said that involvement is divided into two categories. The first is intrinsic involvement that is influenced by personal preference or inclination without continuous change for a certain object. The second is situational involvement which changes depending on the situation. [11]

Petty & Cacioppo's Elaboration Likelihood Model(ELM) suggests two paths, the central path and the peripheral path, as media information processing paths. The choice of these two paths depends on the level of consumer involvement, which explains the involvement as an Elaboration Likelihood. Elaboration Likelihood refers to the possibility of the recipient to think about the issue for the purpose of evaluating the true value of the message claim, which depends on the motivational variables and competent variables. Motivation variable

refers to the importance of the product being advertised to the consumer, that is, personal relevance, and competency variable refers to the consumer's level of prior knowledge or comprehension of the advertising product. [12]

Chang Hoan Cho, on the other hand, applied the role of involvement as an incentive factor in the process of advertising information to Internet advertising. Moreover, Cho related the existing Elaboration Likelihood theory with interactive. He argues that people in high-involvement contexts are more likely to interact with Internet advertising to obtain more information than those in low involvement situations. He proposes a new information processing model called Modified Elaboration Likelihood Model, which includes spontaneous exposure and interactivity that transforms the existing ELM. Cho also insisted that involvement acts as a leading variable to affecting the effects of advertising and the interaction with advertising contents. [13]

3.3 Advertising Effects

A representative model of the advertising effects process is Lavidge and Steiner's (1961) Hierarchy of Effect Model. According to this model, the effect of advertising on consumer purchases is a three-step process. The first step is the cognitive process (recognition-> knowledge) to think based on information and facts provided by the ad. The second stage is an emotional process (favor-> preference) in which attitudes and feelings are changed through advertising, and the third stage is a behavioral process (confirmation-> purchase) that motivates the purchase by advertising stimuli or direct desires. [14] The hierarchical model of advertising effect essentially describes the advertising effect process. That is, consumer attitude toward the brand is formed through exposure to the advertising and this attitude influences the buying behavior . [15]

Smart media interactive advertising effects can also be classified into three categories: cognition, attitude, and behavior. The cognitive effects of smart media ads are ad impression rate, ad visit, advertising awareness, and brand awareness. The attitude effects are ad favor, ad interest, brand favor, brand interest, and ad click intention rate. Behavioral effects include ad clicks, word of mouth, brand word of mouth, participation in advertising promotions, search for advertising products, and purchase of advertising products.

3. Research Questions and Methods

3.1 Research Questions

As discussed in the research background, We try to explore an effective interactive advertising process strategy model in smart media, which is growing rapidly and will continue to develop in the future. We analyzed the advertising process factors verified in the preliminary interactive advertising research, extracted the process factors through expert panels' verification, and devised an effective interactive advertising process strategy model based on them. Therefore, We drawed the following research questions.

Research Question 1: What are the factors of the smart media interactive advertising process?

Research Question 2: What does the effective interactive advertising process strategy model in smart media look like?

3.2 Research Methods

We used the Delphi survey as research method, which is a qualitative research method suitable to derive an effective interactive advertising process strategy model. The Delphi survey method is also known as the Expert Consensus Act, which is an effective technique of deriving expert strategies on a topic based on the experience

and knowledge of experts in the field . [16]

1) Expert Panel Selection

Panels in Delphi techniques should seek experts with vast expertise on research topics. We selected 30 experts in the field of smart media advertising as Delphi panels. The experts comprised those from the smart media and advertising industries, advertising scholars, and advertising research institutes. The Delphi survey was conducted upon receiving approval of the expert panels. The general characteristics of the expert panels of this study are shown in Table 1.

Table 1. Composition of expert panels for this study

Classification		Panels No	Percentage(%)
Category	Ad industry	12	40.0
	Media industry	9	23.0
	Ad scholars	6	20.0
	Ad institute	5	17.0
Sum		30	100.0

2) Survey Analysis Method

We used the Delphi method through 4-step survey for this study. Open questions were provided in the first survey, which included the factors of composition for the smart media interactive advertising process that were analyzed through the preliminary research. The expert panels were allowed to freely suggest additional necessary factors in the first survey.

In the second survey, the factors for the smart media interactive advertising process were summarized by reflection of the first survey results and the results were provided. As a result of the response to the second survey analysis, the expert panels' consensus was reached that all the factors listed yielded a mean of above 4.0 for suitability and the Coefficient of Variation(CV) was below 0.5.

The third survey used the agreed process factors to develop a smart media interactive advertising process strategy model. The survey requested responses using the five-point scale to suitability for components of the model and the proposed strategic model. Additional comments were requested to develop an effective interactive advertising process strategy model.

In the third survey, expert panels agreed that the suitability evaluation for all components of the strategic process model was above 3.80 and all were evaluated with a CV below 0.5.

In the fourth survey, the expert panels' consensus was reached for the effective smart media interactive advertising process strategic model composition which reflected the additional opinions presented in the third response. The evaluation for suitability of the proposed process model yielded a mean of 4.10 and the CV was 0.23.

The CV is used to statistically evaluate the consensus of the Delphi survey. As a result of the analysis, if the CV is less than 0.5, the expert panels' consensus is highly stable. However, above 0.8 indicates that the agreement is unstable and further surveys are necessary. [16]

4. Study Results

4.1 Factors for Process Strategy Model of Interactive Advertising in Smart Media

In order to identify the factors of the smart media interactive advertising process, which is the objective of Research Question 1, the panel of advertising experts was asked to write an open response to add their opinions, along with the factors created based on the preliminary research.

The results of Question 1 are shown in Table 2. These reflect the results of the questionnaire on the five-point scale, which collected the expert panel opinions of the first survey and in the second survey asked about the suitability of the suggested factors of the smart media interactive advertisement process. Personal factors such as age 4.43(Mean), occupation 4.35, and monthly income 4.38, external factors such as smart technology change 4.35, word of mouth experience 4.20, and government policy 4.10, and corporate factors such as product price policy 4.13, product distribution policy 3.45, corporate image 4.50 were evaluated as suitable.

The technology acceptance factors were assessed to be usefulness recognition 4.15, convenience recognition 4.44, and innovation technology acceptance 4.14. The involvement factors were assessed to be intrinsic involvement 4.38 and situational involvement 4.35.

Also, the advertising message factors such as Advertising theme 4.10, Ad Story 4.60 Ad Format 4.38, and Ad Model 4.35, and Advertising types such as traditional type Ads 4.05, Contents Type Ads 4.68, Commercial in Commercial(CIC) 4.60, Commercial in Program(CIP) 4.42, Event participation type advertising 4.55, and Commerce type advertising 4.49 were considered suitable.

The advertising media factors such as Smart TV 4.71, Smart mobile 4.77, Internet media 4.70, Social media 4.76, and Advertising effects factors such as Cognitive effect 4.35, Attitude effect 4.75, Behavioral effect 4.68, were considered as suitable process factors.

As mentioned above, all of the proposed factors averaged 4.0 or more, which is suitable for the factors of the smart media interactive advertising process. There was also a consensus that the CV of the expert panels' evaluation was less than 0.50.

Table 2. Suitability of factors in the smart media interactive advertising process

	Detail factors	MEAN	SD	CV
Personal	Age	4.43	0.90	0.17
	Occupation	4.35	0.98	0.22
	Monthly Income	4.38	0.90	0.29
External	Tech change	4.35	0.95	0.18
	Word of mouth	4.20	0.92	0.26
	Government policy	4.10	0.90	0.35
Corporate	Price policy	4.13	0.85	0.38
	Distribution	3.45	1.02	0.45
	Corporate image	4.50	0.72	0.19
Tech, acceptance	Usefulness	4.45	0.86	0.18
	Convenience	4.44	0.72	0.25
	Innovation tech	4.15	0.88	0.29

Involvement	Intrinsic Situational	4.38 4.35	0.90 0.95	0.29 0.26
Ad message	Ad theme	4.10	0.98	0.23
	Ad story	4.60	0.76	0.17
	Ad format	4.38	0.59	0.29
	Ad model	4.35	0.88	0.20
Ad type	Traditional Ad	4.05	0.90	0.39
	Contents Ad	4.68	0.75	0.18
	CIC	4.60	0.76	0.17
	CIP	4.42	0.91	0.21
	Event Ad	4.55	0.65	0.18
	Commerce Ad	4.49	0.91	0.21
Ad media	Smart TV	4.71	0.67	0.14
	Smart mobile	4.77	0.58	0.10
	Internet media	4.70	0.49	0.12
	Social media	4.76	0.57	0.11
Ad effects	Cognitive	4.35	0.98	0.22
	Attitude	4.75	0.60	0.11
	Behavioral	4.68	0.62	0.18

4.2 Suitability of Effective Smart Media Interactive Advertising Process Strategy Model Composition

In order to identify the composition of the effective smart media interactive process strategy model per Research Question 2, a third survey was conducted.

The 3rd survey included a draft of the smart media interactive advertising process strategy model which used the process factors identified in Table 2. The survey requested the expert panels' responses for the suitability of the components of the model and the proposed strategy model by the five-point scale. The third survey also requested any additional comments that would help construct an effective interactive advertising process strategy model in smart media.

The 4th survey provided revised strategy model components and a revised process model which reflected the opinions collected from the 3rd survey. The survey results on the suitability of the components for the strategic model and the suitability of the strategic model are shown in Tables 3 and 4.

As a result of determining suitability for constructing the smart media interactive advertising process strategy model, the expert panel evaluated the following factors as suitable to the environmental component: personal 4.32, external 4.21, and corporate 3.80. As the mediator component, the following factors were determined suitable: technology acceptance 4.40 and involvement 4.62. This data is shown in Table 3.

As the advertising component, the advertising message factor 4.80 and advertising type factor 4.82 were found to be highly suitable. The medium component was also found to be suitable as a kind of media factor 4.68, and the advertising effect component was evaluated to be suitable as the following factors: cognitive effect 4.55, attitude effect 4.76 and behavioral effect 4.80.

Table 3. Suitability of components of smart media interactive advertising process strategic model

Component	Factors	MEAN	SD	CV
Environment	Personal	4.32	0.98	0.27
	External	4.21	0.87	0.21
	Corporate	3.80	0.96	0.26
Mediator	Tech, accept	4.40	0.90	0.20
	Involvement	4.62	0.77	0.16
Advertising	Ad message	4.80	0.40	0.18
	Ad type	4.82	0.41	0.10
Medium	Ad media	4.68	0.62	0.12
Effect	Cognitive	4.55	0.59	0.13
	Attitude	4.76	0.57	0.10
	Behavioral	4.80	0.48	0.12

In addition, the expert panel's evaluation of whether the proposed effective smart media interactive advertising process strategy model is suitable averaged 4.10.

Meanwhile, both the suitability of the strategic model components and the suitability of the strategic model had a CV of less than 0.5, suggesting consensus among the panel of experts.

Table 4. Suitability of an effective smart media interactive advertising process strategy model

Question	MEAN	SD	CV
The proposed advertising strategy model express well on effective smart media interactive advertising process	4.10	0.98	0.23

As mentioned above, the effective smart media interactive advertising process strategy model as agreed per the evaluation of expert panels is shown in Figure 1.

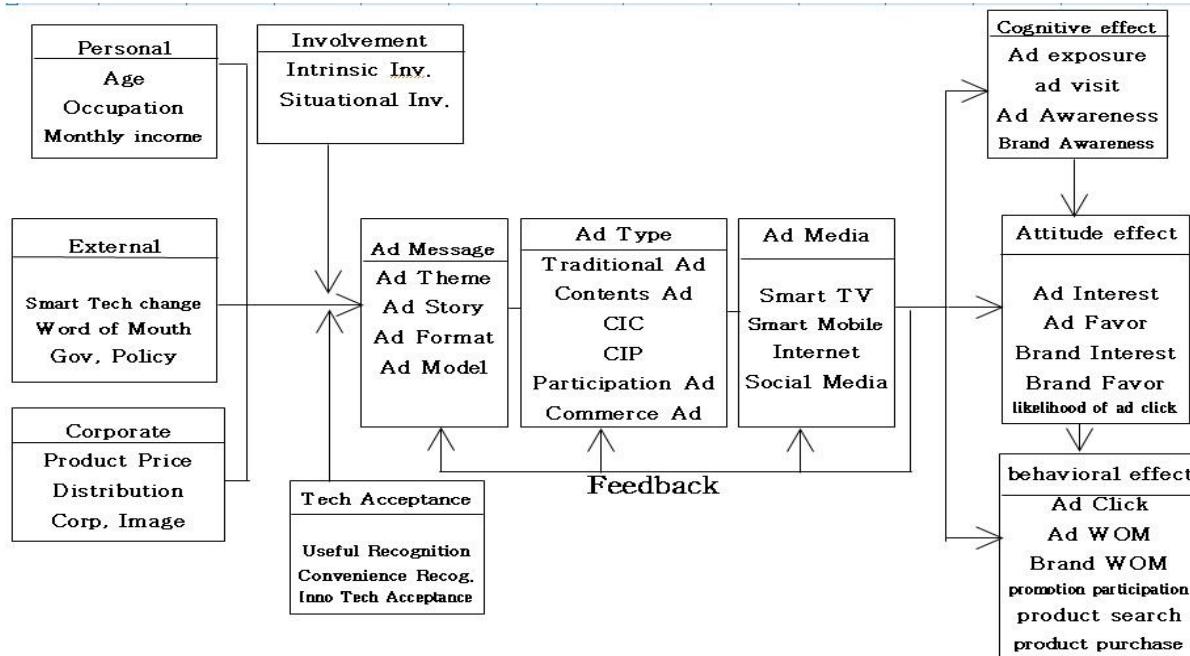
That is, in planning smart media interactive advertising with consideration to the environmental component, the following types of factors should be analyzed and reflected in advertising: personal (age, occupation, monthly income), external (smart technology change, word-of-mouth experience, government policy), and corporate (product price policy, product distribution policy, corporate image). In addition, for the mediating component, involvement (intrinsic involvement, situational involvement) and technology acceptance ability (usefulness awareness, convenience awareness, innovation technology acceptance) should also be identified and reflected in advertising. Based on this, we should create an advertising message (advertising theme, ad story, ad format, ad model) and select the ad type (traditional ad, contents ad, CIC, CIP, event participant ad,

commerce ad). Moreover, we should produce and execute advertising according to the characteristics of advertising media (smart TV, smart mobile, Internet media, social media).

The interactive advertising implemented through this process has various advertising effects such as cognitive effects (ad exposure, ad visit, advertising awareness, brand awareness), attitude effects (advertising interest, ad favor, brand interest, brand favor, likelihood of ad click) and behavioral effects (ad clicks, word of mouth, brand word of mouth, ad promotion participation, ad product search, ad product purchase). These advertising effects should be measured in real time.

Based on the measured interactive advertising effects, the supplementation of the advertising message, the advertising type, and the advertising medium should be made to improve the effects of interactive advertising. Through the smart media interactive advertising process strategy model, the overall process of enhancing the effects of interactive advertising will be integrated and managed.

**Figure 1. Effective smart media interactive advertising process strategic model
(Ahn's interactive Ad process model)**



5. Conclusion

We attempted to derive an effective smart media interactive advertising process strategy model by understanding the interactive advertising process in smart media that is expected to continue to grow as the main market of the advertising and identifying the constituent factors.

To this end, We analyzed the results of preminary research on interactive advertising and selected expert panels among smart media and interactive advertising professionals. By using the Delphi method, We reflected their opinions and evaluations, and drew a strategy model with high consensus among expert panels.

Interactive advertising in smart media can be more effective in consideration of the integrated factors than the traditional one-way advertising approach used in mass media. Therefore, through this study, We drew a smart media interactive advertising process strategy model. Specifically, this model summarized what factors

should be considered in order to enhance the effects of smart media interactive advertising and how each factor operates at a certain stage.

This study has several limitations. However, it is meaningful as a first step in constructing a process strategy model that provides an integrated view to enhance the effects of smart media interactive advertising that will continuously change and increase in the future. It is hoped that the effective smart media interactive advertising process strategy model will be further refined and verified through various discussions and follow-up studies.

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