A Quantitative Study of the Impact of

Social Media Reviews on Brand Perception

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Abstract

This thesis can be categorized under the *Influencer Marketing* industry with respect to social media initiatives. Influencer marketing is a modern tactic used by brands to enhance their visibility to their target audience by using the services of influential people. The objective of this thesis is to quantify the impact of social media reviews on brand perception. Specifically, this thesis focuses on two diverse media platforms commonly used for sharing opinions about products or services by publishing audio-visual or textual reviews: YouTube and Yelp. First, we quantitatively analyze the impact of YouTube reviews of Smartphones on the audience through their response to these video reviews. Second, using our findings from 942 YouTube Smartphone reviews, we introduce a statistical model to predict audience engagement on a given video. Finally, we apply our method of quantifying the impact of reviews on the content published on Yelp.com in the restaurant industry. The results from this validation show that our method can be generically applied to other social media platforms and consumer-focused industries. Our method can be employed by brand managers to turn social media reviews into real-time feedback mechanism in order to improve brand perception in the minds of their target audience.

CHAPTER 1

INTRODUCTION

Social media has grown beyond its original purpose of connecting people all over the globe. Today, the ease of interacting with millions of social media users in a cost effective and real-time manner has given rise to the creation of highly engaging online content by users from diverse professional and personal backgrounds. An all-encompassing definition of social media is "Social Media is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein, 2010 p.61). Successful social media platforms today are structured to incorporate a fast and cost-effective message delivery system that is globally accessible. Popular social media websites can be characterized by an ever-growing network of participants that interact through highly engaging content. Because of this ability to host persuasive content, social media platforms have become a powerful tool for brand managers to reach their target audience.

Recent advancements in technology, arts, and economics have greatly improved the usability and reach of social media platforms. For instance, a report by 2015 Pew research informs that there was a 7% rise in the usage of social media from 2005 to 2015. The report informs that 65% adults use social media (Perrin, 2015). As social media evolves into a more sophisticated tool for interaction and global reach, many individuals and companies are leveraging their influence using it to their benefit. As a consequence, the field of social media provides a viable career option for content creators who talk, sell, promote, and respond to audience effectively.

Background of Study

The purpose of this study was to quantitatively examine the impact of social media reviews contributed primarily by the millennial generation on reaction of the audience to the commodities or services being reviewed. Specifically, this research quantified the way in which brand managers working for smartphone companies can leverage the services of highly influential YouTube content creators to reach a large set of online audience. Another key contribution of this work was a statistical model that predicts the impact of social media content, which can be beneficial to the communication team of a company. We described the usefulness of the statistical model in analyzing the interaction between a brand and its audience effectively for any industry other than smartphone. We demonstrated the usefulness of our impact quantification method by applying it to the social media reviews on Yelp.com focused on the Tex-Mex category of restaurants.

An increasing population of consumers is now relying on online reviews before buying a product or a service. This increasing trend compels brand managers to use social media platforms to promote their products and interact with their audience either directly or through popular influencers on social media. This research studied the content created by these social media reviewers, considered because of their popularity and ability to quickly make an online brand message viral.

Today, it is common to find companies using social media marketing as their primary strategy. One of the most impactful ways to communicate online is through audio-video messaging.

Framework

Content creators on YouTube start their career typically with a simple video using average quality video production equipment. As they gather subscriptions, content creators venture into advancing their production techniques to enhance the quality of their video. A well-designed plan to use the most advanced attributes for their YouTube content fetch them more followers. Companies looking to invest in online marketing primarily consider the popularity of these content creators as the deciding factor to approach them. In the smartphone industry, the strategy to promote their product on YouTube through these content creators is adopted at the earliest stage, typically even before the official launch of the product in their target market. Smartphone companies give out early editions of their upcoming phones to popular YouTube reviewers with a high subscription rate. While still in the pipeline, products reach those content creators that attract the maximum number of subscriptions and companies use additional analytics such as views and comments to decide which reviewer will benefit them the most. The performance evaluation techniques presented in our work can be readily adopted by brand managers to help leverage the attributes used by content creators to their benefit.

A good phone review are often produced with high-definition sound and visual quality since these attributes improve the effectiveness in detailing the visual features of a given smartphone through the video review. Use of correct lighting brightens up the room giving the phone a fresh look. The tone of voice used by the content creator helps them deliver a clear message. The length of the video syncs with the attention span of the audience, and the date the video was published justifies the reaction of the audience since technology is a time-sensitive industry.

Study of YouTube Statistics

Research by Cheng et al. examined the correlation between videos published by content creators and algorithmically generated recommended videos by YouTube (Dale & Liu, 2008). While the research focused on the importance of content creator's choice, it emphasized the snowball effect by YouTube rather than the impact of these content creators on the choice by the audience. Additionally, this research also focused on measuring the total number of *views* generated by the videos as the most important metric of popularity. In contrast, as will be discussed later in this thesis, we prove that views alone cannot be a measurement of the popularity of the content creator because the total number of views do not cover influenced audience. Our research examined *views-per-like* and other parameters as crucial metrics to study the performance of the content creators.

Comments and View Counts

Research was conducted on the impact of video content on view counts, comments, and video sharing for general categories by using linear regression and R model analysis to predict these parameters. A paper by Siersdorfer et al. focused on comments for published videos and meta-ratings for those comments. The research also analyzed sentiments in these comments using the sentiment-analysis tool, *SentiWordNet Thesaurus* (Siersdorfer et al, 2010). Further, this research predicted future community acceptance for comments that are not yet rated.

Prediction Model and the Importance of Content Creators

Very limited research had been conducted on the impact of the content creators on the audience engagement. In their work, *Broadcast yourself: understanding YouTube uploaders*, Ding et al. claimed that their research on the importance of content creators had never been done before (Ding et al, 2011). While they did focus on content creators, their work was not supported by substantially relevant quantitative analysis. Although their study offered a different approach to understanding YouTube reviews, they only presented a hypothesis.

While previous researchers focused on video length, video age (similar to date published that we studied for this thesis), and specific content (topic) discussed in YouTube videos with no specific focus on a genre or industry, current literature lacked a study of the attributes employed by content creators and how brand managers can leverage the knowledge of the techniques used by these content creators to capture audience engagement.

Previous Work around Yelp.com

In Chapter 3, we validate our methodology by analyzing restaurant reviews on Yelp.com. Previous research focused on sentimental analysis of YouTube reviews with a focus on positive and negative words (Hicks et al, 2012). However, previous work did not capture the performance of location specific outlets in close proximity to a specific target audience. Our thesis is unique in two aspects: First, we focused on specific locations within 10-mile radius of densely populated university campuses. Second, we specifically evaluated the performance of Tex-Mex restaurants across states in the United States with unique cultural diversities. Targeting outlet staff (carriers of restaurant experience in terms of food and services) and reviewers (restaurant diners) revealed unique insights that may help brand managers to efficiently invest their resources for a better return on investment.

CHAPTER 3

METHODOLOGY

This research used hypothesis testing to collect data that signified a relationship between dependent and independent variables. The type of investigation used was the correlation method. We used the interval scale within a linear regression model. An interval scale allows researchers to "perform certain arithmetic operations on the data collected from the respondent (Mir p.16)". We use this interval scale to measure the distance between two points on the scale. We collected 942 YouTube videos produced by tech content creators using the R language tool. These videos were published by 69 YouTube reviewers from United States and Canada for six smartphone brands. For the Yelp.com data, we collected 894 customer reviews for four Tex-Mex restaurants in eight states in the United States using Kimono labs software.

The rest of this chapter is organized as follows. First, we explain our method to gather review attributes on YouTube.com and Yelp.com. Second, we present our method to visually understand the correlation and interaction between various interesting attributes of reviews. Some interesting interactions between review attributes that arise in this step suggest potential for trivial as well as non-trivial correlations. Third, we present our attempt to formally quantify these correlations using the well-known method of Linear Regression. Finally, we present our method for applying the same method to quantify the performance of reviews on Yelp.com.