Brand Awareness, Ad Attitudes and Ad Features Toward Engagement on YouTube: an Empirical Study of Green Automobiles

Ayu Febriyanti Puspitasari*  Chien Wen Shenb

aManagement Department, Faculty of Economics and Business, University of Brawijaya, Indonesia;  
bDepartment of Business and Administration, National Central University, Taiwan.

Abstract
The purpose of this paper is to develop suitable measurements for brand awareness, ad attitudes, ad features, and customer engagement on YouTube, also to investigate the relationships among brand awareness, ad attitudes, ad features toward engagements on YouTube and conduct an empirical study of green automobile videos on YouTube channel. YouTube as social media video sharing platform are used as a platform to investigate customer engagements. The study utilizes statistics data from YouTube channel. There are 7 green car model of video advertisements chosen as the sample of this study. Total number of observations are 633 green car video advertisements on YouTube. Comparison of full model and reduced model also multiple linear regression are conducted to analyze the relationship among brand awareness, ad attitudes, ad features toward engagements. The result shows that brand awareness and ad attitudes play very important role to engage customer on YouTube. Hence ad features doesn’t significantly play important role to engage customer on YouTube. The result of this research also shows that green or non-green messages which delivered by each video advertisement is not influence significantly. Indicate that it is important for company to consider use YouTube as one of video sharing platform to engage their customer through online video advertisements. This research model also can be used for another social media in example facebook, twitter, etc with different measurement. This research framework also can be used to analyze the effectiveness of company’s engagement process on YouTube. Online advertisers therefore should work with companies that operate social media websites especially use YouTube to increase the persuasive effects of interactivity, make advertised products more tangible for potential consumers, identify the most important attributes, and use these attributes in advertising. There is no previous research addresses about this kind of issues. The study combine three variables brand awareness, ad attitudes, and ad features toward engagement together and focus on YouTube as video sharing platform.

Keywords
Brand Awareness, Ad Attitudes, Ad Features, Engagement, Social Media, YouTube, Automobiles

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Introduction

According to Hutter (2013), Kelly (2010), and Shojaei (2013), brand awareness is the most effective factor in customer’s engagement and customer’s purchasing decision in social media platform. Based on the previous researches by Sashi (2012), Wirtz (2013), Kim (2011), Wang (2010), Wang A (2006), and Higgin (2006), customer engagement focuses on customers and their needs in order to engage with them. Both marketing concepts and customer engagement concepts are customer-centric approaches. They give primacy to customers in order to determine the value added required to meet their needs. Engagement plays an important as a driver for messages involvement and a metric for advertising effectiveness. In order to address the issues of Ad Attitudes, the previous study from Kim-ShyanFam (2013), Sun (2010), Lee (2007), Liu (2013), Laszlo Jozsa (2010), and Anwar (2012) indicated that attitudes toward online advertising from customer’s site is the factor of purchasing decision process through online. The influence of customers’ favorable attitudes toward social media advertising can be evaluated from their ad clicking and online buying behaviors. According to Bucy (1998), websites and social media platform recognized some common features of their online ads including animation, color and graphics. The issue of an advertising request is related to the rational or emotional appeal of the ad and the percentage of customer involvement with the product. Based on the explanation above, most of the researches are conduct the similar issues. Some of them focus on social media online platform and the other one focus on offline platform. This research investigates the relationship among brand awareness, ad attitudes, ad features toward engagement in social media, but we focus on YouTube channel as video sharing platform.

YouTube is a simply free tool. It has great potential for advertisers and marketers to promote their products or services. In order to build brand awareness and advertising buzz, companies can use YouTube in a number of other ways (Debra and Brad, 2009). YouTube is an online content community which was founded in 2005. YouTube features a number of video types, such as reviews and demonstrations. It is more convenience for customer to find the information about the products. Companies can engage their customer through YouTube. It allows users to post, view, comment, shares and subscribes on and link to videos on the other site. Users can also set up personal profiles that display who they subscribe to, recent activity, friends, comments and favorite videos. In order to conduct similar issues but different channel and empirical studies, the objectives of this research is summarized as follow.

1. Develop suitable measurements for brand awareness, ad attitudes, ad features, and customer engagement on YouTube.
2. Investigate the relationships among brand awareness, ad attitudes, ad features toward engagements on YouTube.
3. Conduct an empirical study of green automobile videos on YouTube channel.

Background

Brand Awareness toward Engagement in Social Media

The interactivity in social media can greatly facilitate the process of building intimate relationship with trust and
commitment between sellers and buyer (Sashi, 2012). The process of building customer engagement can be figure out in customer engagement cycle particularly in social media. Based on The conceptual model of customer engagement in brand equity building in social media proposed by Kuvykaite (2012) brand awareness is a basic stage to build the customer engagement in social media. The process of building customer engagement constitutes a customer engagement cycle. The notion of a customer engagement cycle has been used to refer to awareness, consideration, inquiry, purchase, and retention stages, which appear to represent stages in the purchase process that customers use to decide the specific product to be purchased, with a feedback loop for future purchases, rather than customer engagement and might apply the first time new customers choose what product to buy (Sashi, 2012).

Ad Attitudes toward Engagement in Social Media

Attitudes toward online advertising are defined as the unity evaluations of perceived attributes and benefits through online advertising (Sun, 2010). Nedungadi, Mitchell and Berger (1993) found that people’s attitudes toward advertising affect their motivation for seeking out further information, and such an effect is particularly prominent in online advertising contexts. Ad attitudes can make impact to engagement process. Engagements play an important role in the effectiveness of advertising processing which corresponds to the messages effect created during the engagement process. Engagement initiated by contextual relevance, a salient cue, can cause a shift of attention to the source of the message and increase message involvement, motivation to process information. When consumers are motivated to process secondary information, secondary information becomes increasingly the focus of consumer attention. Consequently, engagement initiated by contextual relevance may also increase message believability (Wang, 2006). The messages effects are including advertising recall, message involvement, message believability, attitude toward the message (AM), and attitude toward the advertisement (Wang, 2010).

Ad Features toward Engagement in Social Media

Many researches have already tried to describe advertising feature. There are two advertising features: objective and subjective. In objective features, advertisement evaluation is based on responses from customer’s side. Subjective features advertisement evaluation is based on advertising motive. These features are classified for print, online and broadcast media advertising (Thorson, 1996). Moving from print media toward the Internet, the structural features become more complex, as Internet advertising features include broadcast and print media. In print media, subjective features have clear variables like color, size, typeface, product class and appeal in the objective structure for broadcast and print media, customers receive a direct assessment of the commercial messages. Green messages which delivered by advertisement is also a part of ad features. Green advertisement become popular in recent years. According to Iyer and Banerjee (1993), Carlson, Grove and Kangun (1993) and Banerjee, Gulas and Iyer (1995), green advertising refers to advertise a product or brand with environmental consideration from simple claims on the environmental friendliness of production processes, products, to corporate image which stressing the environmental responsibility or public
campaigns promoting environmentally responsible behavior. One of the most tangible of these criteria can be found in a study conducted by Banerjee et al. (1995). Green advertising is defined as any advert that meets one or more of the following criteria:

1. Explicitly or implicitly addresses the relationship between a product/service and the biophysical environment.
2. Promotes a green lifestyle with or without highlighting a product/service.
3. Presents a corporate image of environmental responsibility.

Green advertising focused on the effectiveness of various green appeals mostly based on the environmental benefits such as recyclable packaging, biodegradable materials or energy-conserving. Although the green advertising appeals that provide detailed, relevant, understandable, and supported information on environmental benefits is confirmed to enhance the communication effectiveness of green ads (Chan, Leung, and Wang, 2006).

**Research Framework**

The issue of an advertising request is related to the rational or emotional appeal of the ad and the percentage of customer involvement with the product. Based on previous studies above, brand awareness, ad attitudes, ad feature, and engagement are very important issues especially in social media platform. For our conceptual model, we choose three specific constructs to analyze how brand awareness, ad attitudes, and ad features in social media connect with the customer engagement. Accordingly, this research aims to evaluate the relationships among brand awareness, ad attitudes and ad features toward engagements on YouTube as shown in Figure 1.

![Figure 1. Research Framework](image.png)

**Methodology**

**Data Analysis Process**

This research develops multiple regression models to analyze the data. There are 3 independent variables and 3 dependent variables. Data analysis process is shown in Figure 2.
Variables Measurements and Hypothesis

YouTube become important social media platform for company in recent years. Company can measure their interaction with customer through YouTube feature likes comments, shares, and subscription driven. YouTube provide the statistical data about it. It means company can measure whether their video advertisement can engage their customer in YouTube social media or not. It means comments, shares, and subscribe are very important indicator for company during their engagement process in YouTube. The Measurement summary of this research is shown in Table 1.

Table 1. Variable Measurements Tables

<table>
<thead>
<tr>
<th>Brand Awareness</th>
<th>Ad Attitudes</th>
<th>Ad Features</th>
<th>Engagements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Views</td>
<td>Likes</td>
<td>Length of Video</td>
<td>Comments</td>
</tr>
<tr>
<td>Dislikes</td>
<td>Green/Non Green Mesages</td>
<td>Shares</td>
<td>Subcription Driven</td>
</tr>
</tbody>
</table>
Based on the measurement tables above, the proposed hypotheses are:

H1: Views, likes, dislikes, length of video, and green/on green messages have significant relationships to comments

H2: Views, likes, dislikes, length of video, and green/non green messages have significant relationships to shares

H3: Views, likes, dislikes, length of video, and green/non green messages have significant relationships to subscription driven

**Multiple Linear Regression Analysis**

Multiple linear regressions involve the use of two or more independent variables. Customer engagement in this research consists of three variables, which are comments, shares, subscription driven. The proposed regression model has 9 predictors variables for full model and 4 predictors variables for reduced model. They are views (X1), likes(X2), dislikes(X3), length of video(X4), characteristic of ad-green/non green (D), dummy times views (DX1), dummy times likes (DX2), dummy times dislikes (DX3), dummy times length of video (DX4). The relationships between Y and X1, X2, X3....DX4 are formulated as a linear model:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \gamma D + \gamma_1 DX_1 + \gamma_2 DX_2 + \gamma_3 DX_3 + \gamma_4 DX_4 + \epsilon \]  

(1)

We called the model above as full model (FM). We can see there are qualitative predictors and their interaction variables represent in DX1,DX2, DX3, and DX4. We also have the regression model without qualitative variable on dependent or response variable Y (comments/shares/subscription driven) and 4 predictors variables, views (X1), likes(X2), dislikes(X3), length of videos(X4). The relationship between Y and X1, X2, X3 and X4 is formulated as a linear model below:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \]  

(2)

We called the model above as Reduced model (RM). We can see there is no qualitative predictor. The differences between both models are about the qualitative predictors. Characteristics of advertisement should be green/non green. If the video advertisement is belonging to green video, the dummy variable should be equal to 1. Otherwise, if the video advertisement isn’t belonging to green video, the dummy variable should be equal to 0. Finally, there are two difference regression models based on their characteristics of video advertisement.

The different hypotheses about the regression coefficients can all be tested in the same way by a unified approach. This study needs to evaluate full model or reduced model is more suitable to explain the proposed hypothesis. Using F-test in equation 3 to compare the equation 1 and equation 2.

\[ F = \frac{SSE_R - SSE_F}{K - L} \frac{SSE_F}{(n - K - 1)} \]  

(3)

In equation3, K is the number of parameters for full models, L is the number of parameters for reduced model, and n is he number of observations. Based on Graybill (1976), Rao (1973), Searle (1971) and Sebber and Lee (2003), null hypothesis is rejected if \( F^{*} \geq F_{(K-L,n-K-1,\alpha)} \). Based on the equation (3), we decide full model or
reduced model is suitable for regression analysis.

**Result**

The investigation target of this research is green automobile video advertisements on YouTube focus on US official channel. This research chooses US as the official channel because most of green cars were launched in US first and then followed by other countries. This research start to collect the data on March 2014 and finish on April 2014. In addition, all videos advertisements from each car model have been evaluated. This research observes YouTube activities to engage their viewer through video. The criteria of green cars are decided based on “Greenest Cars Award 2013” Forbes Magazine version. Actually based on Forbes Magazine there are 16 green car models, but this research focuses on YouTube activities which provide statistic data by each video. Accordingly, there are seven green car models chosen as the investigation target. They are listed in Table 2.

<table>
<thead>
<tr>
<th>No.</th>
<th>Green Car Model</th>
<th>No.</th>
<th>Green Car Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Toyota Prius C</td>
<td>5</td>
<td>Scion-IQ</td>
</tr>
<tr>
<td>2</td>
<td>Toyota Prius</td>
<td>6</td>
<td>Nissan Leaf</td>
</tr>
<tr>
<td>3</td>
<td>Prius Plug in Hybrid</td>
<td>7</td>
<td>Tesla S Model</td>
</tr>
<tr>
<td>4</td>
<td>Smart of Two</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Forbes Magazines (2013)*

The number of observation each car model are based on activities by the variables of customer engagement ($Y_i$). This research is going to test the relationship of brand awareness, ad features, and ad attitudes to each $Y_i$ variable independently. The number of observations for each car model is shown in table 3.

<table>
<thead>
<tr>
<th>No.</th>
<th>Green Car Model</th>
<th>Comments ($Y_1$)</th>
<th>Shares ($Y_2$)</th>
<th>Subscription Driven ($Y_3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Toyota Prius C</td>
<td>29</td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Toyota Prius</td>
<td>35</td>
<td>34</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Prius Plug in Hybrid</td>
<td>24</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Smart of Two</td>
<td>20</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>Scion-IQ</td>
<td>69</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td>6</td>
<td>Nissan Leaf</td>
<td>26</td>
<td>30</td>
<td>33</td>
</tr>
<tr>
<td>7</td>
<td>Tesla S Model</td>
<td>39</td>
<td>21</td>
<td>38</td>
</tr>
</tbody>
</table>

Table 2. Investigated Green Car Models of this Study

Table 3. Number of Observations
Furthermore, table 3 explains that each green vehicle video advertisement has different patterns. These X-variables are significant if the p-value is <0.05. Furthermore, these X-variables are very significant if the p-value is <0.01. These tables explain which independent variable plays an important role to dependent variable of each green vehicle video advertisement. Actually, based on these output findings, green or non-green messages which are delivered by each video advertisement is not influence more. Because almost all these models use reduced model rather than full model. It means green or non-green messages which represent in dummy variable in full model doesn’t influence significantly.

Based on table 4 above, actually each X-variable of all green vehicle video advertisements has 7 observations (7 green vehicle video ads) and 3 Y- Engagement variables (Comments, Shares, Subscription Driven). The importance

**Table 4. Summary of Significant Result Findings**

<table>
<thead>
<tr>
<th>Green Car Model</th>
<th>Comments (Y1)</th>
<th>Shares (Y2)</th>
<th>Subscription Driven (Y3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X1</td>
<td>X2</td>
<td>X3</td>
</tr>
<tr>
<td>Toyota Prius C</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Toyota Prius</td>
<td>**</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Toyota Prius Plug-In Hybrid</td>
<td></td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Smart of Two</td>
<td>**</td>
<td>**</td>
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<td>Scion IQ</td>
<td>**</td>
<td>*</td>
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</tr>
<tr>
<td>Tesla S Model</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Nissan Leaf</td>
<td>*</td>
<td>**</td>
<td>*</td>
</tr>
</tbody>
</table>

*Significant (p<0.05) **Very Significant (p<0.01) X1: Views X2: Likes X3: Dislikes X4: Length of Video

**Table 5. Summary the Significance of X-Variables to Y-Variables of All Green Vehicle Video Advertisements**

<table>
<thead>
<tr>
<th>X-Variables</th>
<th>Comments (Y1)</th>
<th>Shares (Y2)</th>
<th>Subscription Driven (Y3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observations</td>
<td>%</td>
<td>Observations</td>
</tr>
<tr>
<td>X1: Views</td>
<td>4 car models</td>
<td>57.142</td>
<td>4 car models</td>
</tr>
<tr>
<td>X2: Likes</td>
<td>5 car models</td>
<td>71.428</td>
<td>5 car models</td>
</tr>
<tr>
<td>X3: Dislikes</td>
<td>6 car models</td>
<td>85.714</td>
<td>4 car models</td>
</tr>
<tr>
<td>X4: Length of Video</td>
<td>1 car models</td>
<td>14.285</td>
<td>3 car models</td>
</tr>
</tbody>
</table>

**Discussion and Managerial Implication**

Furthermore, table 3 explains that each green vehicle video advertisement has different patterns. These X-variables are significant if the p-value is <0.05. Furthermore, these X-variables are very significant if the p-value is <0.01. These tables explain which independent variable play important role to dependent variable of each green vehicle video advertisement. Actually, based on these output findings, green or non-green messages which are delivered by each video advertisement is not influence more. Because almost all this models use reduced model rather than full model. It means green or non-green messages which represent in dummy variable in full model doesn’t influence significantly.

Based on table 4 above, actually each X-variable of all green vehicle video advertisements has 7 observations (7 green vehicle video ads) and 3 Y- Engagement variables (Comments, Shares, Subscription Driven). The importance
of each X-variable to each Y-variable of all green vehicle video advertisements has already explained. Views influence 57.14% to comments, 42.85% to shares and 71.42% to subscription driven from all green video advertisements. Views are the measurement of brand awareness and comments, shares, and subscription driven are the measurement of engagement process as explained in chapter 3. It means brand awareness play very important role to engage customer on YouTube. Likes influence 71.42% to comments and shares, 42.85% to subscription driven from all green video advertisements. Likes is the measurement of ad attitudes and comments, shares, subscription driven are the measurement of engagement process as explained in chapter 3. It means ad attitudes play very important role to engage customer on YouTube. Dislikes influence 85.71% to comments, 57.14% to shares and 14.28% to subscription driven from all green video advertisements. Dislikes is the measurement of ad attitudes and comments, shares, subscription driven are the measurement of engagement process as explained in chapter 3. It means also ad attitudes play important role to engage customer on YouTube. Length of video influence only 14.28% to comments, 42.85% to shares and 14.285% to subscription driven from all green video advertisements. Length of video is the measurement of ad features and comments, shares, subscription driven are the measurement of engagement process as explained in chapter 3. It means ad features doesn’t significantly play important role to engage customer on YouTube.

This research focuses on YouTube as video sharing platform. There is no previous research addresses about this kind of issues. So it is important for company to consider use YouTube as one of video sharing platform to engage their customer through online video advertisements. This research model also can be used for another social media example facebook, twitter, etc with different measurement. This research framework also can be used to analyze the effectiveness of company’s engagement process on YouTube. That’s why this research conducted to fulfill such kinds of issues.

This research findings are very specific, clear and comprehensive about the regarding topic. Which variables play important role to engage customer in social media focus on YouTube as video sharing platform.

The findings of this study also provide implications for advertising. Online advertisers therefore should work with companies that operate social media websites especially use YouTube to increase the persuasive effects of interactivity, make advertised products more tangible for potential consumers, identify the most important attributes, and use these attributes in advertising.

Conclusion

The suitable measurements for brand awareness in YouTube are views, ad attitudes are likes and dislikes, ad features are length of video and green/non green messages. Green or non-green messages which delivered by each video advertisement doesn’t influence significantly.Brand awareness and ad attitudes play very important role to engage customers on YouTube. Ad features doesn’t significantly play important role to engage customer on YouTube. YouTube has become almost suitable platform for watching videos online. Interaction in online video sharing can generates a number of network graphs that can explain us not only about user preferences for
video content but also about their habits, motivations, and social interaction. There are some factors influence the engagement process in social media in example brand awareness, ad attitudes, and ad features.

This research is far from being perfect. Some limitations happened while doing this study. The availability of statistics data provided by YouTube was limited. It caused a few number of observations for some green car models. Based on findings, there are some results shown non-significant. It was interesting to investigate for future research what happened for this empirical study. The last, this study resulted that green or non-green messages delivered by each video advertisements do not play important role. It was interesting to observed for future research about this kind of situations.

Notes on Contributors

Ayu Febriyanti Puspitasari is a double degree graduate students in Master of Management (MM) University of Brawijaya and Master of Business Administration (MBA) in National Central University, Taiwan.

Chien Wen Shen is a Senior lecturer in National Central University, Taiwan.

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