

Online, On the Couch, or On the Move:
The Contours of the Evolving Video Market.

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Abstract

This paper examines the impact of YouTube on the video content market. Previous research is examined to determine the scope of the online migration thus far and its effect on the traditional video market (television). Analysis of YouTube's user data and earnings reveals that YouTube has a monopolistically competitive market structure. YouTube's user-friendly environment grants consumers greater control over when, how and what they watch. As the leader of the online market, research indicates YouTube's competitive characteristics are moving the larger media market to a more competitive environment in which consumers are given a larger range of media options at lower prices.

Keywords: YouTube, online video market, Media market, oligopoly, monopolistic competition, user-generated content, branded-content

Introduction

Remember that time when we all gathered around the family TV and watched that one show almost everyone else in America with a TV was watching? Neither do I. The times in which everybody watched the same small handful of programs ended decades ago. The home-viewing audience became fragmented with the advent of cable TV, and then even more so with the arrival of online viewing platforms such as YouTube, Netflix and other online sites (both legal and otherwise). These technological innovations have given consumers more power over what, when and how they watch video content. They are no longer bound to the schedule printed in the weekly TV guide. In fact, consumers aren't even bound to the TV set.

An ever-increasing number of consumers are using non-traditional means of watching video content. Nielsen Company reports that in the last five years the monthly time spent watching video content on the internet has increased from 1 hour and 57 minutes to 8 hours and 23 minutes. There are even some consumers, known as zero-TV households, who have completely transitioned to online media consumption (Nielsen Cross-Platform Series: 2012q4). With the development of online video platforms such as YouTube there are now literally billions of video entertainment options for consumers to choose amongst, and the question becomes, “*What* are people choosing to watch,” and “*Where* are they choosing to watch it?”

The technological innovations of the past decade have not only expanded consumers' choices, they have also opened the industry to a host of new competitors, who in turn brought major changes to the structure and power distribution within the marketplace. Throughout the 1970s and '80s ABC, NBC and CBS controlled over 85% of the market. By 2004, their combined market share had fallen to 1/3rd of its original size thanks to the increased competitiveness of the market (Hindman & Wiegand, 2008). Clearly these decreases in the costs

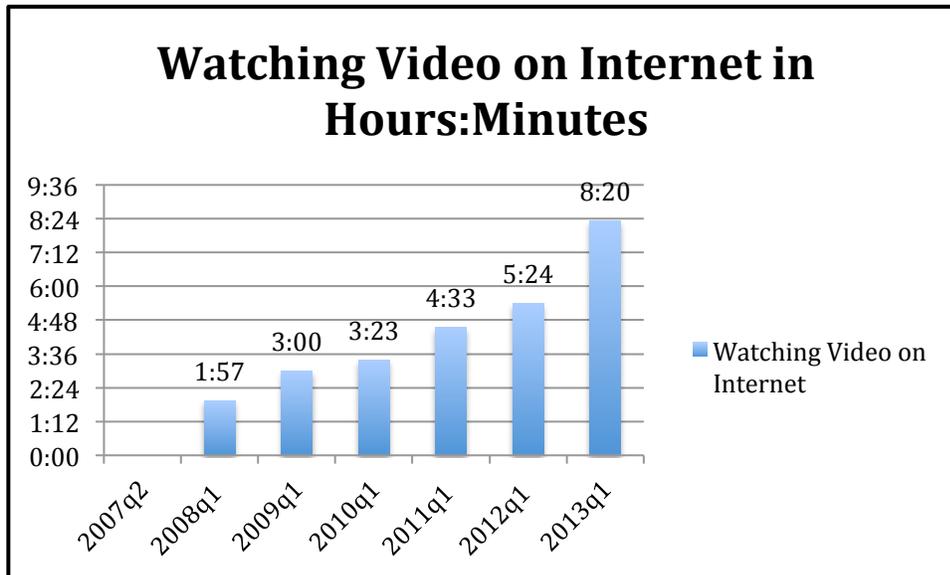
of production and distribution have allowed new producers to carve out a place for themselves in the media market.

While the online video industry is still in its infancy when compared to the traditional media market, the speed at which it has managed to capture the time and attention of consumers is impressive. YouTube alone has over 1 billion unique users visit the site each month. Developed in 2005, YouTube has been quick to position itself as the number one online platform. It currently contains close to 45% of all online video content in the world. YouTube also offers video creators a zero-cost method of sharing their videos with the world, allowing millions of new content creators access into the online video market. The unpredictable and highly competitive nature of the online marketplace makes it difficult for any group of producers to prevent new talent from successfully entering the market. New entrants often come in and disrupt the current market distribution. For example, German Garmendia, a Chilean vlogger (video blogger) joined YouTube in 2011 under the username HolaSoyGerman. Only two years have passed and his channel has become the third most subscribed channel on YouTube.

Consumer usage data show that the online video market has quickly grown in popularity (Chart 1), but will this emerging market have any impact on consumer and producer behavior in the larger media market? To answer this question I first use the work of previous scholars to examine the extent of this consumer migration to online media platforms, and explore the potential impact the online world will have on the traditional marketplace. In this section I illustrate the current and future importance of the online marketplace. I then move on to examine the market structure of YouTube as the world's leader in online videos. I argue that the market structure closely resembles monopolistic competition which, by definition, contains 1) a

differentiated product, 2) low barriers to market entry, and 3) many, many producers. I then move on to discuss the impact YouTube’s market structure has on the media market as a whole.

Chart 1



Data Compiled from Nielsen Cross Platform Reports 2008q2 to 2013q1

Background

The ability to watch video content online has granted consumers more control in determining what to watch and when to watch it than could have been imagined considering the oligopolistic nature of the market structure 20 years ago. In 1980, over 90% of the viewing audience was watching content from one of three network giants, ABC, NBC and CBS (Hindman & Wiegand, 2008). During this time, watching television meant selecting from the limited range of programs that were currently being broadcasted to the television set. Network programmers knew the whole family commonly watched TV together, and purposefully chose to create and air programs that were likely to be “acceptable to, although not most favored by, the widest range of viewers” (Lotz, 2007). As a result, the spectrum of programs viewers were able

to choose among was quite small as all content tended to be similarly structured, and offered the least objectionable shows.

The power of this media oligopoly was not challenged until new technologies like cable television and the remote control came into existence. As the assortment of content grew in scope, and as the remote controls made changing from one channel to another easier, the viewing audience segmented. This audience fragmentation weakened, but did not fully destroy, the big three networks' strong market position. By 2005, the combined market share of the big three networks had fallen from 90% to 32% (see Appendix A for full data set). Consumers could now choose slightly more satisfying programs that were more closely related to their interests. Now there are channels that focus entirely on topics such as home improvement and decorating (HGTV), or sports (ESPN), or the Cooking channel, which, as the name suggests, is dedicated to cooking.

However, many independent producers still struggled against the power of the major studios as "production costs and license fees increased incommensurately in the late 1990's and early 2000's" (Lotz, 2007). Ultimately, the arrival of hundreds of cable networks did little to diminish the networks' market power, allowing them to retain a weak oligopolistic setting with a limited number of producers, and semi-strong barriers to entry. These smaller producers were unable to compete as equals against large, established networks who had been gathering revenue and audience members for decades.

Though the entrance of cable producers in the market did grant consumers more power in the form of greater choice, this power pales in comparison to the power the internet granted consumers. With online platforms consumers have thousands of shows at their fingertips during all hours of the day, for *free*. Not to mention the huge increase in the scope of available content.

Online platforms such as YouTube cater to even the most niche interests. For example, they have thousands of videos all pertaining to adorable cats.

Given the consumers' newfound power one would expect the ways in which consumers allocate their time and money would change. Using this logic as a jumping-off point, researchers have begun examining the potential displacement effects this technological progress is having within the video content industry. While many researchers have agreed that a migration to online platforms has been set in motion (Cha, 2013; Cha & Chan-Olmsted, 2012; Liebowitz & Zentner, 2012; Waldfogel, 2008; Logan, 2011, 2012; Lin & Cho, 2010; Artero, 2010; Cha, Kwak, Rodriguez, Ahn, and Moon, 2012), disagreement arises when discussing the size and speed of this migration as well regarding the effects this trend will have on the industry overall.

Literature Review

The Migration

In the past the television industry was often thought of as a zero-sum game (Cha 2013; Liebowitz & Zentner, 2012). This model seems plausible given that people can only watch one channel at a time - one channel's viewership comes at the expense of another's. So when a new product is introduced into the market (online video platforms), it is also logical to assume that the presence of this product would decrease the time spent with the older product (television sets). Under this logic, if the online platforms prove to be popular, then the networks and other content providers who do not transition online risk losing their market power since, in this zero-sum game, the online platforms would displace the traditional viewing means.

However, more recent research suggests that the degree of displacement depends on the degree of difference that exists between the two products (Cha 2013; Liebowitz & Zentner 2012;

Cha & Chan-Olmsted, 2012). So it may not be that online platforms will totally displace traditional platforms, such as the television. It is entirely possible that the two platforms are fairly distinct from the consumers' point of view. Is the new media platform functionally similar to the old? Does the new medium offer the same spectrum of gratification opportunities as television? If some degree of uniqueness exists and is maintained then both products could potentially prosper in their own niche markets. In other words, just because both mediums serve the same function (distributing video content), one should not assume that traditional television would be completely displaced. Television as a distribution platform could very well possess some ability to gratify unique consumer desires, thus allowing it to continue on despite any potential online trend.

To further develop this line of thought Cha performed a study in 2009 in which the video content viewing habits of 388 adults (mean age 52.69) was recorded and analyzed. While television was still found to be the primary viewing platform, the popularity of online video platforms was evident in her research. In her pool of respondents, 43% did not use the internet to watch video content, while the other 57% did use the internet to watch content. Of this 57% who used the internet to watch content, only 2.3% did not rely on TV to watch this content. Thus, the majority (55.4%) of the people who used the internet to watch video content also used the television to watch content. The large percentage of participants who use both platforms suggest that each possess unique values from the consumers' perspective. While television still holds the upper hand in the market, online platforms hold enough value to get consumers to devote at least some time to this new medium, suggesting the presence of an online migration.

While Cha found some evidence of an online migration, Liebowitz and Zentner's results were even more powerful. The authors used Nielsen and the BLS to gather more age specific

data, which allowed them to uncover more specific trends in consumer viewing habits than Cha was able to find. They found that the internet had the strongest negative impact on television for those up to the of age 34, while those above the age of 55 did not seem to be impacted by the online platforms (Liebowitz & Zentner, 2012). The age-platform relationship that Liebowitz and Zentner uncovered is somewhat logical – as millennials, the younger generations are often more comfortable using computers and thus likely to use it with greater frequency and for a greater variety of activities, and thus dedicate less time to watching video content on traditional television sets.

Liebowitz and Zentner's findings explain why Cha's data showed such strong consumer preferences for traditional television: Her respondents were older than would have been ideal for a study about the use of online video platforms. At a mean age of 52 many of the participants would not have grown up with this technology. Since people tend to form habits early on and stick to them, this age group would potentially be less willing to make the transition online. Hence, television as a distributive tool still has unique value that online video platforms are unable to replicate for certain demographics.

While Cha was unable to analyze the habits of the younger demographic whose consumer habits will determine the future of the industry, her findings still carry significance in that they show strong evidence of a large online migration. Considering that one would have expected little to no support for online platforms from this age group, the fact that there was support only further illustrates the scope of the online trend, supporting the idea that the sub-market that is the online world may possess enough influence that its presence can reshape the structure and power distribution for the media market as a whole.

Untapped Potential

Previous research verifies the sizeable scope of the online migration, but the power of the online video market can be seen even more clearly in studies that examine the complementary relationship between online content and traditional content airing on television (Waldfoegel, 2008; Cha, 2013; Lin & Cho, 2010). In a 2008 study done by Waldfoegel, he found that “hours spent viewing television programming overall nearly double with web distribution.” This study was conducted using a pool of 287 respondents whose median age was 20 years old. In general Waldfoegel found that when the content being viewed was professionally produced branded content, the use of online platforms did not diminish the amount of time consumers committed to traditional television. Having the opportunity to ‘catch up’ or review past episodes online gave consumers a chance to become more invested in the program and thus more devoted to watching the show ‘live’ on television (Cha, 2013; Waldfoegel, 2008; Lin & Cho, 2010). The online market has influence in the traditional market as it allows consumers the chance to increase the time they spend with the content, thus increasing their attachment to the show, and, ultimately, their willingness to pay for the content.

Research also suggests there is untapped profit potential for traditional content producers in online settings (Logan, 2011; Lin & Cho, 2010). For example, Lin & Cho found official websites built a strong ‘fandom’ around the show, which led to increased interaction with brand-related information when the users were online. The websites allow content creators the opportunity to initiate a trend that will further drum up consumer demand for both the content and products being advertised. Logan’s studies regarding the consumers’ attitudes towards online advertising show that while such advertising was viewed as intrusive, it stood a *better* chance of being viewed than traditional television advertisements. As Lin and Cho concisely state,

“interactive online product placement on a TV program’s official Web site is still underutilized” (Lin & Cho, 2010). The constant presence of banner ads on the sides and tops of websites, and the relatively short duration of pre-roll video ads (15 to 30 seconds) means viewers have fewer avoidance options they are willing to utilize. The clear value in online advertising makes a future online look more financially viable for broadcast content providers, incentivizing them to establish more of an online presence.

The growing popularity of online video platforms from both the demand and supply side of the market suggests that the future of the media market will be strongly influenced by the goings-on of the online world. Video traffic now represents about 60% of total internet traffic, and given the large amount of time spent online, this translates into a huge potential advertising space (Artero, 2010). One would expect that YouTube, as the world’s largest online video content provider, would be experiencing an excess of economics profits from all the advertising revenue. However, while YouTube does control more than 40% of the online video market, it’s estimated that only three percent of YouTube’s content generates income through advertisements (Artero, 2010).

For most of YouTube’s existence advertisers have been less than enthusiastic to advertise on this particular platform, despite the clear benefits of advertising on online platforms. Though it is hugely popular among consumers and is the most powerful player in the online video industry, it just doesn’t have enough ‘smart advertising’ content (Artero, 2010; Cha et al., 2012). Advertisers desire a level of assurance that their money was well invested, which is problematic because the quality of YouTube content is fairly unpredictable. While there is new content uploaded every day, these account for only 2% of daily requested videos (Cha et al., 2012), making the advertisers search for a ‘good’ video (good from a business standpoint) that is much

harder to find. Identifying the next big hit before another agency is akin to looking for a needle in a haystack of replicating hay.

However, the scope of the online migration and the influence that online platforms have in the larger media market suggests that an online platform as large as YouTube has a good chance of experiencing significant financial success. Unfortunately, little has been done to examine the financial viability of YouTube's content. User-generated content tends to have lower production costs, fast turn around rates, as well as a huge and ever growing audience base through YouTube. Do the financial advantages of UGC, user-generated content, give 'YouTubpreneurs' an advantage in the online market against non-UGC producers who seem to have more advertising dollars flowing in? Can amateur YouTubers compete as equals with established television networks in this online world, or will amateurs prove too small to disrupt the power distribution, as was the case with cable companies in the 90's and early 2000's? These are the questions I explore in the following section as I examine the market structure of YouTube, the main player in the online video market.

YouTube and the Online Video Market

Controlling close to 45% of the online video market, YouTube has positioned themselves as the world's leader in the market for online videos. This site gets more than 1 billion unique users each month. That's billion with a B. Conservatively, this breaks down to 3 million hits per day, or 1.4 million hits every hour. YouTube also has an impressive global reach with 70% of its traffic coming from outside the US. YouTubers collectively watch over 6 billion hours of video content each month, or, according to YouTube Viewership Statistics, "almost an hour for every person on Earth."

YouTube not only acts a platform for viewing video content, but also gives users the unique opportunity to upload their videos for free and share them with...well, the world. YouTube estimates “100 hours of video are uploaded to YouTube every minute.” Back in 2007 this most likely meant many hours of footage of people falling down or kittens being cute. Now, people are taking advantage of YouTube’s substantial online traffic and have started creating and posting more polished videos on their ‘channels’ - the YouTube homepage for the user, which displays the videos they have uploaded, and any personal information they have entered. There are now over a million creators from over 30 countries who are earning profits from the videos they have posted.

YouTube success stories include pop sensation Justin Bieber who got his start by posting songs to YouTube for family members who were unable to attend his local performances. His videos quickly attracted the attention of others and in 2008 a talent manager came across his videos and signed him. Five years later, Justin Bieber has sold over 12,800,000 albums, his YouTube videos have over 3.75 billion views, and his 2010 concert in Madison Square Garden sold out in 22 minutes.

Darren Criss is most famous for his portrayal of the character Blaine Anderson in the hit FOX TV series *Glee*, but he too got his start on YouTube. In 2009 *A Very Potter Musical* was posted to YouTube as a musical parody based on the Harry Potter novels and films. Darren Criss not only starred as Harry Potter, but he also co-wrote the music and lyrics with fellow University of Michigan student, A.J. Holmes. The video quickly went viral and though it experienced a few copyright issues with Warner Bros., the online parody managed to launch Darren Criss into mainstream stardom with a role on *Glee*.

YouTube success stories seem to be surrounding us. Even when one excludes extreme cases like Justin Bieber and Darren Criss, one still finds evidence of vloggers making thousands off of their weekly videos posts. In theory making a video post is fairly simple. 1) Pick a topic to center your video around. 2) Turn on your computer's camera and film yourself. 3) Spend some time editing your video and then one month later (or less if you have a large enough following) you have thousands of views and receive a check from YouTube containing a cut of the ad revenue generated by the video.

There was no cost to uploading the video. There were no distribution costs. The only costs incurred (other than the initial start-up costs of acquiring a computer and internet access) were opportunity costs – the loss experienced from using that time to make a video instead of doing something else, like household chores, or paying bills (activities like that). Thus, by this logic, millions of people could easily enter the online video market if they had the funds to buy a computer and internet access, and had a few hours to make and edit a video.

YouTube, paired with current technology, has seemingly created a new marketplace environment. No longer do viewers pick from a few similarly structured shows, like *I Love Lucy*, and *The Brady Bunch*. No longer do high costs of production and distribution act as a barrier to market entry. No longer do just a few producers control the majority of the consumer base. With the development of YouTube the content pool contains immense variety; the barriers to entry have been weakened; the number of producers has grown exponentially. At first glance, YouTube has transformed the market from an oligopoly to one of monopolistic competition.

However, first appearances may be deceiving, and as such this paper will examine the degree to which this transformation has actually occurred. The remaining sections of this paper examine the current online video market with respect to the following criteria for monopolistic

competition: 1) Produces a differentiated product. 2) No barriers to market entry exist. 3) Many producers. By examining these three characteristics of the marketplace an assessment will be made by looking at the degree to which the online video market (YouTube) actually matches up with the monopolistic competition market structure. The conclusion will discuss the impact that this potential marketplace transformation holds for us as consumers, and the efficiencies that could potentially arise (or that have already appeared) from moving towards a more perfectly competitive market structure.

Determining the Type of Product

Babies laughing. Official music videos. Do It Yourself instructional videos. Clips of network TV shows. Full-length movies. This is just a small sampling of what can be found on YouTube. The videos uploaded onto YouTube range from videos with thousands of dollars of production value, shot in the highest quality, to shaky, camera-phone videos with poor sound and pixel quality. While user-generated videos do not command the impressive budget that branded videos have, the final product can be just as desirable from the consumer's standpoint. For proof one only needs to look at a little ways down the list of YouTube's *Top Videos of All Time*.

Coming in at number five is a video that was filmed on a shaky hand camera in the living room of a British family. It's called *Charlie Bit My Finger*. It has over 601,695,339 views, making it the 5th most viewed video in YouTube history. It is only 56 seconds long, and it was uploaded six years ago, but it has not been surpassed by many videos despite the hundreds of man-hours and thousands of dollars behind some of the other videos available on YouTube.

The data compiled by Channel Meter of the top 100 videos for this past week (11/17/13-11/24/13) shows that there are a sizable number of user-generated videos (about 30%) that made

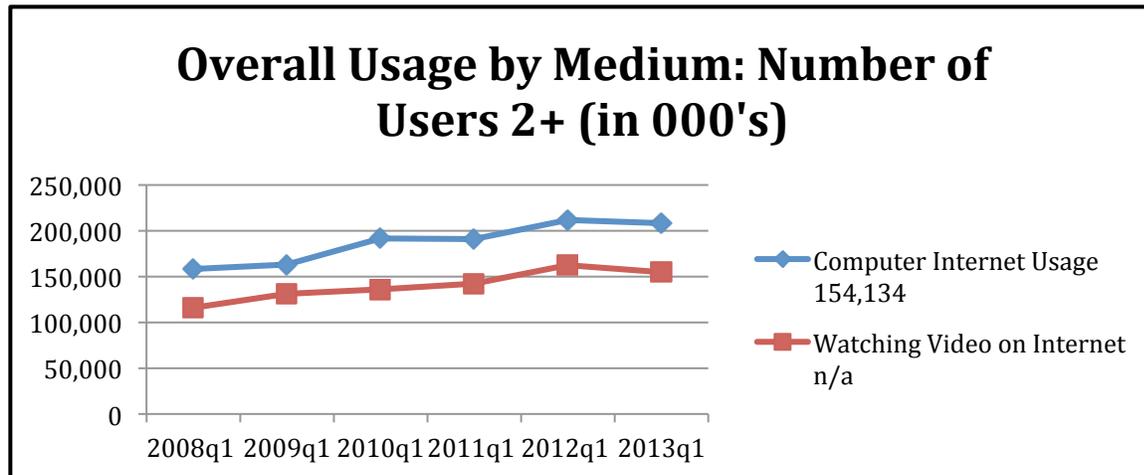
it into the top 100 for this week. User-generated videos are even found in the ranks of the top 100 videos of all time (15%). While this does show that the popularity of YouTube videos is skewed towards branded videos, the mixture of user-generated and branded videos suggest that consumers are looking for a variety in their “video diet”. In fact, ten out of the twenty most subscribed YouTube channels were user-generated channels, whose content generally has lower production values and tends to be less polished and flashy. The consumers who use YouTube clearly won’t be happy if they are only presented with videos of high production values and big name stars; they are looking for variety. It is hence safe to state that the products produced and consumed on YouTube, and thus in the largest sector of the online video market, can be classified as differentiated.

However, the variety of videos and users on YouTube may prove to be its financial undoing. Given the amazingly fast pace that video content is uploaded to YouTube, identifying which videos are good to advertise on becomes difficult. Finding the popular, yet unobjectionable videos to advertise on becomes even more difficult if you consider the wide range of quality/content that is uploaded by users. Since most users who upload video content are not primarily concerned with always maintaining an acceptable image for society, the videos they post often vary in content and quality. Thus advertisers are faced with a myriad of questions when choosing where to advertise: Do I want to associate my company with the messages in this video? Do I want my company to be associated with this user in general? What other types of videos do they post, and do I feel okay being associated with them?

This is why branded videos are often the ones that receive the most attention from advertisers, and thus the most revenue. These videos are high quality; they often have big names associated with them, which help attract views; they are developed with the goal of being

acceptable and popular among the masses. Consequently, the scope and variety associated with YouTube videos makes much of the YouTube market less than advertiser friendly. According to Artero's 2010 estimate "only three per cent of the videos on YouTube generate income through ads" (Artero, 2010). It seems more than likely that this percentage has increased over the last three years given the mounting migration to the online video market. Nielsen data shows that the overall usage of internet, and time spent watching videos online has been increasing since 2007 (Chart 2).

Chart 2



Data Compiled from Nielsen Cross Platform Report 2008q2-2013q1

YouTube statistics claim that YouTube reaches more US adults, age 18-34, than any cable network. Coupled with the clearly growing online video market, advertising agencies may be incentivized to allocate more funds toward advertising on YouTube despite the risk associated with working on a less consistent platform. If more users earned revenue from advertisements with greater frequency, they would be incentivized to create and post more videos, and as a result we could see a rise in the number and variety of user-generated videos on YouTube.

Do Barriers to Entry Exist?

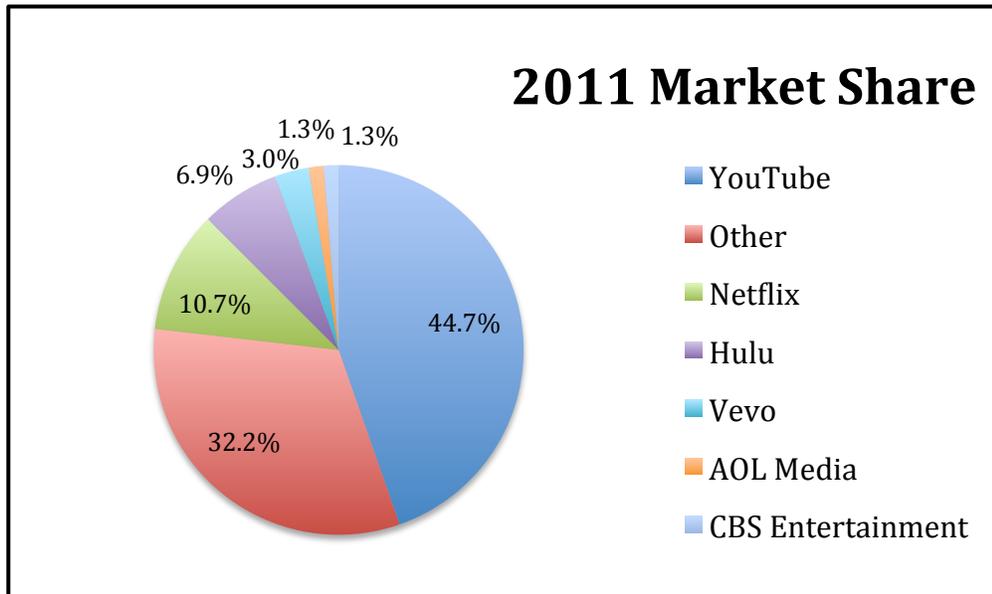
Television in the 1980's meant watching one of three network channels – ABC, CBS or NBC. Their combined market shares gave them control of more than 90% of the television market. Though technological advancement has decreased the cost of production and distribution and allowed other producers to enter the market, by 2005 these three companies still controlled 32% of the market, giving the television market the characteristics of a weak oligopoly in which somewhat strong barriers still prevented large-scale market entry. Just imagine trying to break into the television market before 2007 (at which point YouTube and internet video became popular). If you had wanted to create your own video and put it out in the media world for people to see, you would have first needed to spend thousands on cameras, lighting equipment, sound equipment, and editing tools. You would also need to find people to act in your show since one-man videos like those on YouTube did not have a good chance of success. Once you had filmed and edited your work into either a 20 or 40 minute creation, you would then need to find a network or company that would be willing to air your show on their channel. The chances of successfully breaking into this market as your own 'company' would have been slim.

Now, thanks to technology and YouTube, you just buy a phone or laptop with video capabilities. Come up with something you want to talk about or show people. Quickly film it, and if you want, you can edit it to make it more polished (though some of the more popular videos, like *Charlie Bit My Finger*, clearly have minimal editing). You don't have to hire a cast, or writers. You don't need to have great knowledge of lighting design or sound editing to make a hit video – you may only need a cute kitten! Once you have your video, you don't need to pay anyone to air it. You just need to take five minutes and upload it to YouTube for *free* and anyone in the *world* will be able to see it, *any time* they want. The costs associated with video production

and distribution have dropped exponentially since 2005. The barriers that had prevented new, smaller-scale producers from sharing their work have weakened significantly.

Large television producers like CBS, FOX, and ABC have been fairly unsuccessful in controlling the online market, and as a result, much of the online market has been left up for grabs. One may even say that the large-scale nature of these companies' content acts as a handicap in the online world. The larger networks rely on advertising revenues to cover their huge production costs. When their work is pirated they are unable to retain their audience and thus the rates they can charge advertisers drop. Thus, they are forced to focus their energy on keeping their work contained – which has them working against the instantaneous sharing nature of the Internet. Meanwhile, as the larger companies devote their time and energy to containing their content, smaller video makers have had the time to carve out a place for themselves in the online video market. The fact that no one company, like NBC or CBS, seems to have a significant market advantage over the YouTubers suggests that these barriers to entry have truly weakened to the point that the market could be considered monopolistic competition.

While the larger media companies have started making the move to the online world, they only dominate sites such Netflix (10.7%) and Hulu (6.9%), which, combined, still control less than half of what YouTube controls (44.7%). Chart 3 lays out the market shares of the largest online video platforms below, and clearly shows YouTube as a market leader in the online video market.

Chart 3

Data from Nielsen Cross Platform Report 2011 Q3/Q4

The analysis undertaken in the subsequent parts of this paper illustrate how many YouTubers are earning impressive revenues off of the videos on their channels. The YouTube partner program pays its channel owners half of all advertisement revenue generated by their video. This revenue depends on the number of views the video gets. For every 1000 views, the video earns a dollar amount that is determined by the channel maker's going CPM rate. CPM stands for counts per thousand impressions. Hence, for every 1000 views the video maker gets paid some dollar amount.

I estimate these earnings using the following method: 1) Subtract last year's total views from this year's total views to find the amount of views their channel received over the course of this past year. 2) Multiply this number by 2.59% and subtract it from the number of views over the last year. This 2.59% estimates the number of users who click away from the video before the advertisement loads, so after subtracting 2.59% we now have a number that represents the amount of views they were paid for over the last year. 3) Divide this number by 1000, since

channel makers are paid for every 1000 views. 4) Multiply this new number by the CPM rate to get the total revenue generated by the video. 5) Divide this number by two since YouTubers are given half of all ad revenues. Below is the calculation process for PewDiePie's minimum estimated earnings from this past year:

$$1) (\text{Views}_{2013} - \text{Views}_{2012}) = (2,908,660,731 - 752,904,950) = 2,155,755,781$$

$$2) 2,155,755,781 - (2,155,755,781 \times 0.0259) = 2,099,921,706$$

$$3) 2,099,921,706/1000 = 2,099,921.706$$

$$4) 2,099,921.706 \times \text{CPM rate of } (\$1.50) = 3,149,882.559$$

$$5) 3,149,882.559/2 = \$1,574,941.28$$

Since the CPM rates are channel specific and vary throughout the day and year, I estimated an upper and lower range for channel earnings (see Appendix B for charts depicting these variations). I used the 2009 TubeMogul average CPM rate of \$1.50 as a minimum that a channel might receive at any given time. This CPM rate of \$1.50 is a severe underestimate for the top five user-generated channels given the popularity of these channels would translate into an overall higher average CPM rate. However, it provides a reasonable minimum for the earnings estimation of the top subscribed channel makers. The \$10 CPM rate is the 2013 TubeMogul average CPM rate estimate. This is a more accurate middle estimate for these top subscribed channels.

Table 1 lays out the earnings for various YouTube channels calculated with both CPM rates reasoning that the earnings range, while broad, would contain these YouTubers' true earnings. If anything, these earnings estimates are quite conservative. As top subscribed channels their CPMs are likely to be at least \$10, but given the uncertainty as to how often the CPMs

change throughout the year, or even time of day, the decision was made to create a broad earnings range.

Table 1: 2012-2013 Earnings

Rank	Channel Name	CPM \$1.50	CPM \$10
#2	PewDiePie	\$1,574,941.28	\$10,499,608.50
#4	Smosh	\$669,156.91	\$4,461,046.06
#5	HolaSoyGerman	\$547,558.48	\$3,650,389.85
#6	JennaMarbles	\$319,974.18	\$2,133,161.19
#9	Nigahiga	\$190,422.58	\$1,269,483.86
#90	Ali-A	\$266,569.12	\$1,777,127.45
#93	MisterEpicMan	\$172,930.32	\$1,152,868.79
#95	Zoella	\$67,127.31	\$447,515.42
#98	Shane	\$136,920.54	\$912,803.62
#100	JacksGap	\$72,374.52	\$482,496.81

There are clearly profits to be made in this online industry. While Table 1 only depicts their revenues, it can be safely assumed that the costs associated with making their weekly videos did not surpass a few thousand dollars. Perhaps they updated their video cameras, or paid for better microphones to increase sound quality. But it would be surprising if the costs of making these videos ate up all the ad revenues, which ranged in the hundreds of thousands to the millions. Even their opportunity costs were likely covered since most jobs for young adults do not pay yearly salaries in the six to seven figure range. Clearly any cost barriers that exist in the online market can be easily overcome given the potential advertising revenue that can be made from getting just a few thousand views.

It is important to note that the earnings for the top subscribed YouTube channels are likely much greater than any other YouTube channel. However, those who aren't earning thousands of dollars are likely investing less time and effort into their videos, or simply see

YouTube as a hobby. Becoming a top subscribed YouTube channel is no small task. To gather a loyal consumer base, as a producer you need to consistently create and upload exceptionally entertaining or interesting videos. Creating these high quality videos on a regular basis can quickly grow into its own job, as it requires hours of conceptualizing, filming and editing. These videos also tend to be of higher quality so the start-up costs associated with achieving good sound and pixel quality are much higher relative to someone who uses the video capabilities on their cell phone. However, it is clear that the payoff from these top videos more than make up for the higher costs associated with producing them. It seems unlikely that the creators of the top subscribed channels would have made millions at such a young age had they entered as workers in a different market place.

The speed at which the amateur video makers like PewDiePie and HolaSoy German have become top subscribed channels on YouTube further illustrates the lack of barriers in the online market. PewDiePie created his YouTube channel in 2010, and HolaSoyGerman created his channel in 2011 and 2-3 years later they have become top visited sites despite the existence of thousands of incumbents. The growth rate of these channels is shown in the series of charts below. The data show that the number of subscribers, people who have asked to be alerted when new videos are uploaded to a subscribed channel, is in a constant state of growth for everyone in the top 5 UGC channels. This translates into more views and thus even more impressive earnings. (See Appendix C for a list of Top 20 Subscribed UGC Channels as well as a list of the Top 20 Subscribed Channels Overall)

(#1) PewDiePie*

Joined YouTube in 2010

Year	Subscribers	Views
2008	n/a	n/a
2009	n/a	n/a
2010	n/a	n/a
2011	53,902	1,306,139
2012	2,769,867	752,904,950
2013	16,500,161	2,908,660,731

(#2) Smosh*

Joined YouTube in 2005

Year	Subscribers	Views
2008	432,474	16,688,227
2009	1,154,731	42,245,577
2010	1,938,534	72,060,201
2011	3,679,534	149,577,898
2012	5,977,118	1,867,332,069
2013	13,781,345	2,783,263,916

(#3) HolaSoyGerman*

Joined YouTube in 2011

Year	Subscribers	Views
2008	n/a	n/a
2009	n/a	n/a
2010	n/a	n/a
2011	n/a	n/a
2012	1,335,367	127,159,211
2013	12,927,183	876,648,966

(#4) JennaMarbles*

Joined YouTube in 2010

Year	Subscribers	Views
2008	n/a	n/a
2009	n/a	n/a
2010	31,624	840,594
2011	1,597,350	21,846,263
2012	4,873,553	856,788,859
2013	11,330,668	1,294,764,670

(#5) Nigahiga*

Joined YouTube in 2006

Year	Subscribers	Views
2008	361,032	8,664,645
2009	1,632,366	57,757,773
2010	2,833,823	97,312,215
2011	4,674,763	164,744,362
2012	6,128,414	1,373,335,696
2013	10,773,838	1,633,983,240

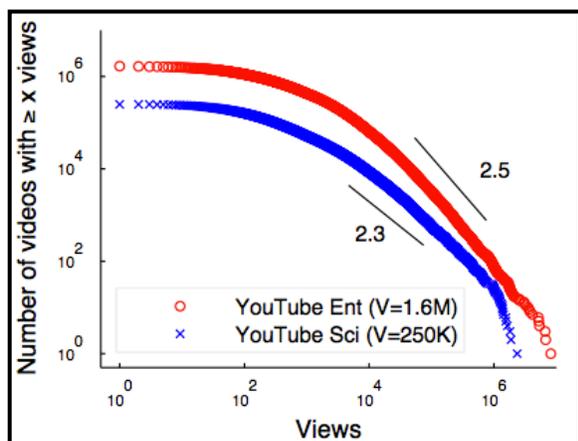
*All 2013 data from the above charts came from YouTube user statistics and all data pre-2013 was acquired from accessing old YouTube homepages via <http://archive.org/web/>

Chances of Success: True number of Sellers

The impressive earnings listed above do open up the possibility of YouTube turning into an oligopoly dominated by a handful of YouTubers. While no set of video producers currently seem to control the YouTube market, it is not unreasonable to think that YouTube giants could develop and control the online market much like the networks still control a sizeable portion of

today's television market. People who go on YouTube generally want to see what others have seen. The most popular videos are likely popular for a reason: They are funny, interesting, or helpful in some unique way that sets them apart from other videos of their kind. Thus, if certain YouTubers consistently upload popular videos, they have the potential to establish a loyal consumer base that spends their time on a few particular channels instead of exploring other, smaller channels.

While there are literally millions, if not billions of people who upload videos onto YouTube, can they all be counted as producers? Considering most of the people who upload videos are amateurs who never see great viewership buildup, should they still be counted as producers in the market? If the answer is yes, then we are certainly in a market that is monopolistically competitive. However, given that over 100 hours of footage are uploaded to YouTube for every minute that passes, it would be easy for a small producer's videos to get lost in the huge pool of content. It has been found that if a video does not reach a certain view-threshold, it is likely that it will receive few, if any, requests in the future. This fact further supports the idea that not all YouTubers should be categorized as successful when coupled with the fact that only 2% of daily requested videos are ones that have been newly uploaded (Cha, et al., 2007). As it turns out people mostly want to watch what others have watched. While it may seem logical for views to become more spread out among the different YouTubers as more videos are uploaded, the online world is actually one in which the rich get richer (or the popular get more popular). The 10% most popular videos often acquire around 80% of the views (Cha, et al., 2007). The graph below (Graph 1) shows how the views are skewed to the most popular videos. As illustrated below, there are only a few videos that ever reach over 10,000,000 views; not every video that is uploaded will be as popular as *Charlie Bit My Finger*.

Graph 1: Skewed Nature of YouTube Views

Graphic from Cha, et al., 2007

However, not all YouTubers are looking to create viral videos from which they can profit. Not all YouTubers measure success by the number of views their videos have accumulated. Videos were uploaded to YouTube before the partner program was created in 2007 allowing YouTubers to profit from their posts. Millions of people still post videos to YouTube despite never having received a check for advertisement revenues. YouTubers like Paul Vasquez, better known as “double rainbow guy,” have never sought to profit from ads placed on his *Double Rainbow* video. Vasquez is quoted in the Wall Street Journal saying, “You can’t put an ad on God.” Vasquez’s intent in uploading the video was to share it with as many people as he could, and did not want to have ads on his video that might take away from the experience of his video.

There are other YouTubers like Vasquez who are merely looking to share something with the world, and do not need or want any monetary incentives to continue sharing videos on YouTube. There seems to exist a range of intent among those who upload videos to YouTube. Thus, our definition of a successful YouTube producer must take this intent into account when determining who qualifies as a successful YouTube producer. Since people would stop posting videos if they were unsatisfied with their market position, I argue that YouTubers who have been

posting videos for over 1 year on a semi-regular basis should be counted as successful producers in the online market. One year is the threshold because it gives the video maker enough time to establish their position in YouTube; a position that is likely to be indicative of where they will remain for the foreseeable future. Thus if they were unhappy with their market position they would have left the market. This producer counting system places the number of YouTube producers at least somewhere in the thousands, thus fulfilling the last criteria needed for the market to be considered monopolistic competition.

Discussion

YouTube's monopolistically competitive environment has not only opened up the media market to amateur producers, but it has left traditional media giants like NBC and FOX with two options: join in the online movement or risk losing significant market power. In their attempt to gain power in the quickly developing online video market these large media companies have started showing clips of their programs on YouTube, and are creating official websites where consumers can further interact with the program content at their leisure.

Many media companies have also started making their content available on Hulu. Founded in 2007 by NBC Universal, New Corporation, and Providence Equity Partners, Hulu was launched by television channels looking to make their way into the online market. Its content is professional and the majority of their videos feature advertisements. In an attempt to better protect their content, distribution has been restricted to the United States, thus denying large companies the broad audience YouTubers get (Artero, 2010). Larger media companies often have to divert time and energy into containing their content in controlled settings so as to increase their ad revenues. Thus, while larger companies may try to use the online market to

further their company's power, the open nature of the internet keeps them from fully taking advantage of the internet's power like YouTubers have.

By making their content available on online platforms such as Hulu, Netflix and YouTube these large companies have given consumers increased power over when, how and what they watch. In other words, these huge companies are beginning to cater to the desires of the consumers. Thus, because of YouTube's market environment and the consumer migration to online markets, the larger media market has started transforming into a more user-friendly market environment.

As a result of the market transformation consumers no longer have to choose from least objectionable content that is structured to appeal to the broadest possible audience. Consumers have even more content choices than any cable package, and these options are free. In some ways, YouTube and online platforms have succeeded where cable has failed: The entrance of millions of producers diminished the degree of control that networks exercise in the online world, and thus in the overall media market. As a result of this increased competition consumers are presented with a massive range of video content from which to select. It's not unimaginable to think that the once common question of "what's on TV?" will soon be obsolete given the massive amount of content at the consumers' fingertips. These options are also potentially more satisfactory than anything one would ever find on TV. It is doubtful that there would ever be a TV channel dedicated to walking viewers through calculus problems, but instructional, 'how to' videos of this type are extremely popular and in great demand by high school to college age students. The content that can be found online falls under so many different categories that it is hard to imagine a person would be unable to find content pertaining to even the oddest interest.

This market structure conversion has also brought certain efficiencies associated with perfect competition to fruition in the current online market. One such efficiency is termed productive efficiency, in which firms (video makers) produce and sell at their minimum average total cost. In other words, videos are produced at the lowest possible cost, which for many YouTubers, basically equates to zero cost (excluding top video makers such as PewDiePie or Smosh). Since the cost of producing a video is so low for most producers, consumers are able to enjoy these videos at the very low price of *free*. Consumers have twenty-four hour access to YouTube's videos without ever having to give up anything other than their time and attention. Hence, in the YouTube market, the price charged to consumers is equal to the minimum average total cost for producers – an indicator that the market is structurally close to perfect competition. This also implies that resources are being used in an extremely efficient manner. For the video market, this means that the video-making talent of more people is being utilized. Fewer resources are going untapped since anyone who wants to can make and post a video to YouTube.

Another type of efficiency that is achieved is called allocative efficiency, in which the marketplace produces a mix of goods that the consumers want in the correct quantity. This also implies that not too many, nor too few resources are allocated to the production of these goods. This result seems to have been manifested in the online market to some extent. People are allocating more time to the creation of YouTube videos, and away from other potential activities like sleeping, or leisure activities.

However, where allocative efficiency falls short is the idea that the marginal benefit experienced by consumers is reflected in the price they pay for the product. Since people have been devoting increasing amounts of time to watching online videos it is clear that consumers get at least some benefit from these watching these videos. Thus, while marginal benefit is usually

equated to the price charged to consumers, for the purposes of examining YouTube, marginal benefit should be estimated based on the time consumers devote to the activity. This estimating method makes sense when you examine the relationship between consumers and top YouTube producers. As top video makers, like JennaMarbles, devote more time to video making, the marginal cost of producing videos rises. But now the marginal benefits consumers experience from watching these top videos are higher relative to other, lower quality videos, so consumers devote more time to these channels. Thus, the marginal benefit ends up equating to the marginal cost of production – a result often seen in more perfectly competitive markets.

Conclusion

With the online world playing such an influential role in the overall media market, and with YouTube being a large part of that world, it is easy to see why YouTube's monopolistically competitive market structure has brought major changes to the power structure in the larger media market. In the YouTube world we find differentiated products, spanning from 20 second cat videos to impressively polished weekly vlog entries. There are also amazingly low barriers to entry for producers who are looking to share their videos with the world. Once a computer and internet access are acquired, one only needs to set aside a few hours to create and upload videos. This market has also allowed for many, many more people to enter the video marketplace as producers. While not all videos that are created stand an equal chance of being seen by the masses, gaining a large consumer following is not the ultimate goal for many producers. Many YouTubers are merely looking to share something they find interesting or entertaining with anyone who is willing to listen - or in our case, anyone who is willing to watch.

In many ways both amateur and professional video makers compete as equals in this online market. Their content is uploaded to the same place in cyberspace, and it is left to the consumer to decide which videos will flourish. Every video is uploaded to one big platform, creating a more level playing field on which producers of all types can compete for consumer attention. YouTube and the online market have started a process of creative destruction in which distribution of market power is disrupted by the increasingly competitive market environment. This disruption ultimately takes power away from the large media companies and redistributes it amongst the consumers in the form of expanded choice at lower costs.

Appendix A

This table shows how the shares of NBC, CBS and ABC have declined since 1980, suggesting that the technological innovations that have occurred over the decades (cable, remote control and internet) have caused fragmentation of the consumer base.

The data for this table was found in Hindman, D. B., & Wiegand, K. (2008). The big three's prime-time decline: A technological and social context. *Journal of Broadcasting & Electronic Media*, 52(1), 119-135. doi:10.1080/08838150701820924

Table 1
Big Three Television Network Season Average Prime-Time Shares, MVPD
Penetration, Social Differentiation Indicators,
and Income, by Year

Year	Network Share %	MVPD %	Non-White%	U.S. Pop. (000)	College Grad %	Social Differentiation	Big Three Income ^a
1980	90	22.6	14.1	227.225	17	95.5	565.5
1981	85	25.3	14.3	229.466	17	95.7	489.1
1982	83	29.0	14.5	321.664	18	96.1	467.5
1983	81	37.2	14.7	233.792	19	96.7	602.0
1984	78	41.2	14.9	235.825	19	97.0	703.7
1985	77	44.6	15.1	237.924	19	97.3	303.8
1986	76	46.8	15.3	240.133	19	97.5	849.8
1987	75	48.7	15.5	242.289	20	97.9	1201.9
1988	70	49.4	15.7	244.499	20	98.2	1763.0
1989	67	53.5	15.9	246.819	21	98.7	1225.2
1990	60	55.5	16.1	249.623	20	98.7	962.2
1991	60	60.0	16.3	252.981	21	99.3	521.8
1992	60	61.8	16.4	256.514	21	99.6	582.7
1993	57	64.0	16.6	259.919	22	100.1	861.6
1994	57	67.0	16.7	263.126	22	100.5	1201.4
1995	54	71.4	16.8	266.278	23	101.0	1180.1
1996	51	74.6	16.9	269.394	24	101.5	1305.5
1997	47	75.9	17.0	272.647	24	101.9	2026.5
1998	44	78.2	17.1	275.854	24	102.3	1784.4
1999	41	81.4	17.2	279.040	25	102.8	2203.2
2000	42	83.8	18.9	282.224	26	103.4	2295.3
2001	40	84.2	19.1	285.318	26	103.9	2650.0
2002	36	83.0	19.3	288.369	27	104.4	2989.9
2003	34	84.2	19.4	291.028	27	104.8	3470.3
2004	34	85.1	19.6	293.907	28	105.2	4482.5

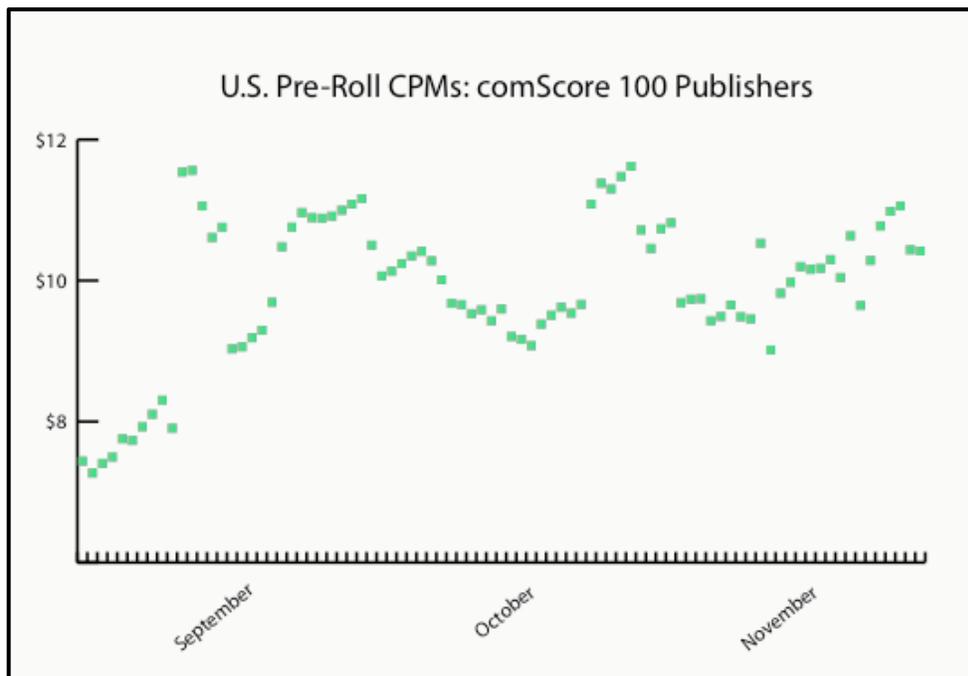
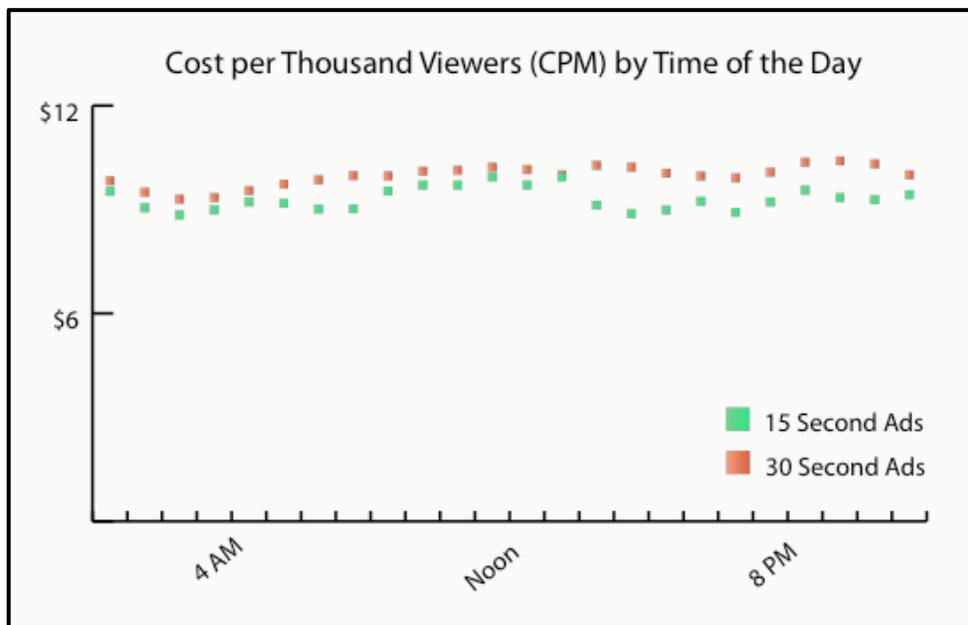
Note: ^aThe operating income values were adjusted for inflation.

Appendix B

These two charts show how CPM rates for online videos vary throughout the time of day as well as throughout 2013.

These charts were found in TubeMogul's *Video Advertising Playbook*

http://www.tubemogul.com/marketing/TubeMogul_Video_Ad_Playbook.pdf



Appendix C

Top 20 Non-Branded YouTube Channels

Data gathered on December 5th, 2013

Rank	Channel Name	Subscribers	Views
1	PewDiePie	16,500,161	2,908,660,731
2	Smosh	13,781,345	2,783,263,916
3	HolaSoyGerman	12,927,183	876,648,966
4	JennaMarbles	11,330,668	1,294,764,670
5	Nigahiga	10,773,838	1,633,983,240
6	RayWilliamJohnson	10,480,834	2,572,985,564
7	EpicRapBattlesOfHistory	8,425,240	784,514,734
8	Werevertumorro	6,801,402	1,016,737,758
9	FreddieW (Rocket Jump)	6,709,691	934,949,613
10	RooserTeeth	6,676,553	2,560,197,428
11	TheFineBros	6,498,152	1,175,225,573
12	SkyDoesMinecraft	6,474,168	1,387,468,090
13	Porta dos Fundos	6,448,465	585,204,399
14	YOGSCAST Lewis & Simon	6,269,157	2,271,927,868
15	TheSyndicateProject	6,011,218	1,045,923,580
16	CaptainSparkel	5,987,612	1,124,835,406
17	TobyGames	5,842,134	1,470,088,183
18	EpicMealTime	5,842,067	629,846,310
19	Vsauce	5,732,631	500,916,393
20	CollegeHumor	5,433,490	2,138,711,869

<http://channelmeter.com/ranking>

Top 20 YouTube Channels

Purple highlight represents UGC channels

Data gathered on December 5th, 2013

Rank	Channel Name	Subscribers	Views
1	YouTube Spotlight	16,605,956	304,419,674
2	PewDiePie	16,500,161	2,908,660,731
3	Movies	14,578,148	0
4	Smosh	13,781,345	2,783,263,916
5	HolaSoyGerman	12,927,183	876,648,966
6	JennaMarbles	11,330,668	1,294,764,670
7	Rihanna Vevo	11,156,937	4,388,643,689
8	TV Shows	10,991,023	0
9	Nigahiga	10,773,838	1,633,983,240
10	RayWilliamJohnson	10,480,834	2,572,985,564
11	Machinima	10,036,765	4,626,067,517
12	OneDirectionVevo	9,908,558	2,184,415,853
13	EpicRapBattlesOfHistory	8,425,240	784,514,734
14	EminemVevo	7,997,438	2,881,737,835
15	TheEllenShow	7,368,567	2,273,789,457
16	KatyPerryVevo	7,106,849	2,074,096,927
17	JustinBieberVevo	6,853,331	4,189,335,425
18	Werevertumorro	6,801,402	1,016,737,758
19	FreddieW(RocketJump)	6,709,691	934,949,613
20	Rooster Teeth	6,676,553	2,560,197,428

<http://channelmeter.com/ranking>

References

- Artero, J. P. (2010). Online video business models: YouTube vs. hulu. *Palabra Clave*, 13(1), 111-123.
- Cha, J. (2013). Do online video platforms cannibalize television?: How viewers are moving from old screens to new ones. *Journal of Advertising Research*, 53(1), 71-82. doi:10.2501/JAR-53-1-071-082
- Cha, J., & Chan-Olmsted, S. (2012). Substitutability between online video platforms and television. *Journalism & Mass Communication Quarterly*, 89(2), 261-278. doi:10.1177/1077699012439035
- Cha, M., Kwak, H., Rodriguez, P., Ahn, Y. Y., & Moon, S. (2007, October). I tube, you tube, everybody tubes: analyzing the world's largest user generated content video system. In *Proceedings of the 7th ACM SIGCOMM conference on Internet measurement* (pp. 1-14). ACM.
- Hindman, D. B., & Wiegand, K. (2008). The big three's prime-time decline: A technological and social context. *Journal of Broadcasting & Electronic Media*, 52(1), 119-135. doi:10.1080/08838150701820924
- Liebowitz, S. J., & Zentner, A. (2012). Clash of the titans: Does internet use reduce television viewing? *Review of Economics & Statistics*, 94(1), 234-245.

Lin, J., & Cho, C. (2010). Antecedents and consequences of cross-media usage: A study of a TV program's official web site. *Journal of Broadcasting & Electronic Media*, 54(2), 316-336.
doi:10.1080/08838151003737998

Logan, K. (2011). Hulu.com or NBC? *Journal of Advertising Research*, 51(1), 276-287.

Logan, K. (2013). And now a word from our sponsor: Do consumers perceive advertising on traditional television and online streaming video differently? *Journal of Marketing Communications*, 19(4), 258-276. doi:10.1080/13527266.2011.631568

Lotz, Amanda (2007). *The television will be revolutionized*. New York: New York University Press.

Waldfogel, J. (2009). Lost on the web: Does web distribution stimulate or depress television viewing? *Information Economics and Policy*, 21(2), 158-168.
doi:http://www.elsevier.com/wps/find/journaldescription.cws_home/505549/description#description