

What Makes Video Ads Viral? Quantifying the Impact of Marketer-and User-generated Content

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Abstract

Past research on viral advertising focuses on the direct impact of MGC (i.e. Marketer-Generated Content) on the content viral ability. However, it is not clear how this impact of MGC takes place through the mediating effect of UGC (i.e. User-Generated Content) in this process. In this study, we examine the mechanism that makes a video ad viral by taking into account the impact of both MGC (i.e. video content) and UGC (i.e. video comments) in YouTube. AMT (Amazon Mechanical Turk) and Text-Mining Method are combined to extract the characteristics embedded in MGC and UGC.

Keywords

Marketer-Generated Content, User-Generated Content, Video Ad, Viral Ability.

Introduction

While people are watching an ever-increasing amount of online video ads, this is not the only reason companies can benefit from online video advertising. Compared to traditional advertising, a video ad is inexpensive and it can reach diverse audiences within a short period of time as video ads spread exponentially at a rapid speed (Helm 2000). By employing these viral marketing strategies¹, firms commission these video ads and post them on websites such as YouTube.com in the expectation that consumers will share video ads with others or encourage others to watch the video ads (Tucker 2014). However, many marketers are hesitant to shift advertising dollars to video ads. One of the potential reasons can be attributed to the challenge of making a successful viral marketing campaign. For instance, 2016 Super Bowl started on Feb 7 and many companies posted Super Bowl commercials on YouTube before or on that day. However, only roughly 37% Super Bowl video ads can go viral in a two week period². Why some video ads can go viral while others not? Is there a mechanism that enables a video ad to become viral among customers? Understanding these two questions carries significant importance both for academics and practitioners.

The most important body of academic work related to this topic is about the impact of marketer-generated content, social network, behavior of recipients and the marketers' seeding strategies on virality. Berger and Milkam (2012) argue that positive content is more viral than negative content and content that evokes high-arousal emotion is more viral than low-arousal emotion. Tucker (2014) suggests that a video

¹ We follow Porter and Golan (2006)'s definition about viral advertising: unpaid peer-to-peer communication of provocative content originating from an identified sponsor using the Internet to persuade or influence an audience to pass along the content to others.

² A video ad can be considered to have gone viral if it gains over 5 million views in about two weeks (Meyer 2015). We calculate the percentage of video ads which reach 5 million views in about two weeks among 59 Super Bowl 2016 commercials we collect.

ad can remain persuasiveness when it attracts views due to humorous content rather than outrageous content. Susarla et al. (2012) find that social interactions in a network are influential not only in determining which videos become successful but also on the magnitude of that impact. Ho and Dempsey (2010) examine recipients' motivations to pass along online content. Hinz et al. (2011) find that seeding to well-connected individuals is the most successful approach in viral marketing campaigns. However, there is limited systematic research on examining both the role of marketer and users in viral marketing campaigns. While recent studies have started to quantify the impact of MGC (marketer-generated content) and UGC (user-generated content) on consumers' apparel purchase (Goh et al. 2013), investigate the role of MGC and UGC in sustaining brand community growth (Ding et al. 2014), explore the dynamics of the interactions between MGC, UGC and offline sales in the U.S. automobile industry (Wang et al. 2015) and examine the emotion embedded in MGC and UGC on sharing (Li et al. 2015), the effect of MGC and UGC on a video ad's viral ability has not been extensively examined yet. In addition to the direct impact of MGC (i.e. video content) on how well customers perceive the video ads, UGC (i.e. video comments) on social media such as YouTube can also influence the viral process. MGC may influence the virality by generating UGC that can facilitate or impede the diffusion of video content among viewers. However, prior research mainly focuses on the direct impact of MGC on the virality of a video ad, but generally overlooked the indirect impact of MGC on the virality through its influence on UGC.

This paper aims to make the following contributions to the extant literature on viral marketing and social media. Firstly, our research quantifies the relative impact of content made by marketers and customers on the virality of a video ad by considering the concurrent engagement of marketers and customers on social media. Secondly, this paper is the first attempt to simultaneously measure the direct and indirect impact of MGC on the virality of a video ad by taking into account the mediation effect of UGC. Thirdly, we develop a fine-grained characterization of MGC and UGC by categorizing video ads and by text mining the actual content in user-generated comments about video ads.

Theory Background and Hypotheses Development

We synthesize several psychology theories to develop our research framework. Emotional contagion theory is used to explain the effect of MGC (i.e. video content) on virality. Cognitive appraisal theory of emotion is applied to clarify the effect of MGC on UGC (i.e. video comments). Activation theory is used to explain the effect of UGC on virality.

Effects of MGC on Virality

In the economic and marketing literature, it is common to classify advertising as informative (shifting beliefs about product existence, characteristics or price) or persuasive (shifting preference directly) (Lee et al. 2014). In this study, we refer the extant literature and also categorize the content of video ads (i.e. MGC) into two types: persuasive and informative. Persuasive content involves content that highlights the positivity of products to improve evaluations and to instill a sense of good feeling in consumers (Wu et al. 2009). Informative content involves product related information (Bickart and Schindler 2001) such as price or promotional information.

Emotional contagion is the spread of mood and emotion through populations by simple exposure (Hatfield et al. 1994). While a dyadic interaction can produce emotional contagion directly, sharing some information with others can also provoke shared emotion indirectly (Guadagno et al. 2013). Persuasive MGC such as humorous and visual appealing content which contains emotional characteristics is easier to provoke viewers' emotional connection to ads and stimulate emotional resonance among viewers, thus viewers will be more likely to share such content with others. However, informative MGC such as content that conveys price, quality, performance and offer information will trigger less emotional resonance among viewers, thus viewers will be less likely to share such content with others. Thus, we hypothesize that,

H1: Persuasive MGC will be more viral than informative MGC.

Effects of MGC on UGC

Video ads will arouse emotional responses from viewers. Viewer' emotional responses to a video ad are expressed in the user-generated comments about this video.

Cognitive appraisal theories of emotion argue that emotional reactions to an event are the results of personal interpretations of the event itself (Roseman 1984). Each distinctive emotion is provoked by a unique pattern of cognitive appraisals (Yin et al. 2014). The appraisal criteria are identified to contain three common types: certainty, pleasantness and control (Smith and Ellsworth 1985). Following Yin et al. (2014)'s example, a consumer presented with a persuasive content (e.g. humorous, outrageous or eye-tracking content) might appraise the content in terms of the unexpectedness or pleasantness (leading to high-arousal emotion such as surprise or joy) while consumers presented with informative content (e.g. price, quality, preformation or offer) might appraise the content in terms of the reduction of required effort for seeking product information (leading to low-arousal emotion such as relief). Therefore, persuasive video content may elicit more high-arousal emotion embedded in consumers' comments about a video ad while informative video content may stimulate more low-arousal emotion embedded in video comments. Thus, we hypothesize that,

H2a: Persuasive MGC will have a positive influence on the high arousal emotion embedded in UGC.

H2b: Informative MGC will have a positive influence on the low arousal emotion embedded in UGC.

Effects of UGC on Virality

The video's viral ability is not only influenced by marketer-generated content (i.e. video content), but also influenced by other factors such as word of mouth (Bardzell et al. 2008). In this paper, we would like to investigate how emotion embedded in electronic WOM (i.e. video comments) takes effect on the video's viral ability. Berger (2011) suggests that the differences in emotion arousal shape information sharing. Physiological arousal is a state of mobilization and is shown to be a driver of information sharing (Berger and Milkman 2012). High arousal or activation (e.g. happy or anger) is characterized by activity while low arousal or deactivation (e.g. sad or relief) is characterized by relaxation (Heilman 1997). Since sharing video ads requires action, it is suggested that activation should have similar effects on video sharing (Berger and Milkman 2012). When audiences observe more high-arousal emotion embedded in comments about a video, they are more likely to be activated to share this video ad. On the contrary, they are deactivated to share the video ad when presented with low-arousal emotion expressed in comments. Thus, we hypothesize that,

H3a: High arousal emotion embedded in UGC will have a positive influence on a video's viral ability.

H3b: Low arousal emotion embedded in UGC will have a negative influence on a video's viral ability.

In addition to the direct effect of MGC on the virality of a video ad, we also would like to quantify the indirect impact of MGC on the virality through its impact on emotion embedded in UGC. We expect that there is a partial mediation effect that UGC accounts for some of the relationship between MGC and the virality of a video ad. In other words, we would like to examine whether the indirect effect of MGC on viral ability through the mediator variable (i.e. UGC) is significant or not. Thus, we hypothesize that,

H4a: High-arousal UGC is a significant mediator of the effect of persuasive MGC on a video's virality.

H4b: Low-arousal UGC is a significant mediator of the effect of informative MGC on a video's virality.

Data and Methodology

Data

We use Super Bowl Commercial as our research context because it is one of the most typical viral marketing campaigns. We collected Super Bowl 2016 commercials with 59 videos covering 52 brands from YouTube API. In the meantime, we tracked the views and comments for each video on a daily basis for two weeks starting from the day the video is uploaded on YouTube by the company. We therefore constructed a balanced panel data set of 59 video ads for the first two weeks, resulting in 826 commercial-day observations. Initial variables and descriptive statistics is shown in Table 1.

Variable	N	Mean	Std. Dev.	Min	Max
Views	826	3144932	5035933	2	2.44E+07
Likes	826	4022.419	8602.334	0	54029
Comments	826	408.9419	1020.376	0	9912

Subscribers	826	83146.04	170853.4	0	847544
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Table 1 Summary Statistics

Methodology

The next step is to label and classify videos by using AMT (Amazon Mechanical Turk). The content in YouTube video ads can be categorized as persuasive, informative, or both. To measure persuasiveness of a video clip, we include humorous content (Porter and Golan 2006), visual appealing content (Tucker 2014), outrageous content (Porter and Golan 2006; Tucker 2014) and emotional content (Berger 2011; Dobele et al. 2007). Our classification of informative MGC follows the classification work of Resnik and Stern (1977), which operationalizes informative advertising based on fourteen evaluative criteria. We choose four related criteria based on our research framework: price, quality, performance and special offer. Informative MGC is considered to present price information, quality information, performance information and special offer information of a product or service. We will then design a survey in which AMT workers are asked to first watch the video ad and then answer a series of binary yes/no questions (1/0) concerning a fine-grained characterization of the video categorization.

Regarding classifying emotion embedded in user-generated comments into high-arousal, low-arousal or both, we refer the circumplex model in terms of valence and arousal: unpleasant high-arousal emotion includes upset, stressed, nervous and tense; pleasant high-arousal emotion includes alert, excited, elated and happy; pleasant low-arousal emotion includes contented, serene, relaxed and calm; unpleasant low-arousal emotion includes sad, depressed, bored and fatigued (Russell and Barrett 1999). We will first manually coding some video comments using this classifying rule. After getting the training dataset, we will build an NLP (Natural Language Processing) algorithm by combining several statistical classifiers and algorithms to code the remaining video comments (Lee et al. 2014).

Key Variables

The main dependent variable is the total number of views for each commercial per day on YouTube. This is the proxy measure of the video ad's viral ability. Regarding MGC variables, we first create two summary composite variables corresponding to informative content and persuasive content for each video. Informative (persuasive) composite variables are created by adding up the content variables categorized as informative (persuasive). To be clear, the Informative variable is obtained by adding values of Price, Quality, Performance and Special Offer resulting in a composite variable ranging from 0 to 4. The Persuasive variable is obtained by adding values of Humor, Visual Appealing, Outrageous and Emotional Content resulting in a composite variable ranging from 0 to 4. With regard to UGC variables, we create two composite variables corresponding to high-arousal and low-arousal emotion. The high-arousal variable is obtained by adding average values of upset, stressed, nervous, tense, alert, excited, elated and happy for comments about a video per day. The low-arousal variable is obtained by adding average values of contented, serene, relaxed, calm, sad, depressed, bored and fatigued for comments about a video per day. We also consider some control variables. The first one is video length. We expect that shorter videos are more likely to go viral. The second one is about video ratings which are posted by registered YouTube users. We expect that the videos with high ratings deserve more views. The third one is that whether the video ad is designed to promote awareness for new products (Tucker 2014). We expect that videos for new products are more likely to go viral. The fourth one is about product categories that the video ads are advertising. For example, more aspirational or hedonic categories of products may receive more views (Berger and Milkman 2012). The last one is the channel subscribers. We expect that video ads uploaded by the channel with more subscribers will be more likely to go viral.

Future research

Our ongoing work focused on coding the data we have collected and empirical testing of the hypotheses is underway. We will use AMT to categorize MGC (i.e. video content) and text-mining method to categorize the emotion embedded in UGC (i.e. video comment). We then use PVAR model (Panel Vector Autoregressive models) that accounts for endogeneity to examine the dynamics of the relationship between MGC, UGC and virality.

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