

# A Comprehensive Mixed Media Model for Boosting Automobile Dealer Visits

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This paper validates the effectiveness of a comprehensive mixed media model for effective advertising designed to bring customers into auto dealerships by use of their AIDA (attention, interest, desire, action) model and statistical science to quantitatively assess the effectiveness of various advertising methods using television, newspapers, flyers, direct mail, public transportation, and the internet. This model is applied to a dealership representing a well-known automaker, where its effectiveness is verified.

*Keywords:* AIDA model, Comprehensive Mixed Media Model (CMMM), automobile advertising

## Introduction

For effective advertising designed to bring customers into auto dealerships, the authors use the information gathered to develop and validate the effectiveness of a “Comprehensive Mixed Media Model (CMMM)” for effective advertising methods using television, newspapers, flyers, direct mail, public transportation, and the internet.

First, multivariate statistical analysis is applied to assess the ability of each of the advertising methods to draw in customers (for example, in terms of impact, memorability, newsworthiness, and contact frequency).

Next, the information gathered during this analysis is used to identify causal links between this CMMM of consumer behavior and the effectiveness of the advertising.

Finally, a CMMM is generated to decide which forms of media should be applied at each stage of the advertising methods in order to effectively bring a higher percentage of customers into the auto dealership.

This model is applied to a dealership representing a well-known automaker, where its effectiveness is verified.

## Background

### The Advertising Industry: Current Status and Issues

Over the last 10 years, Japan has consistently spent around six trillion yen on advertising, which is considered a vital corporate expense (Dentsu, 2011). The kinds of advertising that companies use to target consumers can be divided into three major categories: (1) mass media advertising, including TV commercials

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and newspaper ads; (2) direct mail (DM) advertising; and (3) newer forms of advertising media, such as advertising on public transportation and the internet. In terms of money spent on each category, mass media advertising accounts for as much as two-thirds of company advertising budgets. It is thought that companies blindly spend massive amounts of money on mass media advertising in order to get consumers' attention—which they believe is the only function of their promotional efforts. What is needed is for companies to quantitatively grasp the amount of publicity generated by different forms of advertising media (Amasaka, 2001a).

### **Auto Advertising: Current Status and Issues**

The total advertising budget of leading Japanese corporations is a tendency to decrease in the peak in 2007. Three of the top 10 companies in terms of advertising budget were the automakers—Toyota, Honda, and Nissan. Though advertising budgets are declining overall, the auto industry accounts for a large portion of total advertising and continues to increase its spending (Nikkei Advertising Research Institute, 2011). This increase in spending presents a problem in terms of advertising strategy, since automobiles are high-priced items and consumers must be more motivated to buy them than lower-priced goods. Given this situation, the authors decided to conduct research focusing on the advertising strategies that the auto industry needs in order to maximize the effect of their promotional efforts (Amasaka, 2005, 2007, 2010).

### **Prior Research on the Effectiveness of Auto Advertising**

In order to quantitatively assess advertising effectiveness in terms of the problems outlined in the previous section, the authors looked at prior research that used the AIDA model to investigate individual forms of media over the years. Various researches were done by many researchers about consumer's response pattern. Consumers know products by the advertisement, and the various models of the process are being made from the products awareness to the purchase, and one of those is AIDA model (Shimizu, 1985; Hall, 1986; Mehta, 2000; Akiyama, 2007).

Kawamura and Siode (2001) did a study using the AIDA model to quantitatively assess the effectiveness of car commercials. Their research visualized the need for Toyota and the commercial itself to generate a positive response among viewers in order for the TV ad to be effective. However, one of the problems with the study was that while attention (A) and interest (I) on the AIDA curve were boosted through positive viewer response, the ultimate goal of the advertising in terms of consumer purchase behavior (the action (A), or getting customers to visit dealers) was not effectively reached. Careful examination of previous research such as this revealed that each form of media has unique characteristics.

In recent years, Amasaka (2001, 2009) reported an effect in combination with each effect such as the flyer contributing to improvement of customer visit rate of the auto sales that AIDA theory applied. However, as far as we know, the study of effect of the mixed media which integrated the effective ad such as the direct mail, internet advertising, and train car advertisements which are indispensable for auto sales were not conducted.

As a result, the authors concluded that it should be possible to achieve the ultimate goal of advertising (consumer action in terms of vehicle purchase behavior) and increase dealer visits by combining the unique features of each form of advertising to raise the level of the AIDA curve as a whole. The CMMM for effective advertising was thus developed, a model that combines five forms of advertising (TV commercials, newspaper ads, direct mail, internet advertising, and advertising on public transportation) in order to achieve the goals of this research. The aim of the model is to achieve the ultimate goal of vehicle advertising in terms of consumer

purchase behavior: getting people to visit auto dealers.

## **The Comprehensive Mixed Media Model for Boosting Dealer Visits**

### **Visualizing Causal Relationships in Consumer Purchase Behavior**

In the previous section, getting more customers to visit dealers was established as the goal of vehicle advertising and the final stage in terms of consumer purchase behavior. To achieve this goal (the aim of this research), the authors took an approach using the AIDA model. The AIDA model is used as part of the vehicle consumer purchase behavior model in order to bring more customers into the dealers. First, potential buyers must be made aware of the vehicle through the media, and then their interests must be sparked so that they become motivated to visit the dealer. The Comprehensive Mixed Media Model was developed in order to boost this attention to the vehicle, interest in the vehicle, and desire to visit the dealer. In order to achieve the purpose of this research, a field survey on vehicle advertising was conducted to identify the core elements of each media type and to visualize the relationship between those elements and the media as well as the causal relationships among each media type and vehicle awareness, vehicle interest, and desire to visit dealers.

### **Field Survey**

A survey was conducted in order to better understand the causal relationships among different types of media, media elements, and consumer purchase behavior. The advertising and marketing division at X motor company, Japanese Toyota Y dealers, and the Z market survey company helped to conduct an in-person survey on advertising and marketing by visiting male and female licensed drivers age 18 and older living in Tokyo, Fukuoka, and Sapporo. The number of valid response was 318 people (men: 197, women: 121, the balance of the age was approximately uniform). The investigation period was for five months until release of Japanese Toyota Q car. The authors grasp those media mix effects by media effect using purchasing action model (AIDA), TV (the beginning of June, 2005), newspaper ad (the middle of June), Internet ad (the beginning of July), transit ad (the beginning of September) before new car sale and flyer (September), DM (the beginning of September) which Japanese Toyota Y dealer performs. Participants were shown the Japanese Toyota Q car TV commercials and newspaper ads and then asked questions inquiring about their purchase behavior and about the media and media elements. The collected data was analyzed and the causal relationships between media, media elements, and consumer purchase behavior were outlined. The questionnaire item which I used is in Table 1. The questionnaire is selective, and opinion description method (Questionnaire item ① was yes-no data and the authors converted the five-point scale into binary data about items ③ and ④). Table 2 is the rate of responding at each AIDA stage obtained from the questionnaire.

Table 1

#### *The Questionnaire Item Used by This Research*

①	Whether to know about Japanese Toyota Q car?
②	What media did you see?
③	Did you have interest in this vehicle?
④	Did you have desire to visit the dealer, or did you actually visit dealers?
⑤	What kind of influence does each media have at the attention, interest, and the desire stage?
⑥	What kind of impression did you have about the advertisement?
⑦	In the element of the advertisement, as for thinking with the importance?

Table 2

*The Rate of Responding at Each AIDA Stage*

	Ratio	The number of people
Total of samples	100.0%	318
Attention	34.6%	110
Interest	18.5%	59
Desire	9.6%	31
Action	1.1%	4

### Causal Relationships Between Media and Media Elements (Analysis Step 1)

In this step, elements in each form of media were identified using a cluster analysis and quantification theory type III. In order to identify the elements, authors conducted an analysis using questionnaire item ⑥ in Table 1. At questionnaire item ⑥, authors had to make multiple selections in the ad info (images, music, fuel efficiency, cost, etc.) to object persons. And, these data converted into binary data were divided into four groups based on a cluster analysis using the Euclidean distance (see Figure 1) and quantification theory type III. The first group A concerned media “impression” and included things like images and music. The other three groups (B, C, and D) concerned fuel efficiency, price, and other vehicle information, so they were combined into a single group called media “informativeness.” It was thus learned that consumers look at two things when they see advertisements: the impression they make and how informative they are. These two categories were used as tentative media elements. Then, in a meeting with a leader in the X corporate advertising and marketing division, the vaguely defined “impression” element was split into “impact”, “newsworthiness”, and “memorability”, and a fifth element, “contact frequency”, was introduced to reflect another important aspect of media advertising as defined in prior research. The authors thus reached a total of five elements common to all forms of media advertising.

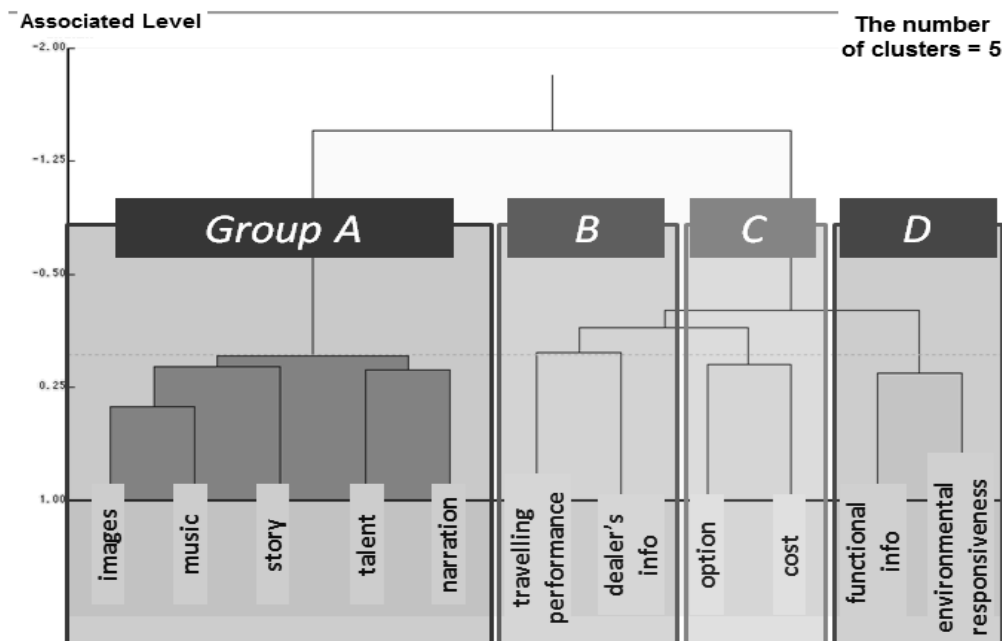


Figure 1. Grouping by cluster analysis using the Euclidean distance.

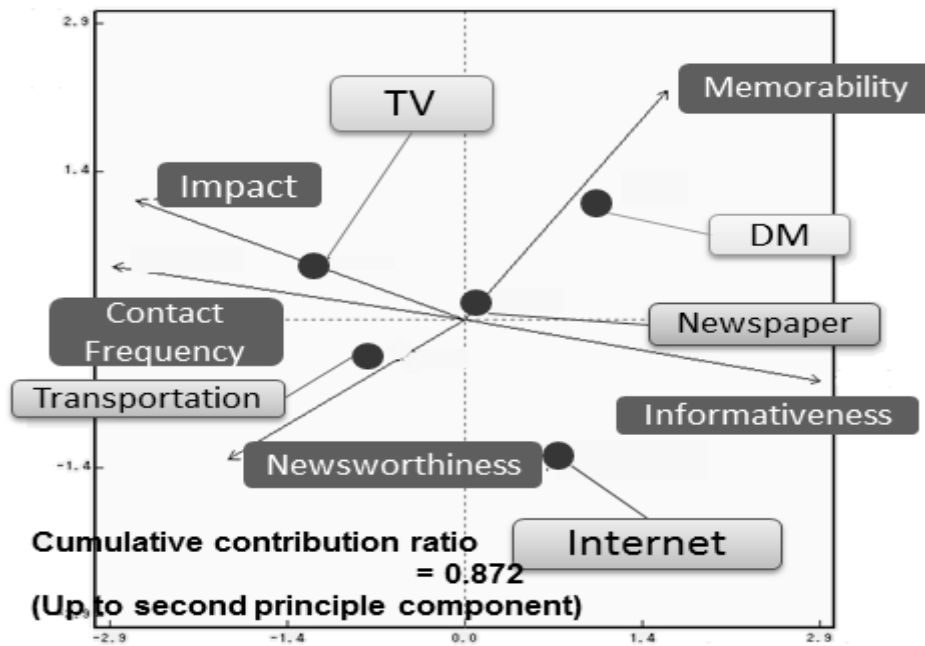


Figure 2. A scatter diagram with the principle component scores.

Next, the five elements were used to design a survey asking participants to evaluate their impressions after seeing Japanese Toyota Q car ads in each media type using a five-point scale. Average values were calculated, and the data were subjected to a principle component analysis in order to clarify the relationships between the media elements and each media type. Figure 2 shows a scatter diagram with the principle component scores.

#### Causal Relationships Between Consumer Purchase Behavior and Media Elements (Analysis Step 2)

Next, the causal relationship between the media elements identified in the previous section (impact, newsworthiness, memorability, informativeness, and contact frequency) and aspects of consumer purchase behavior (vehicle awareness, vehicle interest, and desire to visit dealers) were clarified using a discriminant analysis. Objective variables with consumers purchasing behavior were set the data which converted questionnaire items ①, ③, and ④ in Table 1 into binary data, and using the questionnaire data which evaluated five-point scale of impressions for each media which used an explanatory variable.

Table 3 shows the discriminant coefficient based on the analysis results. Consumer purchase behavior and the relations of the media elements are shown as a weight the discriminant coefficient. In terms of consumer purchase behavior, the analysis revealed an impact in terms of the following variables: (1) impact and contact frequency in the vehicle awareness stage; (2) contact frequency and newsworthiness in the interest stage; and (3) informativeness and memorability in the desire to visit dealers stage.

Table 3

#### Discriminant Coefficient Using Mahalanobis' Distance

	Impact	Contact Frequency	Newsworthiness	Informativeness	Memorability
Attention	0.856	0.675	0.179	0.014	-1.174
Interest	0.068	0.827	0.847	-0.634	0.423
Desire	-1.293	-2.329	-1.680	1.055	0.900

### Effectiveness of Combined Media on Consumer Purchase Behavior (Analysis Step 3)

Next, a Categorical Automatic Interaction Detector (CAID) analysis (Murayama et al., 1982; Amasaka, et al., 1998; Amasaka, 1999) of the survey items was conducted in order to determine the specific mixed media ratios for each form of media during the different stages of the AIDA model as applied to vehicle purchase behavior, namely, vehicle awareness, vehicle interest, and desire to visit dealers. In questionnaire item ⑤, the authors had to make multiple selections whether you had a psychological effect on each media for each stage, Figure 3 is an example of CAID analysis in the interest stage.

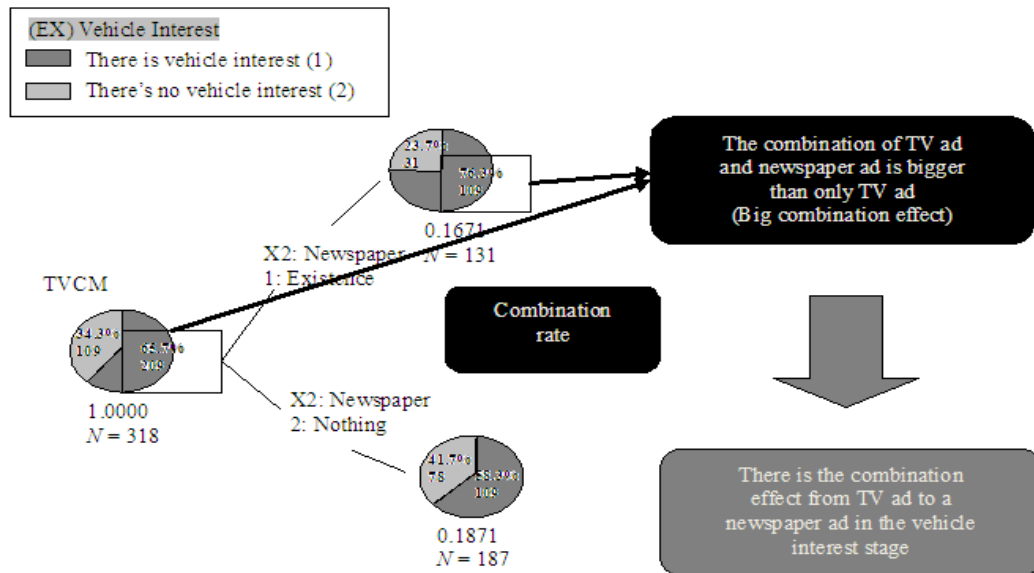


Figure 3. CAID analysis, multiple cross-section analysis.

Table 4 shows the combination rate of each media at the attention stage on consumer purchase behavior. authors defined combination rate as the frequency of the person whom the authors chose in both becoming the standard media and other media. And, the vertical column of the table was made the standard media of the combination rate. Similarly, the combination rate of each media in the interest stage and the desire stage was conducted too.

The results of the analysis indicated that during the vehicle awareness (attention) stage, consumers who became aware of the vehicle through TV commercials, newspaper ads, and ads on public transportation demonstrated a relatively high combination rate with other forms of media, while those that became aware of the vehicle through internet advertising and direct mail demonstrated a relatively low combination rate with commercials and newspaper ads. In the interest stage as well, consumers who became interested in the product as a result of TV commercials, newspaper ads, and ads in public transportation showed a high combination rate, while consumers who responded with interest to internet and direct mail advertising demonstrated a low combination rate. Finally, the desire stage showed different results than the awareness and interest stages in that only customers motivated to visit dealers through internet advertisements showed a relatively low combination rate, a relatively high proportion of consumers motivated through direct mail accessed internet advertising.

Table 4

*The Combination Rate (%) in the Attention Stage*

Attention Stage	TVCM	Newspaper	DM	Internet	Transportation
TV Commercial	-	81.4	79.7	77.1	81.1
Newspaper	58.2	-	74.6	72.3	67.1
DM	27.1	36.8	-	41.6	30.4
Internet	19.9	27.0	57.6	-	44.6
Transportation	79.5	61.0	76.3	51.1	-

Note. “-” means it does not correspond.

**Proposing a Mixed Media Model**

Using the analysis results obtained in the previous section, the authors created and proposed a mixed media model to achieve their aim of bringing more customers into auto dealers. The model can be seen in Figure 4. The arrows pointing from media elements to consumer purchase behavior indicates the strength of the impact.

Viewing the Figure 4 from bottom to top, the model explains that: (1) for every stage of the consumer purchase behavior model; (2) a particular form of media is necessary; and (3) each media element raises the level of the advertising curve. The creation of this model informs the combination rate to be used at each stage.

TV commercials and ads in public transportation should be selected during the vehicle awareness stage because of their ability to generate impact and contact frequency; TV commercials, newspaper ads, and internet advertising should be used during the interest stage because of their contact frequency and newsworthiness; and direct mail and internet advertising should be used during the desire stage because of their memorability and informativeness. This is the mixed media model.

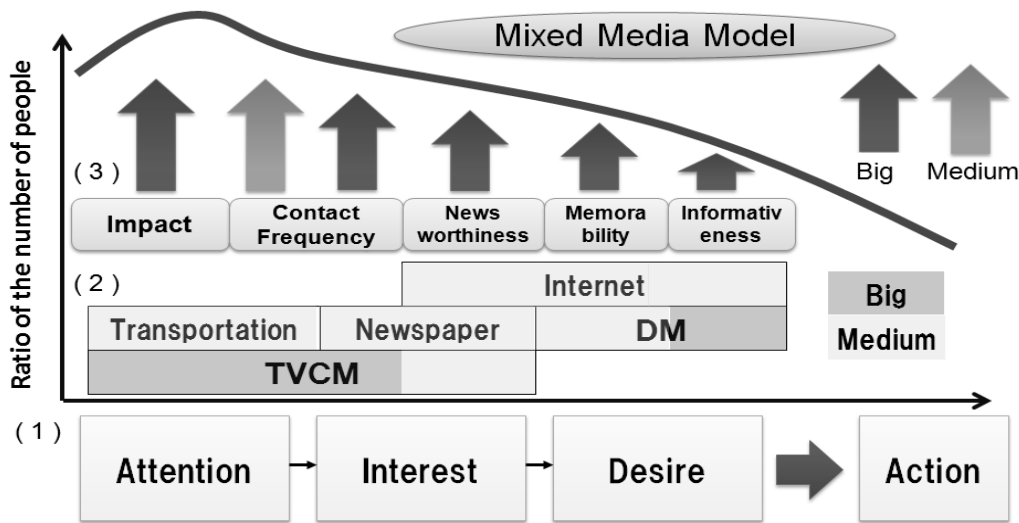


Figure 4. Comprehensive mixed media model (CMMM).

**Verification**

The mixed media model was subjected to a CAID analysis to verify whether it would actually help to raise the level of the AIDA curve during each stage of consumer purchase behavior (vehicle awareness, vehicle interest, and desire to visit dealers). A follow-up survey was then conducted to verify whether the research

achieved its aim of bringing more customers into the dealers by means of raising the curve. Figure 5 shows the verification results: use of the Comprehensive Mixed Media Model created by the authors resulted in raising the AIDA curve in terms of attention, interest, desire, and action (actual dealer visits).

At first, the authors set criterion variables as binary data (yes-no) of attention, interest, desire in each stage using questionnaire data ①, ③, and ④ and explanatory variables as media elements (five-point scale converted into yes-no data), these data were subjected to CAID analysis in order to find the number of people of a group affected by the elements. As a result, use of the Comprehensive Mixed Media Model created by the authors resulted in raising the AIDA curve in terms of attention, interest, desire. And the result of follow-up survey, two out of 17 people (11.8%) became actual dealer visits.

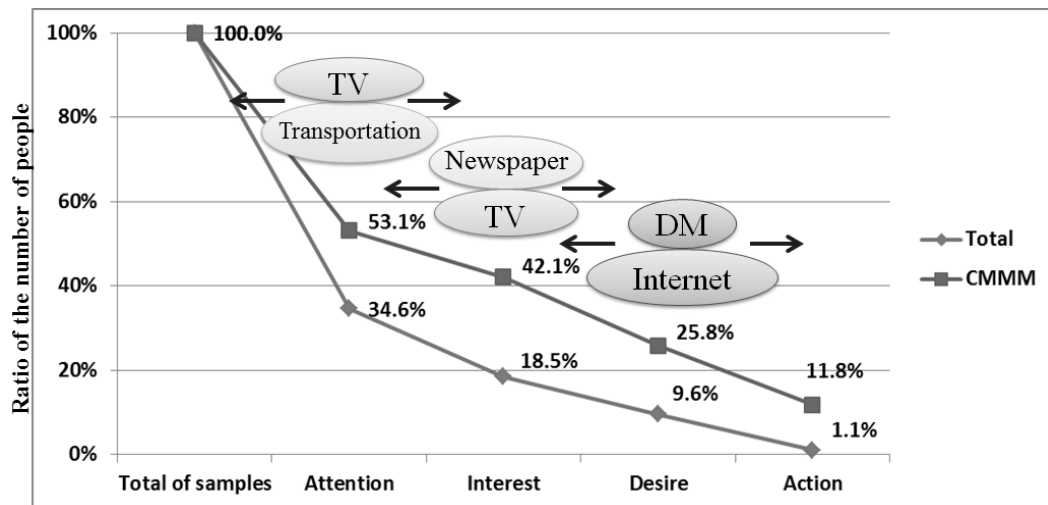


Figure 5. Verification results.

## Conclusions

The aim of this research was to bring more customers into auto dealers. In order to achieve this, the Comprehensive Mixed Media Model was developed as a way to raise the level of the AIDA curve at all stages according to the consumer purchase behavior model: vehicle awareness, vehicle interest, and desire to visit dealers. The effectiveness of the model in raising the level of the AIDA curve at all stages according to the consumer purchase model was verified, and an increased number of dealer visits was confirmed. The model was proposed to the general manager of an automaker's marketing division and received favorably.

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