A Study On Effectiveness Of Movie Trailers Boosting Customers' Appreciation Desire: A Customer Science Approach Using Statistics And GSR

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ABSTRACT

In this study, the authors research "Effectiveness of Movie Trailers Boosting Customers' Appreciation Desire" using statistical science and GSR (Galvanic Skin Response) data. As a result of this study, the authors suggest two models of movie trailers boosting customers' appreciation desire to make a new movie trailer.

Keywords: Movie Trailer Production Approach Model; Statistics; GSR

INTRODUCTION

Over the last several years, the authors have been conducting applied research on a Customer Science Approach. In this study, the authors research "Effectiveness of Movie Trailers Boosting Customers' Appreciation Desire" using statistical science and GSR (Galvanic Skin Response) data. First, shared factors that form the backdrop for the structural elements of movie trailers are identified (picture, story, function, etc.) and a numerical model is used to assess their relative impact.

Next, GSR experiments are used as a new way to visualize viewers' emotional responses and identify key factors that motivate them to see the advertised film. Key factors that affect viewer emotions (including changes in picture brightness, changes in the soundtrack, and sound effects) are then traced via changes in the physical chemistry of the test subjects. The authors then use the information gathered during these tests to formulate two new systematic models for creating movie trailers that will effectively motivate viewers to see the advertised film. The models are applied to the remaking of existing movie trailers and the given results were obtained.

BACKGROUND

The Present Conditions of Movie Industry

The size of the film industry in Japan has hovered around 200 billion yen for the past several years. Box office proceeds have been sluggish as the number of moviegoers remains stagnant. In terms of generational differences, the percentage of younger people (historically the biggest market for the film industry) that go to the movies has fallen significantly. This downward trend has become a major problem for the industry (Koyama, Yoshida and Amasaka, 2010).

The Importance of Movie Trailers

In terms of the factors that make younger people interested in movies, a film begins to advertise and many young people decide they want to go see it. They come in contact with advertising media for the film, including trailers, posters (Uchida, Kohara and Amasaka, 2010), websites, and flyers. Movie trailers are one form of media that has a significant impact on young people's desire to see a given film. Movie trailers are broadcast on TV, on the Internet, and in theaters, and they can present the fascination of movies through their pictures. When the authors conducted a preliminary study in theaters in order to determine the importance of movie trailers, they found that 71% of moviegoers watch trailers at the theater before seeing the feature film and that improving the quality of movie trailers can lead to an increase in theater customers (Takahashi, Hasegawa, Sugiyama and Watanabe, 2000).

The Necessity of the Movie Trailer-making Process Complete Reform

There has been some research on movie trailers (Dorr, Gegenfurther and Bath, 2010; Ma and Wang, 2011) which focused on the pictures of movie trailers. However, the amount of money that can be spent on movie advertising is currently limited, so finding ways to boost the effectiveness of each advertisement within a limited budget is a critical issue. The key to overcoming this challenge is creating movie trailers that are in line with viewer preferences. The authors have thus determined that making underlying movie trailer preferences explicit is critical; in other words, that customer science should be applied in order to reform the process of movie trailer creation.

In order to make a new process of making movie trailers that reflects customer preferences, it is essential that the current process of creating movie trailers first be understood in detail. The authors thus investigated this process and came up with the following steps. First, a film distribution company comes up with an advertising concept for the movie. Next, a movie trailer production company is asked to make a trailer. The producer in charge of the trailer then films a demo version, which is sent to the distribution company for screening. The above production steps are repeated until the distribution company gives its final approval. Finally, the sound and picture are edited and the movie trailer is complete.

In the process of creating the movie trailer, the producers must consider two things: 1) what elements to incorporate into the trailer and 2) where to incorporate them. In the past, these were subjective, implicit decisions that typically relied on producers' intuition and experience. The authors feel it is urgent that this process of movie trailer creation be shifted to an explicit one in which customer preferences are thoroughly understood. To resolve this issue, the authors applied customer science (see Appendix), using statistics to determine which elements should be incorporated into movie trailers and GSR (Bundele and Banerjee, 2009: Iwahashi and Thawonmas, 2010) to determine where they should be arranged in the trailer once they are selected. This new scientific process of movie trailer creation is presented in the next section.

PROPOSAL OF THE MOVIE TRAILER PLODUCTION APPROACH MODEL

The authors propose a model to reform the process of making a movie trailer and also to propose a conceptual and flow model for movie trailers boosting customers' appreciation desires. As stated earlier, movie trailer production is currently heavily reliant on subjective factors. This section proposes a Movie Trailer Production Approach Model (Figure 1) with four steps for creating movie trailers that make viewers more willing to see the advertised film. The purpose is to produce trailers that make more customers intrigued in the film and want to see it (Iida, Goto, Fukuchi and Amasaka, 2011).

Preliminary Survey<STEP0>

The authors researched previous studies on movies trailers. Next, they surveyed several movie trailers in a theater. Moviegoers are asked what advertising media they saw before watch the movies.

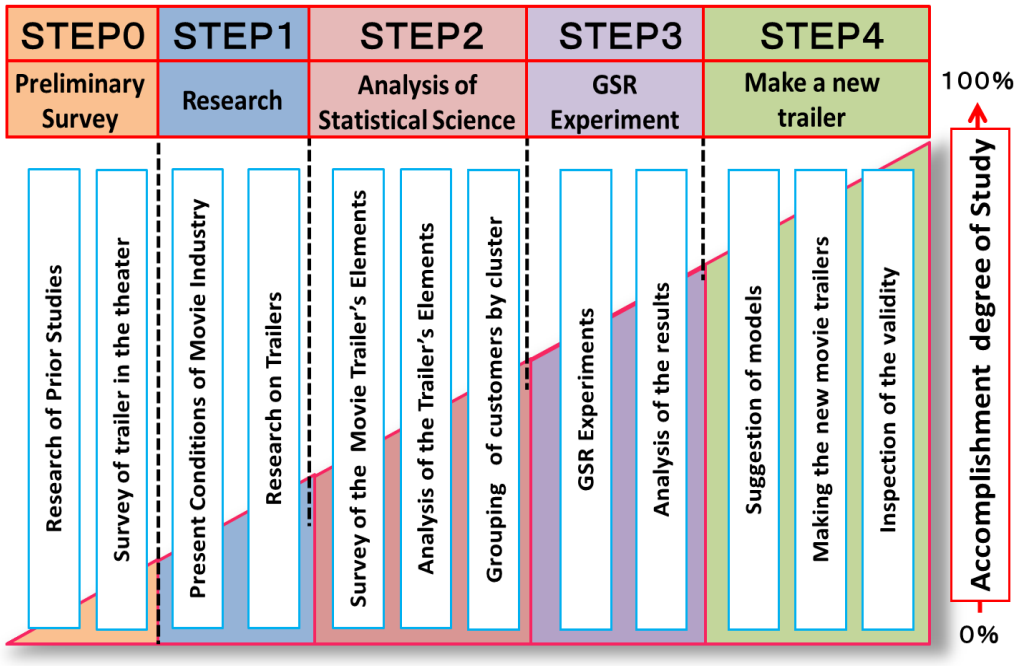

Figure 1: Movie Trailer Production Approach Model

Market Research<STEP1>

The authors researched present situations of the movie industry and investigated the film distribution company. As a result, it is shown that movie trailers play important roles in the movie industry.

Statistical Analysis<STEP2>

To clarify "MOVIE TRAILERS BOOSTING CUSTOMERS' APPRECATION DESIRE", the authors surveyed movie trailers' elements and analyzed the results using statistical techniques. The authors also sorted the customers into several groups.

GSR Experiment<STEP3>

The authors conducted experiments using GSR and analyzed the obtained data.

Making A New Movie Trailer<STEP4>

From the findings of STEP0 through STEP3, the authors proposed a Movie Trailer Production Approach Model and made a new trailer boosting customers' appreciation desire using the model. The authors then validated the effectiveness of the new trailer.

STATISTICAL ANALYSIS

Research on the Movie Trailer's Elements

From interviews to the movie trailer production company, the authors selected the 17 elements shown in Table 1 that are considered for making movie trailers.

Table 1: Elements of A Movie Trailer

1. Title	10. Box office
2. Public date	11. Film festival prize
3. Speed	12. Plainness
4. Modulation	13. Climax scene
5. Scene number	14. Outline
6. Cast introduction	15. Imagination of the feeling after the movie
7. BGM	16. Narration
8. Director name	17. Message
9. Company name	

The survey targeted 53 young people in their early 20's. The subjects were asked to evaluate the importance of 17 different movie trailer elements using a seven-point scale as well as by providing individual feedback on each. Participants were also asked about their preferred movie genres.

Analysis of Movie Trailer's Elements

The survey described above looked at the importance of 17 different movie trailer elements in terms of the appeal of the advertisement. However, the authors thought it likely that viewers were not aware of these 17 elements, but were instead conscious of several shared movie trailer factors in the background. Therefore, they conducted a factor analysis (principal factor analysis and varimax rotation) on the survey results in order to identify those shared factors. The authors extracted seven common factors: 1) Evaluation, 2) Story, 3) Picture, 4) Maker, 5) Function, 6) Narration, and 7) BGM.

A covariance structure analysis was then conducted in order to clarify the importance of each movie trailer element as well as the shared factors. A second-order factor analysis model was used to conduct a covariance structure analysis. Results of the factor analysis were incorporated into the model, which used shared trailer factors as first-order and appealing movie trailers as second-order. Figure 2 shows the result of the covariance structure analysis.

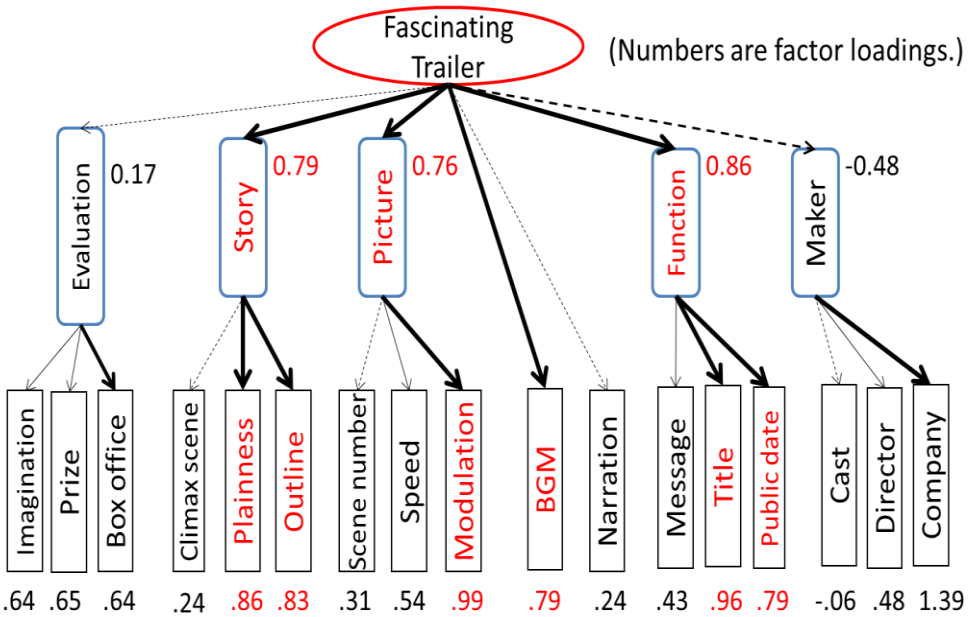

Figure 2: Result of Covariance Structure Analysis

The statistical analysis allowed the authors to express the importance of each element and shared factor in terms of movie trailer appeal as standardized coefficients. Text mining and word network diagrams were then used to analyze the free responses and determine the role of the individual elements. The analysis of movie trailer elements thus revealed shared factors in movie trailer elements through the factor analysis and pinpointed the relative importance of each element and shared factor through the analysis of covariance structure. It also clarified the specific role of each element through the word network. Table 2 shows the results of the statistical analysis.

Table 2: Elements of Movie Trailers

Factor	Factor Loading	Elements	Factor Loading	Work
Function	0.86	Title	0.96	Necessary information
		Public date	0.79	Necessary information
		Message	0.43	Appeal point
Story	0.79	Plainness	0.86	Sympathy
		Outline	0.83	Interest to continuation
		Climax	0.24	Interest to continuation
Picture	0.76	Modulation	0.99	Make Impact
		Speed	0.54	
		Scene number	0.31	Influence plainness
BGM	0.79			Influence on Picture

Classification of the Customers by Cluster Analysis

In order to calculate the number of viewers that would be interested in a given movie trailer, a cluster analysis was conducted on the results of the movie trailer element survey using the Ward method and Euclidian distance. As a result of the analysis, viewers could be separated into seven groups. The top four groups, in terms of interest, were then used as subjects for the GSR experiments in this study.

GSR (Galvanic Skin Response)

GSR is a phenomenon whereby the electrical conductance of the skin changes in response to psychological stimulation due to the production of sweat in response to certain psychological states. In this study, GSR was measured for subjects viewing movie trailers for the purpose of quantitatively identifying the kinds of scenes that were memorable for viewers as a result of excitement, tension, or other forms of psychological stimulation (Goto, 2008; Miyashita, Segawa, and Okada, 2009).

GSR Experiment

The experiment measured GSR of 13 subjects as they watched three different movie trailers. The test subjects were those who fell into the top four groups in the cluster analysis. Though all people produce sweat in response to psychological stimulation, the amount varies by individual. Valid data could not be obtained from two of the test subjects who were subsequently eliminated from the research and data on the remaining 11 subjects were analyzed. The trailers used for the experiment were determined using information collected during the element survey and the following movies were selected from the top three genres in terms of participant preference: 1) "Expendables (action)", 2) "Insitemiru (suspense)", and 3) "Eat, Pray, Love (drama)".

Average of the index numbers in GSR were calculated, along with standard deviations, in order to detect an average GSR response and the subjects were said to have experienced a psychological response when their GSR measurements exceeded a boundary value, as defined by the following formula: response boundary value = average value + 2 × standard deviation. One subject's before-and-after GSR differences, while watching the trailer for "The Expendables", are shown in Figure 3, along with the response boundary value.

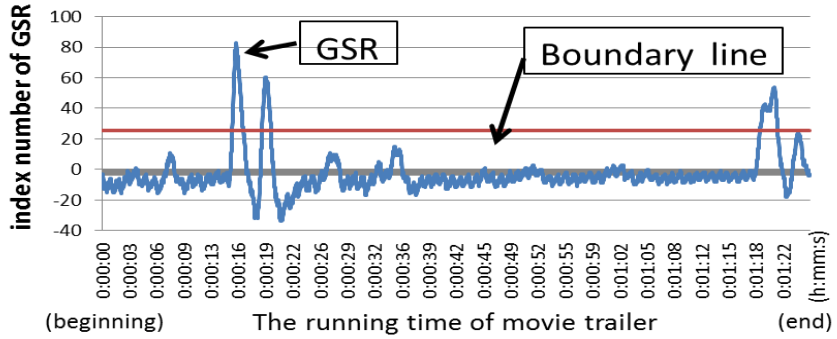

Figure 3: Result of GSR and Boundary Line

Table 3 shows the times when three or more people responded to each trailer. The data revealed that most viewers respond to the beginning and end of the running time of movie trailers. Based on this information, the authors determined the validity of a primacy effect (whereby the initiation of an event is memorable), as well as a recency effect (whereby the end of an event leaves a lasting impression), that cause the initial and final scenes of a movie trailer to have the most lasting effect on viewers.

Table3: Number of Reactors per Second

"Expendables"		"Insitemiru"		"Eat Pray Love"	
Time	**Number**	**Time**	**Number**	**Time**	**Number**
0:01	3	0:05	3	0:01	3
0:02	6	0:24	3	0:02	3
0:03	6	0:25	3	0:03	3
0:04	3	0:26	3	0:47	3
0:09	3	0:27	3	1:44	4
0:16	4	0:45	5	1:55	4
0:19	3	0:46	3	2:08	3
0:28	3	1:02	4	2:11	3
0:34	3	1:12	4		
0:40	3				
0:58	3				
1:07	3				
1:20	5				
1:21	3				

The authors thus made use of GSR data to determine at which points during a movie trailer viewers become stimulated and to characterize those moments. Then they looked at the data for the trailer for The Expendables (which generated the most response among viewers) to find out why some scenes caused a reaction and some did not. In comparing the number of people that responded with the content of the individual scenes, their analysis yielded the following results:

1. Changing the brightness of the picture can impact viewers.
2. Skillful changes in the soundtrack can impact viewers.
3. Sound effects can capture viewers' attention.
4. Long action scenes may result in viewer fatigue.

In a survey conducted at the same time as the GSR experiment, participants were asked to name the scenes in each trailer that made them want to see the advertised film. Though the scenes that reportedly boosted viewer motivation were not always those that generated a GSR response, most participants indicated that the scene with the

highest GSR response motivated them to see the movie. This and other results led the authors to conclude that experiencing a GSR response during a trailer does affect viewers' desire to see the advertised movie.

MAKING THE NEW MOVIE TRAILER BOOSTING CUSTOMERS' APPRECIATION DESIRE

Proposal of Two Models for Movie Trailers Boosting Customers' Appreciation Desire

From the analytical results of the trailer elements, the authors proposed a conceptual model for movie trailers boosting customers' appreciation desire (Figure 4).

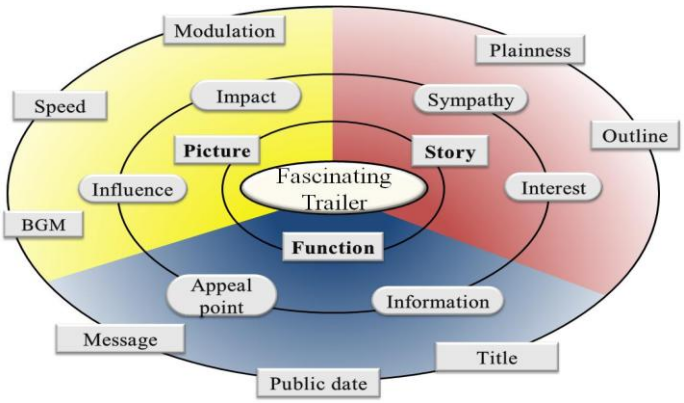

Figure 4: Conceptual Model for Movie Trailers Boosting Customer's Appreciation Desire

A covariance structure analysis allowed the authors to identify three important shared factors in appealing movie trailers - picture, content, and role. The "picture" factor consists of inflection, sense of speed, and soundtrack and serves to generate impact and excitement. The "content" factor includes ease of understanding and the ability of the trailer to draw viewers into the story based on the summary presented. Important components of the "role" factor are the title and release date display, as well as how well the trailer communicates its message in terms of information and appealing aspects of the film. From the results of GSR experiments, the authors proposed a time flow model (Figure 5) for creating movie trailers that make viewers more willing to see the advertised film, taking into consideration the GSR visualization experiment results, the primacy effect, the recency effect, and the key factors that emotionally impacted viewers.

The vertical axis shows the level of stimulation, while the horizontal axis indicates time. It is important to raise the degree to which viewers are stimulated (boost impact) with strategies like skillfully switching scenes and showing the title during the beginning and end of the trailer. Viewer stimulation should be lessened during the middle portion of the trailer when the storyline and other background elements can be presented. Using this model to produce movie trailers can result in greater viewer motivation to see the advertised film.

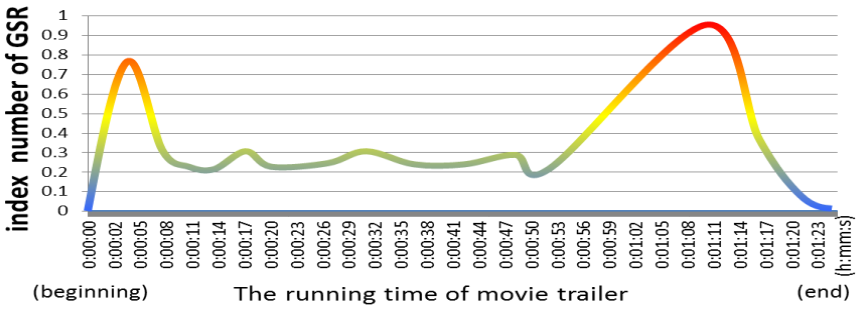

Figure 5: Flow Model for Movie Trailers Boosting Customers' Appreciation Desire

Making A New Movie Trailer and the Validity

Using the process outlined in Figures 4 and 5, new movie trailers were produced in order to more effectively boost viewer motivation. This study produced a new trailer for the movie Hot Fuzz, which was selected because the GSR experiment revealed that it was easier to generate a response with an action film and also because test subjects indicated that they were seeing it for the first time. The study used Adobe Premiere Pro to create the trailer.

In order to verify the effectiveness of the newly produced movie trailer, GSR was measured on 11 subjects during the new trailer as well as during the existing trailer. As the chronological model for effective movie trailer production indicates, the new trailer successfully concentrated viewer response during the beginning and end. In a survey asking about increased motivation, which was conducted at the same time as the GSR measurements, 9 out of 11 respondents indicated that the new trailer was more effective; thus, the authors validated the effectiveness of making customer-oriented movie trailers.

CONCLUSION

In order to innovate the process of making movie trailers, the authors proposed the Movie Trailer Production Approach Model. The authors also proposed the conceptual and flow model for movie trailers boosting customers' appreciation desire. As a result, the authors made a new trailer of the movie "Hot Fuzz" using the models and validated the proposed models.

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APPENDIX: "CUSTOMER SCIENCE PRINCIPLE"

In this new century in which the global marketing of products is the basis of management, it is necessary to manufacture products that bring increased value to customers in addition to matching the life stage and lifestyle of each customer. However, customers generally evaluate existing products as good or poor, but they do not generally have concrete images of products they will desire in the future. For new product development in the future, it is especially important to "supply desirable products before customers desire them". For that purpose, it is important to precisely understand the vague desires of customers. Proposal of Customer Science Principle (Figure 6) makes it possible to concretize customer desire (Amasaka, 2004).

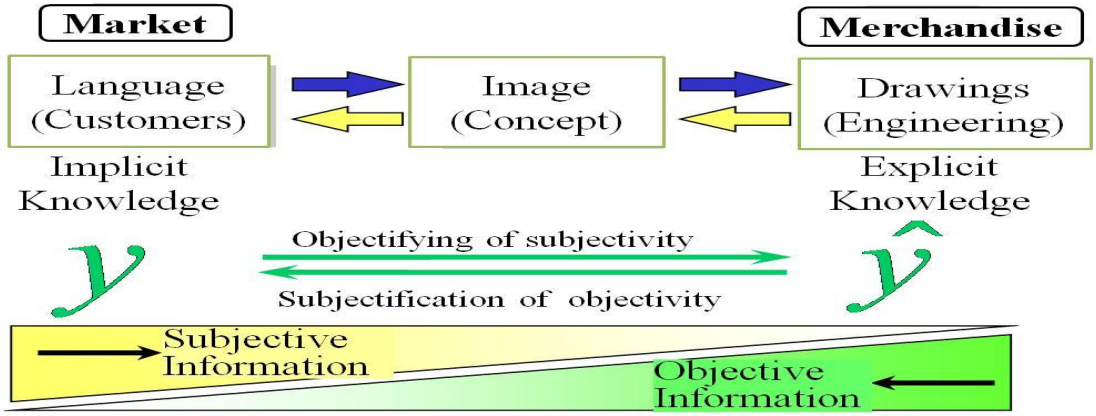

Figure 6: Schematic Drawing of Customer Science

It is intended to indicate the desirable state of new business processes for creating "wants" indispensable to the development of attractive products. As shown in the figure, the image of customer's words (implicit knowledge) is first translated into common language (lingual knowledge) and then into engineering language (design drawings as explicit knowledge) by means of appropriate correlation. In other words, objectification of subjective information is important for future product development. It is also important to transform objective into subjective information through correlation to check that engineering successfully reflects customer requirements. An approach based on customer science will make product planning and uncertain business processes more accurate, possibly increasing success rates and decreasing failure rates (Amasaka, 2005).