Content Acquisition & Monetization Strategies for Online Video

YouTube: 100M+ daily video views – now what?

May 7, 2008

Christine Lee

MBA Candidate, Class of 2008
The Wharton School
University of Pennsylvania

TABLE OF CONTENTS

Acknowledgments

Introduction & Topic Overview

The online video industry has become crowded in the past few years, with companies providing a variety of online video services that focus on different niches in streaming media. Even with a growing online audience, there is no clear vision for the industry revenue model and whether online video will integrate or disintegrate from traditional media platforms such as television and DVDs.

One of the leading sites to emerge from the field is YouTube. Acquired in 2006 for $1.65 billion by Google, YouTube seemed to hold the most promise. Google appears to be a perfect complement to YouTube - Google is a leader in contextual, online advertising, and YouTube is one of the most popular websites in the world. YouTube experienced exponential web traffic growth in the past year while cultivating a loyal and active community.

However, YouTube's future is still uncertain. It has yet to truly produce a sustainable, profitable business model. YouTube introduced in-stream advertising earlier this year and is continuing to collaborate and license content from media companies such as Universal Music and CBS. However, YouTube has had difficulty monetizing its user-generated content, which makes up the majority of videos streamed from the site. YouTube has also faced several copyright lawsuits (Viacom) as well as direct competition from some of its media partners.

This study will attempt to understand the emerging U.S. online video market and answer the following questions from the perspective of YouTube:

(1) What will be the prevailing revenue model for streaming video?

(2) How can online media sites take advantage of shifting media consumption habits?

These issues will be examined using relevant frameworks from the book "Wharton on Managing Emerging Technologies".   This introductory paper will:

(1) Present the consideration set of frameworks

(2) Review and explain the chosen frameworks

(3) Summarize and present next steps for the study

Frameworks – Consideration Set

The television industry is experiencing turmoil similar to that which the newspaper industry experienced during the explosion of the Internet. Consumer media consumption was moving online and away from traditional print. Many news corporations were worried about protecting their advertising revenues, audiences, and content.

Similarly, streaming video has introduced challenges to traditional television operations in several areas, including but not limited to:

(1) Consumer video consumption habits (competition for consumer mindshare)

(2) Emergence of effective revenue models

a. Introduction of new revenue models (subscription, download-to-own, pay-per-view, revenue share agreements)

(3) Copyright protection capabilities

Currently there are many different players in the online video space, including technology startups, media joint ventures and independent publishers.

By applying the following frameworks to these three variables, we can then examine the impact they may have on the future outcome of the industry.

(1) Lumpy Markets

(2) Diffusion/Adoption Models

(3) Commercializing Emerging Technologies through Complementary Assets

(4) Scenario-Planning

Lumpy Markets

The framework of lumpy markets is an interesting one to apply to the online video industry to better understand (1) consumer online habits and (2) the subsequent content acquisition/distribution strategy.

The framework states that consumer satisfaction is primarily derived from the attribute set that is created by the emerging technology. Customers will cluster around different attribute preferences, and will make decision tradeoffs. In order to identify where technology and resource investments are most valuable, strategists must understand:

(1) which attributes meaningfully differentiate one offering from another

(2) how sets of attributes appeal to different market segments

(3) how technology or resource barriers influence the interaction between attributes and segments[1]

In the case of streaming video, some of the attributes that customers may weigh when comparing online video sites may include streaming quality, length, content, social networking capabilities, discoverability, etc. For example, comScore's recently released study showed that the majority of videos streamed online were only about 2.5 minutes long.[2] However, large media sites such as abc.com has also seen its user base double

---

[1] Ian MacMillan, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.159
[2] Comscore Press Release, *3 out of 4 U.S. Internet Users Streamed Video Online in May*,
http://www.comscore.com/press/release.asp?press=1529.

in the last year to 14.6 million unique viewers in May 2007[3]. Abc.com offers full-length (60-minutes), high-definition streams of television shows such as Grey's Anatomy, Desperate Housewives, etc.

These are obviously diverging consumer viewing habits that could result in different strategies for YouTube. Should YouTube anticipate that audiences will watch short-form entertainment online, and pursue a content acquisition strategy that focuses on short, user-generated clips? Or is there an emerging opportunity for YouTube to partner with large media companies to serve longer, high-quality clips to its audience? In applying this framework to the questions above, the advantages are:

- **It ties technology investment directly to strategic market opportunities.** We could look at television and view online video as an emerging technology that is fulfilling unmet needs of TELEVISION rather than online video audiences. In this lens, we could quickly see that online video technology offers convenience (watch whenever you want), social community (ability to easily share and discuss content with friends). This would allow us to examine an established, existing market and clearly frame opportunities for online video sites. This might lead us to conclude that online video could be a substitute for television, and thus the programming would need to mirror that current television programming.

The disadvantages of this framework are:

- **Overly simplistic** – assumes that customers' needs may not change upon introduction of new enabling technologies. In the case of online video, we do not have a rich history of consumer behavior. A handful of media companies

---

[3] Comscore Press Release, *Summer Movie Season and Political Interest Boost Traffic to Sites in May*, http://www.comscore.com/press/release.asp?press=1482.

introduced full-length features only within the past year, and even fewer full-length movies have debuted online.   However, new consumption preferences may emerge as the type and quality of online video grows. It almost becomes a question of the "chicken or the egg?"

Diffusion/Adoption Models

Diffusion models also provide an interesting way to examine emerging markets based on the following product dimensions:

- Perceived advantages

- Perceived risk

- Barriers to adoption

- Opportunities to learn and try

This model looks at perceived advantages as the main driver of the rate of diffusion, but considers that the other three factors can dampen or impede this rate.[4] The model hopes to use these variables to explain or predict how quickly/slowly markets will emerge for the product.

In this case, the perceived advantage of online video may depend on a variety of factors – availability of desired content, ease of discoverability of that content, quality, ease of user interface, etc. Risk does not play as large of a role because most of the video sites are ad-supported, so consumers can use them for free. This also lowers the barrier to adoption, although internet access is obviously a barrier. Finally, YouTube has already garnered such a large audience that it is difficult to imagine anyone that

---

[4] George Day, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.131

hasn't tried it at least once. Thus, the model would mainly attempt to explain how the

market for streaming media based on the perceived advantages of online video.

One advantage of applying this model to the online video market is that the

market has already grown substantially. There is plenty of data and customers which

we could survey to uncover what drove their early adoption and their perception of the

product benefits. We could then analyze this data and extrapolate it to predict how the

market will grow. However, I believe that this model omits the fact that there are many

uncertain factors that may slow or change the adoption rate. The changing business

models and frequent entrance of new competitors may influence the perceived

advantages of the industry as a whole and the potential number of adopters. This

model is also typically more accurate for more mature markets as opposed to emerging

markets.

Commercializing Emerging Technologies through Complementary Assets

This framework is interesting because it does not focus solely on the technology.

Instead, it looks at all the commercialization challenges of a new technology:

complementary assets, relevant competitors and relevant customers. The main idea is

that the technology change is only one of several factors that will shape the overall

company strategy. Without proactive management of these other areas, successful

technologies may not become commercial successes.

This framework seems useful in exploring potential online video revenue models.

By examining the effects of complementary assets, competitors and customers, we can

begin to estimate probable revenue models based on the existing and predicted

ecosystem of content partners, competitors and customers (consumers and

advertisers). As a content destination site, YouTube works closely with content partners to ensure that it provides the greatest amount of video to its users. In addition, YouTube serves as an online media property, selling advertisements to marketers eager to reach the visitors on the site.

Considering the entire commercialization strategy can allow us to estimate the feasibility of advertising supported, subscription, or other revenue models, in light of all the involved parties and their interactions.   The disadvantage of this model is that it appears to be more useful in hindsight. After all, how can we accurately estimate which complementary assets are most important, or what customer segments may emerge from a new technology? If we look back on a case in history, it may be very easy to "connect the dots" between its technology, complementary assets, competitive landscape and customers and understand how it was able to succeed. When using this model as a predictive model, however, more uncertainty emerges.

Scenario Planning

Scenario planning is a framework that is best suited for industries facing complex, uncertain futures. It is applicable in a technological, political, demographic and economic context, addressing three challenges inherent in emerging technologies: uncertainty, complexity and paradigm shifts. It differs from traditional planning or contingency planning by exploring the joint impact of various key uncertainties. Often the utility of the framework is that it forces managers to rethink certain beliefs they may hold about the future, and forces them to accept and plan for shifts in those beliefs.

There is a bevy of uncertainties surrounding today's streaming video industry. The main issues that I am attempting to study in this paper are (1) revenue models and (2) shifts in media consumption habits. These seem to be the key uncertainties that emerge when discussing the future of the industry.

Although there is a tendency to assume that online video will move towards an advertising-supported business model, this is not necessarily as straightforward as it sounds. Many online advertising models are contextually-based. Ads are served by crawling the site for text or meta tags that attempt to match ads to the content on the page. With a television model, the advertising is typically demographic and content based. Television shows analyze customer information about the people watching the shows and sell ads to companies trying to target their specific demographics. Finally, the last wrinkle is that in-video advertising is still relatively unproven, so there may be interim revenue models that are introduced to supplement advertising revenue streams.

Media consumption habits are critical to influencing the future of the online video industry. While it is no surprise that Americans are spending more and more time online, it is important to understand what types of activities they are engaging in. This will shed insight into customer needs and segments and drive different content strategies for video destination sites like YouTube. Will people stream online videos as a substitute for television? Do they view online videos as a complementary product? How do content providers view the site – as a new distribution channel, or competitor to traditional channels? These will reveal strategic market opportunities and challenges for online video sites.

The obvious advantage of scenario planning is that it controls for the uncertainty and complexity that often surrounds an emerging technology. It can look at two key variables and how changes in each may induce different strategies. The disadvantage is that its utility is linked to choosing the "right" key uncertainties. Oftentimes it is difficult to nail down the relevant key uncertainties. Furthermore, there is a possibility that it can amplify the effects of weak uncertainties.

CHOSEN FRAMEWORKS

In the prior section, the consideration set of frameworks was presented, along with pros and cons of each. Upon consideration, I intend to use Commercialization of Emerging Technology through Complementary Assets and Scenario Planning for this study.

The Lumpy Markets framework did not appear as relevant because of the rapidly changing customer needs and products within the online video industry. The Diffusion/Adoption models also seemed more applicable to a more mature market.

Commercialization of Emerging Technology through Complementary Assets provides an interesting examination of the industry because it systematically looks at how the technology affects all the different constituents of an industry contribute to the commercialization of that technology. I believe that while YouTube started out primarily as a technology company, it is now at a stage where it should put additional focus on its role as a social, media distribution medium.

The high uncertainty around business models and consumption habits make *Scenario Planning a* very relevant framework. Although I do maintain hypotheses about

what I believe to be the key uncertainties, the first step I will take in my study is to analyze market research and survey industry players to understand all the influential forces. This will create a more accurate picture of the trends and uncertainties surrounding the industry and allow me to further analyze those key complexities that emerge.

INTRODUCTORY SUMMARY & NEXT STEPS

The future of the online video industry is exciting because there is so much activity and uncertainty around it. By analyzing some of these key uncertainties and commercialization drivers through these two frameworks, I hope to be able to draw some insights into how the industry may progress. Specifically, I would like to recommend a revenue and content strategy to YouTube that leverages its competitive advantages within the industry landscape.

STRATEGY FRAMEWORK 1:

COMMERCIALIZING EMERGING TECHNOLOGIES THROUGH COMPLEMENTARY ASSETS

Companies that can identify and manage [the complementary assets and its existing customer relationship] have a much better chance of carrying their firms across these life-threatening chasms.[5] This is due to the fact that emerging technologies often change more than just the technological skills needed to succeed – they often also change the relevant skills, complementary assets, relevant competitors, and relevant customers.[6]

- YouTube must consider its **current technology and skill set**, and how that may change in light of the changing online video landscape. One of its major strengths is its user base and their community loyalty – as the site continues to grow, how will YouTube continue to connect to these users and keep them interested in the site? How is this tied into its current technological capabilities, and what additional capabilities will YouTube need in order to move into a monetization strategy?

- **Complementary assets** include but are not limited to: distribution access, service capability, customer relationships, supplier relationships and complementary products.[7] In YouTube's case, these complementary assets would include its ability to maintain its relationships with its content distribution partners (those websites in its Adsense program as well as large media sites),

[5] Mary Tripsas, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.173.
[6] Mary Tripsas, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.175.
[7] Mary Tripsas, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.175.

relationships with both its user base as well as its content partners, and its advertising relationships.

- Due to YouTube's well-publicized success, new online video **competitors** are cropping up everyday. According to Dow Jones VentureSource, in 2007 alone, more than $460.5 million was invested in online video startups (spread across 68 startups for an average of $6.8 million each), up from $266.9 million in 2006. And as of first quarter 2008, there was over $217.8 million already invested in the industry. (See Figure 1). In addition, the landscape is continually changing as traditional media companies also enter the space – for example, hulu.com (a joint venture between NBC Universal and News Corp.) and abc.com.

Figure 1. Funding for U.S. Venture-backed Online Video Startups
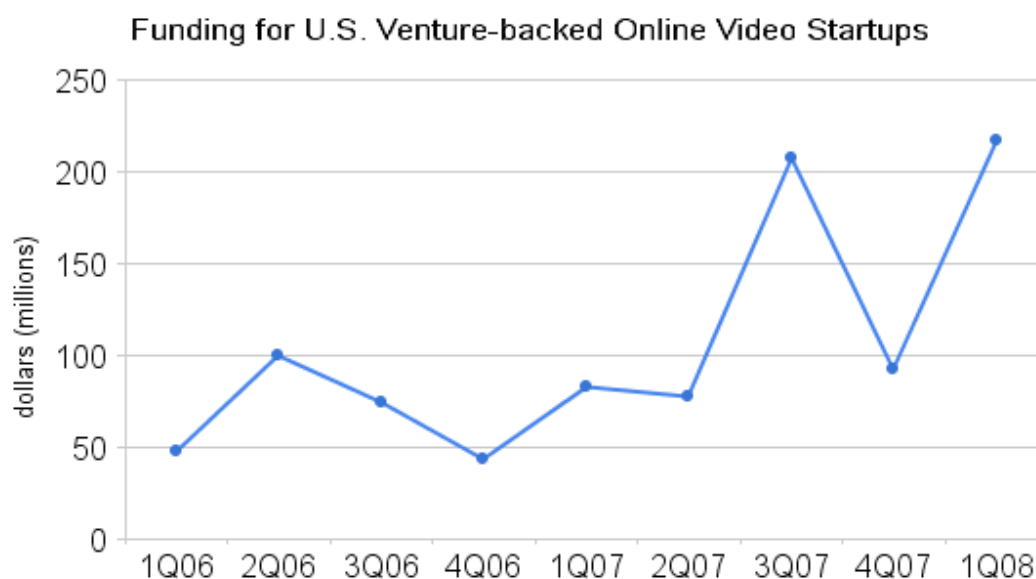
- **Relevant Customers** – When YouTube first launched, it was conceptualized as an online video-sharing site where users could share their personal videos with their friends. While this user-generated content still makes up the majority of the content watched and posted on YouTube, the explosive popularity of the site has

created a new set of "customers" that YouTube must consider in moving its business forward. These include the large and small content creators which YouTube must partner with to legally provide rich content on the site, as well as the advertisers that support the monetization of the sites with their advertising dollars.

We will examine these four factors to see how they converge on the most suitable commercialization strategy for YouTube to follow in the context of the current online video industry landscape (See Figure 2). In addition, the main questions and changes that they face are summarized in a table for easy reference (See Figure 3).

Figure 2. Forces Shaping Commercialization Strategy

Change in Technology/Skills

• What new skills are needed to develop & manage online video technology?
• How are these different than YouTube's (YT) current skills?
• What % of YT's current skills will continue to be valuable as online video becomes more mainstream?

Change in Customers

• What new customer segments emerge with the increased popularity of online video?
• How do the needs of these customers differ from previous customers?
• How does this affect the capabilities of existing customers?
• Can YT ease the transition for current customers & keep them tied in?

Change in Strategy

Change in Complementary Assets

• What complementary assets are currently valuable to YouTube?
• Which assets will retain their value & what new assets will appear?
• What proprietary architectural standards can the firm control?
• Are there new complementary products/services YT should enter?

Change in Competitors

• What new competitors from different industries will enter the market?
• How do these new competitors' capabilities differ from those of traditional companies?
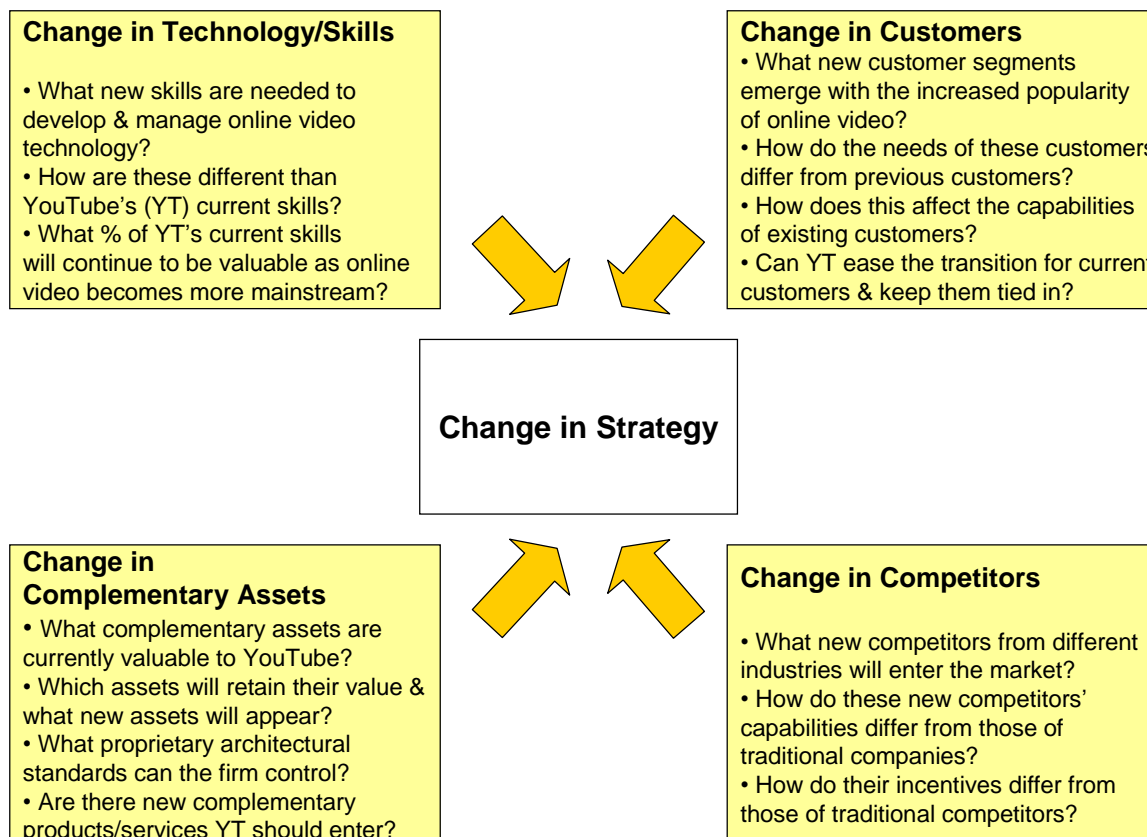• How do their incentives differ from those of traditional competitors?

Figure 3. Challenges for YouTube

Transition/Dimension	Migration of Professional Content from the Television to Online Video
Change in Technology/Skills	• New content partners: different skills and services are required for different types of content creators • Whereas the user experience and content delivery was critical in the first stage (and still important now), it is also crucial to develop advertising capabilities in order to monetize • Need to consider how to incorporate new technology to achieve cost efficiencies in delivering video content without sacrificing user experience
Change in Complementary Assets	• Content delivery suppliers become even more important partners as content increases • Legal assets and capabilities critical as YT combats copyright lawsuits • New complementary partners - third party ad servers, ad analytics software, etc. • Continue to leverage its large, active community in new ways • Widen its distribution; e.g. mobile apps, embedded players, integration w/ Google's Adsense platform.
Change in Competition	• Popularity of the online video industry has created many small, technology-focused competitors • Large, traditional media companies also entering the market - they compete on different strengths, mostly content & advertising • Traditional media companies see online video as a way to "defend" their television audience
Change in Customers	• YouTube users actually fairly affluent and older in age than previously thought • Difference in demographics and the way they engage with the site means that YouTube must think about how to integrate different features and advertising campaigns. This can be done through niche, targeted advertising • Generational audience gaps highlight the need to provide a broad variety of content and ways to uncover that content

Change in Technology/Skills

When Google purchased YouTube in 2006, YouTube was the dominant online video sharing site in the industry and one of the top 10 sites on the internet with over 100+ million views a day.[8] Today, YouTube continues to dominate the online video space. According to the latest report by ComScore's Video Metrix, Google (with YouTube making up 96% of its viewership) held the top position in the online video market (Figure 4).

---

[8] http://www.pvrwire.com/2006/10/10/google-youtube/

Figure 4. Top U.S. Online Video Properties by Videos Viewed

Top U.S. Online Video Properties* by Videos Viewed		
January 2008		
Total U.S. – Home/Work/University Locations		
Source: comScore Video Metrix		
Property	**Videos (000)**	**Share (%) of Videos**
Total Internet	*9,814,010*	*100.0%*
Google Sites	3,363,335	34.3%
Fox Interactive Media	584,132	6.0%
Yahoo! Sites	315,001	3.2%
Microsoft Sites	199,288	2.0%
Viacom Digital	197,737	2.0%
AOL LLC	118,033	1.2%
Disney Online	95,041	1.0%
Time Warner - Excl. AOL	85,467	0.9%
ESPN	81,402	0.8%
ABC.COM	49,017	0.5%

Rankings based on video content sites; excludes video server networks. Online video includes both streaming and progressive download video.

While its dominance of the online video space hasn't changed, the industry as a whole has changed quite dramatically since its inception in February 2005. At that time, YouTube's major strengths were its large audience, large video database, the social networking community it had built around its site, and user-friendly interface. While it was selling advertising at that time as well, its revenues at that time were not significant. However, YouTube was able to secure its high acquisition price because of the "eyeballs" that Google felt it could monetize with its advertising systems. To this day, however, YouTube has yet to monetize its content to the point of justifying its purchase price (understandable given that the company is only in its third year of existence). In addition, many more online video players have emerged, ranging from other technology startups (veoh.com, revver.com, buddytv.com) to large traditional media players such

as ABC, NBC, NewsCorp, etc. that have launched online video sites for their professional content. With the pressure to monetize and other businesses looking to the company to set the industry business model, YouTube has had to develop its skills outside of video hosting and distribution. It must continue to think about (1) how to effectively work with many different types of content creators, (2) how to create large, scalable advertising models that are accepted by its users and its advertising partners, and (3) how to continue to meet the hosting demands of the increasing numbers of videos posted to its site.

(1) Changing the way YouTube thinks about working with content creators

Although YouTube's popularity was built around user-generated content, many industry experts believe that much of the content being viewed on the site still violates copyright laws and regulations. While the company has many reactive measures in place to deal with unauthorized posting of content, the company must further evolve to take a more proactive stance against piracy if it wants to avoid going the way of companies such as Napster. The multiple lawsuits that have already been levied against YouTube by media companies such as Viacom are testament to the need for the company to continue to evolve its efforts against piracy and content protection.

In addition, YouTube finds itself in a unique position of working with and "competing" against its content partners – for example, upon the launch of hulu.com, NBC "pulled the plug" on its YouTube channel. NBC executives were quoted as stating that they eliminated the NBC YouTube channel in hopes of pushing more traffic to Hulu.[9] Thus, YouTube must consider evolving its current offering to media partners that

---

[9] Garrity, Brian. "Video Screen Goes Dark for NBC", New York Post. http://www.nypost.com/seven/10232007/business/video_screen_goes_dark_for_nbc.htm, October 23, 2007.

maintain their own video sharing sites. Because of YouTube restrictions (content can

not exceed 10 minutes in length, streaming quality, etc.), it must re-evaluate its value

proposition to large media companies and think about how it can integrate its

capabilities with those of its partners. Additionally, it must also continue to innovate how

it works with and retains the smaller, independent content creators on the site. Many of

these independent content creators form the backbone of the "community" on the site,

and have been able to leverage their popularity on the site into larger deals (i.e.

LonelyGirl). While YouTube has rolled out a revenue sharing partner program to

selective partners, it must continue to think about how to scale this to a larger roster of

partners.

Finally, this is important not only because of legal violations and competitive

considerations, but also because YouTube must placate large brand advertisers that

may be concerned about placing their ads and brand names against YouTube content.

In an August 2007 IDC report on monetizing social networking sites (such as YouTube),

"potential hurdles that sites may face in growing their advertising revenue, including the

need for better demographic targeting, and advertiser concern about having their brand

tainted by unfiltered user generated content."[10] Gartner, a market research firm

covering the technology industry, stated that Google would not be able to reach its

potential in acquiring YouTube unless [Google] cleans up the copyright violations on the

online video site.[11] YouTube already recognizes the need to address these concerns –

in October 2007 it unveiled its "Video Identification" tool, which is designed to block

copyright material from appearing and spreading on the site. However, there have been

---

[10] "Social Networking Services in the United States – Popular, Yes, But How to Monetize Them?", IDC, August 2007.
[11] "Google Will Face Challenges in Wake of YouTube Acquisition", Gartner, October 2006.

objections raised to the technology because it puts the burden on movie studios and

other content owners to provide YouTube with copies of the content first.[12] In addition,

this has only rolled out in beta, and there are still many videos appearing on the site that

have copyright violations in other forms (for example, copyrighted music overlaid on

user-generated videos).

(2) Creating large, scalable advertising models accepted by its users & advertising

partners

Although there has been rapid growth in the spending on online video advertising

(Figure 5), the video advertising market is still very small as compared to the audience

size (Figure 6), traditional advertising spending (Figure 7) and online internet advertising

(Figure 8).

Figure 5. Online Video Advertising Spending
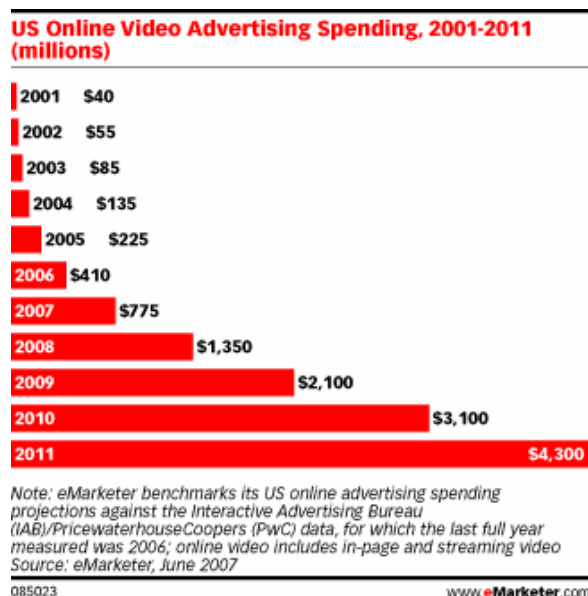
[12] Mills, Elinor. "Google Unveils YouTube antipiracy tool", CNET Newsblog, October 15, 2007.

Figure 6. Online Audience Size

US Online Video Viewers As a Percent of Broadband Users, Total Internet Users and Total Population, 2003-2011

	% of broadband users	% of Internet users	% of total population
2003	73.1%	31.8%	18.8%
2004	80.5%	40.9%	24.8%
2005	82.1%	51.4%	31.8%
2006	85.7%	62.8%	40.0%
2007	86.4%	72.0%	47.0%
2008	88.3%	80.0%	53.3%
2009	89.7%	84.2%	57.4%
2010	90.4%	85.4%	59.4%
2011	91.4%	86.6%	61.2%

Note: ages 3+; online video viewer defined as an individual who downloads or streams video (content or advertising) at least once a month; population figures are from the US Census Bureau
Source: eMarketer, February 2007

081447   www.eMarketer.com

Figure 7. Traditional Television Advertising Spending

Share of Measured Advertising Spending

Media Type	2007	2006	2005	2004
National TV	32%	31.5%	31.6%	31%
Magazines	20.4%	19.3%	19.8%	19%
Newspapers	17.7%	18.8%	20.2%	20.4%
Local TV	11.3%	12.5%	11.5%	13.1%
Internet	7.6%	6.6%	5.8%	5.3%
Radio	7.2%	7.5%	7.7%	7.8%
All Other	3.9%	3.8%	3.5%	3.3%

Source: TNS Media Intelligence

Figure 8. U.S. Online Advertising Spending (by Format)

US Online Advertising Spending, by Format, 2006-2011
(% of total online ad spending and billions)

	2006	2007	2008	2009	2010	2011
Search	40.3%	40.3%	40.0%	39.8%	39.8%	39.5%
Display ads	21.8%	21.9%	21.5%	20.5%	20.0%	19.5%
Classified	18.1%	17.0%	17.0%	16.9%	16.8%	16.5%
Rich media/video	7.1%	8.2%	9.5%	11.0%	11.9%	13.1%
Lead generation*	7.8%	8.15	8.3%	8.6%	8.8%	8.8%
E-Mail	2.0%	2.0%	1.8%	1.7%	1.6%	1.5%
Sponsorships	2.9%	2.5%	2.0%	1.5%	1.3%	1.2%
Total	**$16.9**	**$21.4**	**$27.5**	**$32.5**	**$37.5**	**$42.0**

Note: eMarketer benchmarks its US online advertising spending projections against the Interactive Advertising Bureau (IAB)/PricewaterhouseCoopers (PwC) data, for which the last full year measured was 2006; online ad data includes categories as defined by IAB/PwC benchmark—display ads (such as banners), search ads (including paid listings, contextual text links and paid inclusion), rich media (including video), classified ads, sponsorships, referrals (lead generation) and e-mail (embedded ads only); excludes mobile ad spending; *also called referrals
Source: eMarketer, October 2007

088422   www.eMarketer.com

In fact, even for YouTube, the majority of its advertising dollars are estimated to come from banner ads that appear on the site. According to estimations by Bear Stearns, YouTube will generate about $114 million dollars in revenue this year, of which only $22.6 million (or roughly 20%) will come from in-video ads (Figure 9).

Figure 9. YouTube Domestic In-Video Revenue Projections

YouTube Domestic Projection	2007	2008	2009	2010	2011	2012
Streams Served (Thousands)	16	1,091	1,269	2,199	3,280	4,481
Percent of Users	0.0%	0.8%	2.0%	3.1%	4.3%	5.4%
Video CPM	$ 20.0	$ 20.7	$ 21.4	$ 22.2	$ 23.0	$ 23.8
Percent YoY Growth		3.5%	3.5%	3.5%	3.5%	3.5%
Video Ad Revenues (Millions)	$ 0.3	$ 22.6	$ 27.2	$ 48.8	$ 75.3	$ 106.4
Less Rev Sh	80.0%	80.0%	80.0%	80.0%	80.0%	80.0%
Net Video Ad Revenues (Millions)	$ 0.1	$ 4.5	$ 5.4	$ 9.8	$ 15.1	$ 21.3

Source: Bear Stearns

One of the major reasons for this disparity is the unique challenges of the online video market. There are a few commonly raised issues surrounding the content differences, advertising formats and analytics.

Content differences – because of the large range of content available and viewed on the internet, it becomes difficult to create a "one-size-fits-all" advertising system that can appropriately distribute and display ads against content that may range from professionally produced to user-generated videos. In addition, it may very well be the same audience that is watching both the amateur and the professional content.   The challenge for marketers and distribution outlets (like YouTube) is how to appropriately categorize and inventory all of this different content in a way that can be sold to advertising partners in a meaningful way (i.e. by demographics, content, etc.).

Lack of standard advertising formats – There are currently many different types of advertising formats, ranging from 10, 15 & 30 second pre-, mid-, and post-roll ads, to companion ads such as text ads, display & banner ads, wraparound skins, to in-stream video overlays that occupy a portion of the video itself. The amount of production required for these ads may range from repurposing traditional television ads to creating complementary display ads, to rich media ads that are created specifically for in-video viewing.[13] As such, it can be easy to see how the lack of a standard or prevailing advertising format can make it difficult for companies to participate in online video advertising on the same scale as television advertising, which is standardized to a 30 second commercial.

Analytics – One of the major advantages of online advertising is trackability – the ability to track user behavior and tie it directly to the advertisements. There is no

---

[13] "A Digital Video Advertising Overview", Interactive Advertising Bureau, January 2008, p.4, 9.

standard reporting for many of the ad servers, and oftentimes there are also discrepancies between third party ad servers, publishers and third party video vendors.[14]

YouTube has already begun to address all of these issues and has expanded its skill set in order to meet the new demands that online video technology has placed upon it. However, there is more that it must do in ways of standardization in order to help bring online video advertising into the mainstream. This involves evolving the way that it identifies, categorizes and surfaces content on the site for advertisers. YouTube might consider spending more time better understanding similarities among the consumers of different types of content on the site. This would allow them to sell advertising in a similar manner as television programming – by providing demographics about the audience that is watching certain types of programming, and then selling ads against those audiences to interested advertisers. However, this may require some behavioral tracking, which may come under fire due to consumer privacy and security concerns. Google also needs to further bolster its video search capabilities on the site – because there is so much video out there, it must be able to quickly deliver the type of content that its users are searching for, and then follow up the delivery of the programming with relevant advertisements throughout the search and viewing phases.

In terms of standardizing advertising formats – although the market for digital ad buying is becoming more mature, media buyers are still expressing confusion over the many different advertising products and the difference between online buying and television buying. Television ad buying typically consists of :30 or :60 spots in a uniform environment, while online buying requires a broad understanding of multiple ad

---

[14] "A Digital Video Advertising Overview", Interactive Advertising Bureau, January 2008, p.10-11.

experiences, video integration on websites/portals, network differentiation and a more engaged, one-to-one user relationship. In addition, there are a plethora of formats available in different video consumption experiences, including differences such as features, video sizes, etc.[15] By working with other both advertisers, third party ad servers or industry associations, YouTube can help to create standards for the industry. This will encourage the growth of digital video advertising because advertisers will not only have a better understanding of the products available to them, but also be able to achieve economic efficiencies in using these products. They can achieve this because they will then be able to create more effective advertisements for the online viewing experience, and also be able to re-use those ads across different websites because of format standardization.

Finally, YouTube has also made some progress in improving the analytics around its digital ads. Just a month ago (in March 2008), YouTube launched an analytics product for its users, partners and advertisers called "YouTube Insight". The tool reports statistics around the videos such as frequency of views, where the views come from, relative popularity to other videos in that "market", viewing trends over time, etc. Analytic tools like these are important in creating transparency and understanding of the effectiveness of digital video advertising for both content providers and advertisers.[16]

(3) How to meet increasing video sharing/hosting demands

As YouTube's popularity continues to grow, they must also consider how to manage the video hosting/distribution costs. Currently the site implements a 10 minute

---

[15] "A Digital Video Advertising Overview", Interactive Advertising Bureau, January 2008, p.10-11.
[16] Boulton, Clint. "Who is Watching Your YouTube Content?", eWeek, March 27, 2008.
http://googlewatch.eweek.com/content/youtube/who_is_watching_your_youtube_content.html

maximum on the length of videos that can be posted to the site. However, there is no cap to the number of videos that a user or partner can upload. Thus, most users work around this limitation by splitting a lengthier video into 10 minute clips. With Google's acquisition of YouTube, it can help lower the expensive bandwidth costs of delivering videos because of economies of scale that it achieves with its large-scale data centers. Industry insiders estimate that YouTube sends about 1,000 gigabytes of data every second, or nearly 300 billion GBs each month. This translates to about $1 million a day in bandwidth costs, which means that YouTube would account for roughly 3% of Google's $11.5 billion operating costs in 2007.[17] On the other hand, YouTube has yet to generate significant revenue against these costs. In the company's 2007 regulatory financial filings, the company stated that YouTube's revenues last year were "not material".

Thus it is possible that Google & YouTube will have to develop further technological improvements or advancements to help curb its increasing bandwidth costs. There have been new advancements in peer-to-peer networks, but these networks sacrifice dependability and quality in order to lower bandwidth costs. However, increasing bandwidth in proportion to demand may not be a cost-effective solution. In addition, the current online video experience is typically in short-form video. As audience preferences change, there may even be a shift towards longer-form online videos. This would also affect YouTube, as it might consider how its skill set and current web hosting capabilities would need to evolve to meet this type of demand in a cost-efficient manner.

---

[17] Yen, Yi-Wyn. http://techland.blogs.fortune.cnn.com/2008/03/25/youtube-looks-for-the-money-clip/

Change in Complementary Assets

The complementary assets required to monetize the website have some overlap with the current assets that the company currently has. However, there are some differences. Previously, YouTube's primary focus was to create a rich user experience and community around video sharing, without a strong focus on monetization. The mantra was to build "eyeballs" first. This focus gave YouTube time to develop a strong foundation in online video – a strong user interface and experience, a large, active community, dependable storage and streaming capabilities for video uploading/viewing/sharing, and an enormous database of videos. It became (and still is) the de facto site to search for online video content.

However, more than one year after its acquisition by Google, the company is under more pressure to monetize the site. According to Dave Eun, the head of Google's content businesses, the company plans to "turn up the dial on monetization" next year. In order to do so, there are some new complementary assets that it must consider further developing and integrating into its overall strategy:

(1) Content Delivery Costs – Should Google and YouTube be more involved with lowering broadband costs and/or promoting more broadband adoption?

(2) Intellectual Property Rights – Should YouTube be more involved in helping to mold online digital rights management and intellectual property rights? Or, should YouTube focus on developing its legal assets and capabilities?

(3) Community power – YouTube's popularity has grown primarily because of the strength of its community and users' efforts in contributing, rating, reporting and

empowering the site. YouTube must continue to leverage this important asset, and also think about new ways it can harness the network effects of the community.

(4) Expanded Distribution – while YouTube is often considered an online distribution outlet for video content, users consume video in many ways. YouTube must continue to develop its own distribution assets such as mobile technology, its embedded platform (where users can embed a YouTube player on their own websites), etc.

(1) Content Delivery Costs

U.S. broadband penetration rates have been falling behind those of many other countries, falling from 4th to 15th place from 2001 to 2006 (Figure 10).[18]

Figure 10. Broadband Penetration Rates By County, 2001 vs. 2006
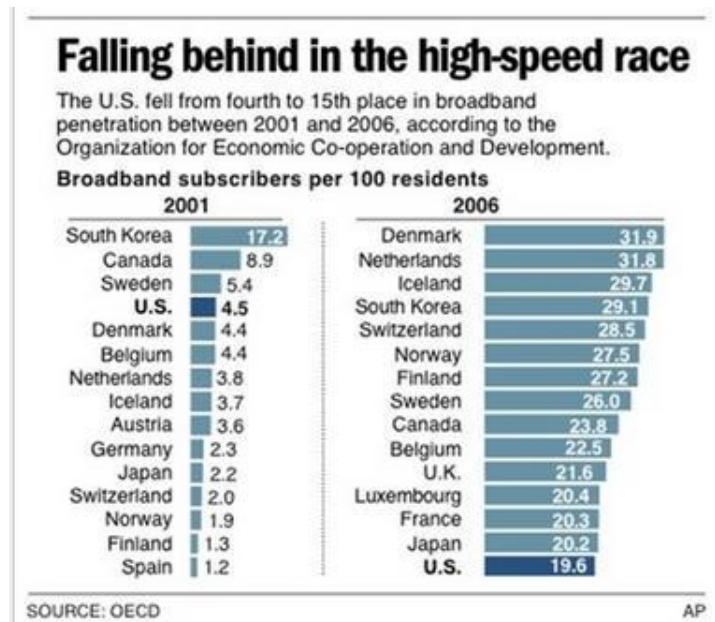
In fact, Google understands the importance of increasing U.S. internet penetration, in both broadband and mobile wireless networks. For the past few years, Google has been a big proponent of net neutrality. Google's definition of "net neutrality" is the

---

[18] Svensson, Peter. "Is U.S. Stuck in Internet's slow lane?", Associate Press, October 30, 2007.
http://techloop.blogspot.com/2007/10/is-us-stuck-in-internets-slow-lane.html

concept that the Internet should remain free and open to all comers. On Google's

public policy blog, they speak about the need for a national broadband strategy and

points to existing problems of duopolies in broadband suppliers.[19]   In addition, in

November 2007, Google submitted a $4.6 billion bid to the Federal Communications

Commission auction of 700 megahertz band wireless spectrum. The 700MHz spectrum

has been used to provide analog TV service, travels far and penetrates walls, and is

considered by many to be the last remaining chunk of attractive wireless airwaves and

an opportunity to expand the Internet to a new frontier.[20] In a letter from its CEO, Eric

Schmidt, Google stated that its intention for the spectrum, should its bid be successful,

was to provide (1) open applications, (2) open devices, (3) open wholesale services,

and (4) open network access.

Upon analysis, it seems that Google has already been making large, public

efforts in this direction. Since YouTube shares in any benefits that Google may derive

from these efforts, this may be the extent to which it needs to participate in this area.

However, YouTube can still consider to join associations or take other public policy

stances.

(2) Intellectual Property Rights & Digital Rights Management

One of the largest, if not the largest, barrier to YouTube's growth has been the

controversy surrounding the site and copyright violations of videos posted to the site.

Not only has the site come under fire from many critics for copyright violations, but it is

currently being sued by a large media conglomerate, Viacom. The time and effort that

YouTube and Google have spent combating these charges has been drawn out for over

---

[19] http://googlepublicpolicy.blogspot.com/2007/06/what-do-we-mean-by-net-neutrality.html
[20] Mills, Elinor. "Google versus the Telecoms", CNET, November 30, 2007.

a year since the suit was filed in March 2007. Depositions began in March 2008, and with high-level executives such as Larry Page, Sergey Brin, co-founders Chad Hurley and Steve Chen included in those depositions, it is obvious that the company must consider how it will deal with copyright infringement both short-term (in the lawsuits) as well as long-term.

YouTube understands that it is in its long-term interest to find a workable solution with major content owners and media companies such as Viacom. However, the difficulty has been finding a solution on which parties can agree – mostly on account of the monitoring efforts that would be required if either side was found to be responsible for uncovering copyrighted content in violation. As is the case with similar new technologies (i.e. Napster), YouTube must consider developing systems to show that it is making best efforts to protect the copyrights of content on the site. It has done this partially by rolling out its video fingerprinting system earlier this year. However, it must also consider what public policy assets it will need to develop, and how it should involve itself in shaping the digital rights acts in the U.S. and internationally. These are capabilities that YouTube may not necessarily have at this moment but must spend time to develop if they wish to prevent legal troubles from interfering any further with their business.

(3) Community Power – How else can YouTube leverage its most valuable asset?

With over 79 million users, 3 billion videos and available in 12 languages, YouTube maintains one of the largest, international, online communities. In addition to its size, YouTube's community is also very active – users rate, comment, share, flag and promote all of the content on the site. YouTube has been able to leverage the

unique spirit of the community around the site to make the site much more than just a video hosting site. The users feel a part of the community and often police themselves and even get together in geographic locations to celebrate YouTube. As the site continues to grow in size, and the constraints on the site increase, YouTube should continue to think about how it can harness the energy of its community. For example, users currently help to flag inappropriate content for in-house review. YouTube could also consider how to involve its users as it rolls out additional features. Perhaps it will consider having users choose the types of ads they want to watch, or users can also be used to help monitor whether ads are showing up against inappropriate content. There are multiple ways that YouTube can consider leveraging its large community to continue to improve the site on a large scale basis and with economies of scale.

(4) YouTube needs to further develop its distribution networks and capabilities

While the youtube.com site is the most popular destination for viewing videos, as the popularity of online video increases, it is important to also consider how the viewing experience may evolve. YouTube is already in the mobile space, with a mobile version of the site. It also offers an embedded player function that allows users to embed a YouTube player onto their own sites, social networking sites or blogs. However, it must continue to think about how it should be facilitating the widespread distribution of the site and videos. One example of how YouTube is already doing this is with the recent launch of its embeddable Adsense YouTube player. This allows participants in Google's Adsense program to embed a YouTube player on their site that also displays ads against the content. This is a way to incentivize users to embed a player on YouTube (because they can monetize these videos with ads) and gives people more

ways to discover online video content without actually going directly to the YouTube site.

Change in Competitors

As the market for online video grows, so does the number and types of competitors that YouTube encounters. Although YouTube still maintains a dominant share of the online video market, there are new competitors entering the space each day, from technology-focused startups to large media conglomerates such as NBC, ABC, etc.

These competitors bring different strengths and capabilities to the table. YouTube must decide in which areas it would like to compete, and make sure that it builds the right capabilities to be able to survive in that niche.

Smaller technology startups – includes but is not limited to companies such as:

- Veoh (backed by AOL Time-Warner, Michael Eisner sits on their board)
- Revver (backed by Bessemer Venture Partners, Comcast Interactive Capital)
- blip.tv (operating on angel funding)
- MetaCafe (backed by Benchmark Capital, Accel Partners).

These companies have different strengths and capabilities as compared to YouTube, but most share YouTube's model of offering revenue share (through advertising) of the user-generated content that they post on their websites. The main difference between these competitors and the larger media competitors is also in the content – most of these sites rely on user-generated content (ranging from amateur to

semi-professional) to populate their video databases, whereas the large media companies are often transferring their current television content to online distribution.

In order to compete with these smaller startups, YouTube must remain current with the technology and social networking demands of the online video community. In addition, it must continue to be THE source for online video content and find ways to continue the content growth to the site. This may mean finding ways to meaningfully generate revenue streams for its independent content creators, or introducing new, engaging features to the site.

Large media companies - There is no question that television audiences are spending less time watching television. The other recent phenomenon is the "integrated" or "three-screen" video viewing experience. This describes audiences that are watching their television (one screen) while surfing their laptops (second screen) and texting friends or checking other updates on their mobile phones (third screen). This has proven to traditional media companies the need for an integrated viewing strategy. Although almost every major television/cable network now has full episodes online for viewing, there are a few notable media networks that have really embraced the transition of audiences from the television to the internet. Most of these companies pair their content with multiple advertisements from just one company, running a pre-roll as well as 30 second advertisements several times throughout an episode.

- Abc.com – one of the first companies to move their content online in full episodes (launched May 2006), abc.com capitalized on the popularity of hit shows such as Grey's Anatomy, Desperate Housewives, Ugly Betty, etc.

- Nbc.com – followed quickly after abc.com to launch in Sept. 2006, with the intent that the digital offerings would help create additional "buzz" around the new fall-lineups and drive viewership to the network

- Hulu.com (NBC Universal & News Corp.) – this was a much anticipated joint venture which would bring popular old favorites such as The Simpsons, The Office and Saturday Night Live online. However, it has been under some criticism for not providing an entire library of content. For example, only five episodes of the Simpsons and nine of The Office are currently available in full.

Large media companies pose a very different threat to YouTube. Most of the companies rely on existing technology and partners to deliver their content, so they do not compete on technology. What these companies have is an enormous amount of proven, copyrighted content. Their control and incentive to protect this professional content is their greatest asset and incentive, causing many of them to waver back and forth in their relationship with YouTube as they figure out their online video strategy. Some view YouTube as a complementary partner – for example, CBS.com maintains an official YouTube channel, where it posts popular clips of its primetime shows such as David Letterman, CSI, etc., and it also maintains its own cbs.com site where it offers a full episode player of the same shows. On the other hand, companies such as NBC Universal and News Corp. (which owns Fox) have a "love-hate" relationship with YouTube. When they launched hulu.com, NBC took down their YouTube channel, and Fox does not have a channel on YouTube.

The other competitive advantage that these media companies have is the long-term relationships they have already established with advertisers for brand advertising.

Currently, search-based advertising is the most popular type of online advertising. Advertising based on search keywords represented about 40% of 2006 online advertising revenues, while all display advertising (banner ads, sponsorships & video) accounted for only 32% of the total.[21] Traditionally, display advertising is typically used for brand advertising (requiring more understanding of the behavior and demographics of the user), whereas search advertising is search-based and more about targeted, contextual results. Thus, while YouTube and Google are very good at monetizing the keyword searches on the site, they do not have the entrenched brand advertising relationships that many of these large media companies have. In addition, because of the large amount of user-generated content on YouTube, it has been more difficult for them to find scalable ways of selling brand advertising on the site. Many of the larger brand names hesitate to place their ads on the site for fear of it showing up next to inappropriate user-generated content. Thus the large media companies provide a "safe" advertising alternative for these brand advertisers, because they have a wealth of demographic information about their audiences (from television) and can guarantee the quality of content against which they are displaying the advertising.

Finally, these companies also pose a huge threat to YouTube – not only because of their content and advertising relationships, but also because of the legal threat they pose. These companies have the capital and public awareness and influence to be able to pose a serious threat to YouTube's business from a legal standpoint. Viacom is a good case in point – many insiders view the outcome of the lawsuit as a standard that

[21] Knowledge@Wharton, "Media Moves: Will the New Online Advertising Models Click?", May 30,2007.
http://knowledge.wharton.upenn.edu/article.cfm?articleid=1744&CFID=67352435&CFTOKEN=50974267&jsessionid=9a30c47d59692317f5fd

will be set for the online video industry, and may determine the scope of future digital rights management policy and responsibility.

In order for YouTube to compete with these large media companies, it must first consider whether this is where it wants to compete. Although YouTube does have many "professional" channels on its site that span well-known media networks and cable programs such as The Comedy Channel, Oprah, etc., a large proportion of the videos being watched on the site are still more amateur, user-generated content. So, should YouTube strive to increase the amount of professional content on its site, or should it focus on ways to monetize user-generated content?

YouTube must also analyze whether its audience is similar or different than that of a traditional media company – what are the demographics around its users, what are the similarities amongst consumers of certain video categories, and what are the characteristics of popular videos, etc. And, how do all of these things fit into an attractive advertising package that they can sell to brand advertisers in a scalable manner? How can YouTube leverage Google's advertising relationships through the Adwords and Adsense program in a way that makes sense for online video?

Finally, YouTube must educate media companies on the benefits of working with them as an additional distribution outlet rather than a competitor. YouTube is not in the position to stream high-definition, full episodes on their site. The increase in costs and conflict in copyrights prevent that at this moment. However, YouTube does offer these companies the largest online video audience, and ways to surface content to their attention. There are many ways that YouTube can create a complementary rather than conflicting relationship with these media companies.

Change in Customers

Previously, most people assumed that YouTube's audience skewed younger, and mainly consisted of early adopters that were more "tech-savvy", and familiar with social networking (See Figure 11).

Figure 11. % of respondents who visit YouTube at least weekly, by generation
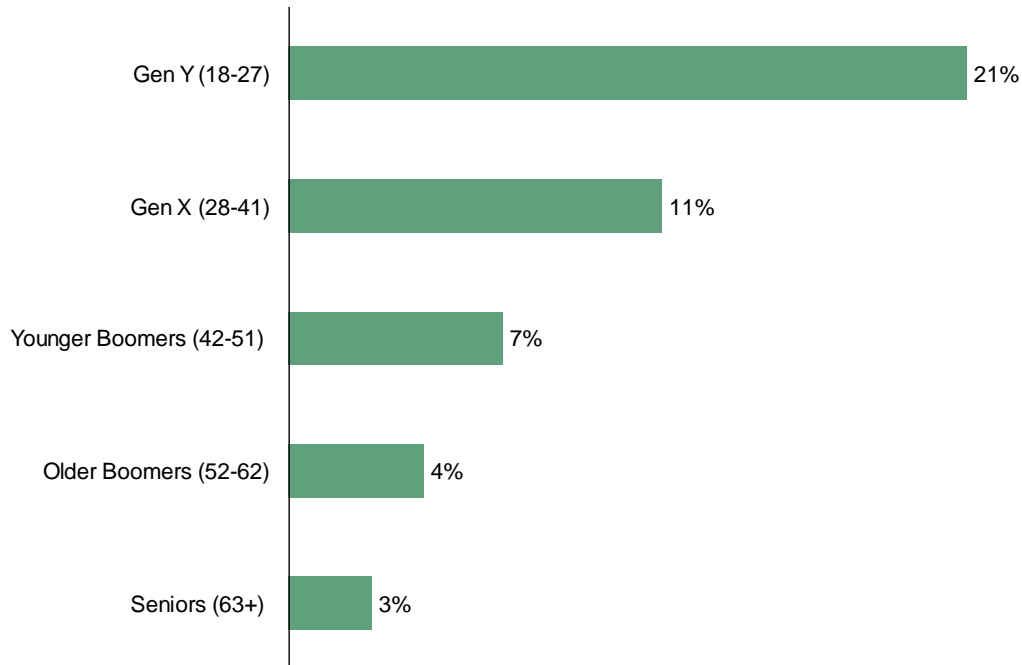
While this is true in some cases, as online video has become more popular, new customer segments and demographics have emerged that say differently. According to an eMarketer audience report, the group of people who watch YouTube videos the most are the 35-64 group, at 54.5 percent. In contrast, people aged from 2-34 comprise 41.3 percent of YouTube viewers, with the 25-34 subgroup comprising 19.1 percent of the total. Kids aged 12-17 made up only 12.6 percent of the total.[22]

---

[22] Hallerman, David. "Internet Video: Advertising Experiments and Exploding Content", eMarketer, November 2006.

These customers bring different advantages to the table – obviously, they bring more purchasing power because of their older age. According to Comscore data, only about 61.6% of YouTube's visitors are at an income bracket above $60,000.[23] However, there are different ways that each generation engages with online video. Younger users tend to be more active in rating videos, posting feedback or uploading videos than older users (See Figure 12). On the other hand, for everyone EXCEPT young viewers, the most popular category of content is NEWS. So there are disparities not only in the ways that generational users engage with online video, but also in the types of content that they watch.[24]

Figure 12. How Users Engage with Online Video

Online Video Gets Social: How users engage The percentage of video viewers who do the following activities...	Total	Men	Women	18-29	30-49	50-64
Receive video links	75%	75%	75%	76%	77%	71%
Send video links to others	57	59	54	67	55	45
Watch video with others	57	58	57	73	58	34
Rate video	13	15	10	23	11	4
Post comments about video	13	15	10	25	9	5
Upload video	13	16	9	20	12	5
Post video links online	10	12	9	22	7	2
Pay for video	7	8	6	10	7	3

Source: Pew Internet & American Life Project Tracking Survey, February 15 - March 7, 2007. Margin of error is ±4% for all online video viewers (n=800). Margins of error for subgroups range from ±5% for male video viewers to ±8% for viewers ages 50-64. Those ages 65 and older are not included in this table due to the small number of video viewers in this group (n=84).

Thus YouTube needs to consider the different content and viewing needs of its users as it continues to grow. YouTube may be able to find ways to creatively engage their younger audiences through interactive, community-based features and

---

[23] Hallerman, David. "Internet Video: Advertising Experiments and Exploding Content", eMarketer, November 2006.
[24] Madden, Mary. "Online Video", PEW Internet & American Life Project, July 25, 2007.

advertisements, whereas it may want to stick to more straightforward, brand advertising or easy to use features for its older audiences.   The site has done a fairly good job of engaging its users in different ways – in the midst of the political campaigns this year, YouTube stood out with their "CNN-YouTube Debates", which encouraged user participation in uploading questions for the Democratic and Republican debates. The campaign received international publicity and turned out to be a huge milestone in getting record number of younger audiences involved with current politics. However, the challenge is how to balance the changing demographics of its users to make the site and its contents, features and advertisements relevant to such a broad audience. Finally, YouTube must also think about scalable ways that it can continue to engage its audience – while campaigns such as the YouTube-CNN debates are great for increasing interest and awareness about the possibilities of the site, they also need more standard, scalable campaigns that can continue to engage and increase their audience size.

STRATEGY FRAMEWORK 2:

SCENARIO PLANNING

Scenario planning is a framework that is best suited for industries facing complex, uncertain futures. It is applicable in a technological, political, demographic and economic context, addressing three challenges inherent in emerging technologies: uncertainty, complexity and paradigm shifts. It differs from traditional planning or contingency planning by exploring the joint impact of various key uncertainties. Often the utility of the framework is that it forces managers to rethink certain beliefs they may hold about the future, and forces them to accept and plan for shifts in those beliefs.

The obvious advantage of scenario planning is that it controls for the uncertainty and complexity that often surrounds an emerging technology. It can look at two key variables and how changes in each may induce different strategies. The disadvantage is that its utility is linked to choosing the "right" key uncertainties. Oftentimes it is difficult to nail down the relevant key uncertainties. Furthermore, there is a possibility that it can amplify the effects of weak uncertainties.

In this section we will walk through the following scenario planning process[25]:

1. Brief history review of online video industry and define the key issues

2. Identify the major stakeholders who have an interest in these issues.

3. Identify the main sources, key trends and key uncertainties that will affect the issues of interest from the list of main forces. Select the two most important key uncertainties to construct scenarios.

4. Assess the revised scenarios, final analysis & next steps.

---

[25] Schoemaker, Paul, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.214-217.

5. Final analysis & next steps.

Brief History & Key Issues

This will be a brief recap as we have already put forth some summary of the online video industry previously in the introduction. The main issues that I am attempting to study in this paper are (1) revenue models and (2) shifts in media consumption habits. These seem to be the key issues that emerge when discussing the future of the industry. We will evaluate how the revenue model for this industry will emerge, and whether online video will integrate or disintegrate from traditional media platforms such as television and DVDs. On one hand, there is an obvious shift in viewing habits – as most users turn to the internet for video content, the large question is how their online viewing habits will differ from their television/DVD viewing habits, and subsequently, what the appropriate revenue model should be to accompany those viewing habits that can sustain the industry.

Major Stakeholders

Traditional & New Content Providers

- *The new generation of independent content creators:* online video and YouTube enabled a new generation of independent content creators, who were able to bypass a traditional distribution network to directly share their content with millions of people worldwide. These stakeholders have a huge amount to gain in participating and promoting a sustainable revenue model for the online video industry. The industry has often been seen as a way to "free" content, in that

smaller producers could reach audiences in an affordable manner, without having to search for distribution. Instead, they have now been able to amass a large, online following through direct distribution, and then parlayed that popularity into more traditional media opportunities offline.

- *Traditional content creators, from large media networks to large moviemakers to smaller, cable programming:* Large, entrenched media companies have a large stake in shaping the future of the online video industry.   Much like the music industry before as the popularity of mp3s soared, the professional video industry has been slow in coming around to the expansion of video online.   The main challenge has been the ability to protect intellectual copyrights online. It has been difficult to find a balance between the need to protect the rights of the content creators and audiences' habit of viewing content for "free" (with advertising). This has resulted in a range of distribution that rely on different revenue models.

Judges/Public Policy

Public policy and government regulation will play an important part in the online video industry. Currently there is still debate over the issue of responsibility – where does the responsibility to curb copyright violation lie, and can online distribution networks be held liable for copyright violations if they are not actively perpetrating these violations? It will be interesting to see how the YouTube-Viacom lawsuit pans out, as it may influence future digital rights copyright laws. Currently, Viacom has already lost on one front: it will not be awarded punitive damages in its case against YouTube,

according to current US copyright law.[26] The judges who rule in this case will be important in helping to set precedents for other similar suits and emerging technology issues in the future.

Online Video Startups

Other online video startups obviously have a high stake in determining the future revenue models and viewing habits of the online video industry. Many of them have been experimenting with different types of revenue models. However, none of them have been able to find an extremely lucrative model that can sustain their high delivery/storage costs. Amongst these startups there is a range of employed technology, revenue models, ownership of the value chain, etc. While most content distribution sites (revver, veoh, etc.) use third party content delivery networks and focus on the programming and advertising models, while others such as Brightcove may focus on delivering a video system solution for other content providers.

Main Forces, Key Trends & Key Uncertainties

The main forces that shape the future of the online video industry within these revenue and behavior issues range from social, technological, economic to political, categorized by domain (See Figure 13).

---

[26] Anderson, Nate. "Judge to Viacom: No punitive damages in YouTube case", Ars Technica, March 11, 2008. http://arstechnica.com/news.ars/post/20080311-judge-to-viacom-no-punitive-damages-in-youtube-case.html

Figure 13. Main Forces Shaping Future of Online Video

Social
Cultural attitude that information on the Internet should be "free" or ony pay a minimal fee[1]
Cultural attitude towards large media companies that they are trying to "ripoff" customers
Increased interactivity between devices creating a larger landscape in which audiences consume media
Busier lives means time shifting and on-demand viewing more and more of an expectation than luxury

Technological
Digitization & compression technologies[2]
downloading capabilities & services
Streaming media technologies
Increasingly inexexpensive bandwidth
Video format standardization

Economic
High cost structure of streaming video - bandwidth, storage & transcoding[3]
Higher cost of producing video content
copyright liability - an issue for smaller startups

Political
Digital rights management - battle between user-friendly regulations & strict copyright control desired by content creators
Consumer privacy rights groups & organizations - fighting behavioral tracking that online advertisers seek

1 M. Garlick, 2000. "Pricing Recorded Music in an Online World," at http://www.gtlaw.com.au/, accessed 1 February 2002

2 Fox, Mark. "Technological & Social Drivers of Change in the Online Music Industry", at http://www.firstmonday.org/issues/issue7_2/fox/#note10, January 25, 2002

3 Blodget, Henry. "Economics of Online Video 2: Unit Cost Structure", Silicon Alley Insider, September 10, 2007

These drivers have been derived from second party sources as well as through experts from the Streaming Media Conference 2007 panels, are by no means inclusive of all issues facing the industry.

From this list of main forces, there arise some key uncertainties and trends that are present in the online video industry (See Figure 14).

Figure 14. Key Uncertainties & Key Trends

Key Uncertainties
How will future media companies generate revenue from online video?
How will the emergence and popularity of independent content change the viewing habits of audiences?
What type of content do audiences watch online? How will it be similar or different than traditional television consumption?
What new intermediaries will appear with the online video industry?
To what extent will intellectual copyrights be protected? Whose responsibility is it to police for copyright
To what extent will media cross-ownership rules be relaxed?
How will people's video consumption habits change? How will people prefer to access & pay for online video?
Where will people be consuming online video? On comprehensive destination sites or network by network?
To what extent will digital rights management regulations change?
How will advertisers participate in online video advertisements?

Key Trends
More and more people are consuming video online.
Audiences are generally unsatisfied with current online video advertising formats.
Pay-per-download penetration for online video is still very low.
Premium (or traditional television) programming is migrating online.
People consume media in multiple formats (television, online, mobile, etc.)
Copyright protection is becoming more widely accepted by the general public (less illegal downloading).
On-demand and time shifting are becoming more prevalent in media & entertainment consumption.
Advertisers want to shift more advertising dollars online.

From these key uncertainties, the two that seem to be the most important are as following:

- How will future media companies generate revenue from online video?

- How will people's media consumption habits change? How will people prefer to access & pay for online video?

Thus on one axis, we will have a range in the revenue model for online video – one that ranges from a pay-per-view, pay-per-download or subscription basis without advertisements to a primarily advertising-based model such as traditional television and online blogs. On the other axis, we will compare the change in media consumption – on one extreme professional online video consumption will remain primarily through traditional channels such as the television and movies, and on another, online video will

prevail as a viable distribution outlet that rivals that of traditional television entertainment

networks (see Figure 15).

Figure 15. Scenario Framework Matrix

		Revenue Model	
		Alternative Revenue Models	*Advertising-Based*
	Primarily Offline	**Scenario A:** Niche online video consumers	**Scenario B:** Business as usual
Video Consumption	*Primarily Online*	**Scenario C:** Separation between online content & offline content - consumer mindset change	**Scenario D:** Online video is THE entertainment source

The themes of each scenario are described in the Scenario Theme table below

(see Figure 16).

Figure 16. Scenario Themes

	Scenario A	Scenario B	Scenario C	Scenario D
Consumer Markets	Consumers still consume the majority of mainstream content through traditional mediums such as television, theaters, etc. Only consumers that are looking for more niche content pay for content on a subscription or pay-per-view basis, b/c advertising-supported online video content is not widely available.	Consumers still consume the majority of mainstream content through traditional mediums such as television, theaters, etc. Although online video consumption is still small in comparison, consumers are unwilling to pay for content.	Consumers take in a large portion of media online, and are willing to pay for a better user experience. Shift in consumer attitude - acceptance of the need to pay for digital content Separation between content that is available online and offline.	Consumers watch video online and offline, ability to customize viewing experience increases online popularity Television, theater & online entertainment industries coexist Consumers view customized, individual channels online that give them all the programming they are searching for (including previous television programming) Television and internet programming are interchangeable.
Technology	Technology is not the inhibitor - the economics of streaming niche content to smaller audiences is more suited to a non-advertising model	Technology is the driver - technology that can serve more targeted, local advertising creates a sustainable market for the content that exists online.	Technology "untethers" video content - consumers can port their content onto multiple devices. This is necessary because they are paying for it (not advertising-based).	Technology is state of the art - streaming, download and advertising capabilities allow all-access consumption of content.
Industry Players	Large media players still try to maintain strict control over their digital content and remain weary about online video - little collaboration between media companies.	No major changes	Large industry players involved because of the audience size. Create content specifically for online audiences. Online celebrities and entertainers can make a living off the content that they create.	All the large industry players involved. General industry wide acceptance that online audiences are just as important as online audiences. Intense competition, and even playing field for content creators: Distribution is transparent - independent content creators can compete with large media networks.
Business Models	Smaller, niche companies do better b/c they can focus on a category of content and deliver it at a higher price to those consumers that are willing to pay. Quality and range of content drives subscription or "on-demand" models.	Advertising-based models are prevalent, although the large majority of major corporation advertising dollars still remain offline. Online video advertising primarily supported by smaller or local companies less concerned with brand advertisement risks place ads against online video content in order to reach online consumers.	Pay-per-view or download may dominate: large media companies may debut smaller pictures online b/c of lower costs. High quality online content important, because audiences are paying for it.	Advertising model dominates. Brand advertisers allocate a significant portion of their budgets to online video advertising. Advertising is demographic based, similar to current television networks. Also large sponsorship and tie-ins.
Legal Issues	Privacy and copyright laws remain a source of tension between offline and online networks.	No major changes	Although clear regulation has been set regarding digital copyright responsibilities, it is not entirely settled. Piracy issues still remain.	Digital rights management and division of responsibility clearly delineated. Prior settlements or court decisions have set strict precedents for copyright violations.

Scenario Analysis

While all of the above scenarios are possible future options, we will only analyze Scenario D because it gives us the most range to analyze how large shifts in both business model and consumer media consumption habits may evolve the online video industry from its current state. Scenario D could be analyzed as follows:

- *Consumer behavior towards online video consumption has changed radically.* Whereas audiences primarily used to sit around their televisions to consumer video entertainment, now the family viewing experience is centered on multiple computer workstations that allow each family to watch the programs that they want, when they want. Consumers are used to watching videos in many ways – in short clips on their mobiles, downloaded to their laptops for travel, or streaming online at home. Consumers are able to easily create custom playlists of content from multiple networks onto their computers with no conflicts. Video content is easily shared between friends and devices.

- *Technology has radically changed the user experience for content and advertising*: Advertising and content have fully integrated, and targeted marketing allows users to receive a customized viewing and advertising experience. Technology allows for high-quality, HD streaming onto the computer at a fraction of the cost, so users get a "television" like experience on their laptops. Technology also allows multiple sharing – online video can be easily transferred to larger television screens and vice versa for portability. Technology and computing allows for deep understanding of consumer behavior. Production technology also allows for easy production of customized online commercials for

small and large companies. This freedom from the high costs of production, paired with a deep understanding of audiences (down to an individual level) creates a customized viewing experience tailored for each individual.

- *Industry Players Have Embraced Online Video as a Vital Component of Content Distribution*: Rather than viewing online video as competition to television or traditional movie distribution, large media companies view it as another essential distribution channel. Formats, programs, video clips that are created solely for online distribution coexist along with transferable, full-length episodes of television programs and movies. There is intense competition between content creators for ways to capture consumers' attention in different ways through different mediums. Not only are viewers engaged in a community around their favorite shows, there are ways for them to participate and contribute to the outcomes. Shows may even be tailor made to individual consumer preferences, where individuals have influence over the outcome of what they see personally.

- *Online video is supported primarily through advertising, but also through innovative sponsorships, product placements, etc.*: Advertising for online video has taken the same shape as advertising for television – technology has not only enabled close demographic segmentation of online audiences, but has also allowed for detailed video fingerprinting and identification to avoid placing advertisements against pirated or unsuitable videos. Brand advertisers are fully using online video as part of their marketing arsenal in reaching audiences worldwide. In addition, the high amount of information around viewers has

created advertisements that are highly customized and tailored to the specific individuals.

- *Legal issues have primarily been resolved, and there are strict repercussions for violations of digital rights/copyright laws*: Technology and the law have combined to create a strict environment for digital rights/copyright laws. Similarly to digital music, there have been cases where individuals have been fined for illegal downloading of copyrighted content. Generally, the public either watches advertising-supported content or purchases content. There have been settlements among the large cases between corporations over intellectual property, which fueled closure of those companies that were in violation of copyright laws, and also preventing future disputes.

Recommendations

Given this possible scenario, there are some possible solutions and strategies for YouTube to maintain its leadership and generate significant revenues. The organizational capabilities that YouTube would need to develop in this case might be as follows:

- Develop algorithms, technology or maintain databases that will enable YouTube to track their users' viewing preferences from past viewing history, subscriptions, friends, behavior on the site, etc. Technology outside of simple meta tags should also allow them to truly "describe" and "identify" videos. A combination of both of these will allow them to better recommend videos tailored to each user's preferences, as well as match advertisements to both their demographics and their behavior.

- Because the viewing experience is so individualized and portability is important, YouTube should further develop its mobile technology capabilities and partnerships with mobile device manufacturers. In addition, it has already begun to partner with both set-top boxes and cable providers to be able to port videos from the site back and forth between the television to allow for a better viewing experience. YouTube should continue further with these partnerships to make the YouTube experience as seamless as possible between the different devices that consumers use.

- Now that large media companies are no longer fighting YouTube as a place to share their content, YouTube must further develop the site's ability to support professional content. Although YouTube may not want to store full-length videos, YouTube can come up with different ways that they can create complementary capabilities for large media companies. Currently, YouTube signs partnerships with large media companies, where they create channels on the site and may also tie in large sponsorship deals. YouTube can offer these companies a large, engaged audience, and it must find ways that it can leverage its community.

- Finally, YouTube needs to develop strict, dependable programs or technology to show that it can combat piracy on the site. Regardless of where legal standards place responsibility, by showing potential media partners that YouTube is acting responsibly in this regard, YouTube stands to gain the support of the large media content creators that can drive large brand advertising dollars onto the site.

Lessons Across All Scenarios

      Across all these scenarios, the main message is that there is complexity and uncertainty surrounding the future challenges that YouTube will face as the online video industry matures. Although the investment and entrepreneurial activity in the sector suggests that the potential for this market is enormous and generally untapped at this moment, there are still many factors that are unsettled. In an interview with The Hollywood Reporter's digital media editor Andrew Wallenstein, David Eun, Vice President of Content Partnerships at Google, revealed that Google is just as perplexed as the rest of the world with respect to the future of online video.[27] However, by using frameworks such as scenario planning, YouTube may be able to help its employees and leaders envision possible futures for which they could prepare and help push them beyond just thinking about the present.   These scenarios represent learning opportunities where executives can derive strategies and insights about the potential future environment of the industry in which they are working.

Next Steps

      There are several practical ways that YouTube can implement the scenario planning framework set forth in this paper. While it should continue its current mission statement of innovation around the user experience, it should also consider the possible outcomes of following different strategies. This can be done through simulations such as Monte Carlo simulations, option analysis, or other tools for strategic risk analysis.[28] In addition, because the culture at Google and YouTube is quite flexible, it may be

---

[27] Wallenstein, Andrew. "Google's content role in spotlight at NATPE", The Hollywood Reporter, Jan 19, 2007.

[28] Schoemaker, Paul, *Wharton on Emerging Technologies* (New York: John Wiley & Sons, 2000), pp.240-241.

possible to test some of these strategies through beta launches with selected users or partners. YouTube currently already does this with some of its trusted partners. While this is time-consuming and may require some investment, it may be worthwhile to test different strategies in the present to get a better understanding of how these might strategies might play out in real-life situations.

In addition, the other benefit of having managers think through these strategies is that it places them in the situation of looking forward. Most managers are preoccupied with "putting out flames" of the present or dealing with day-to-day management tasks, that they fail to think about how their present actions may be affected by changes in the environment or the future. Having exercises such as this reinforces the importance of thinking ahead and planning in managers.