

**Online Television:
A New Era in Anytime,
Anywhere Programming**

HTM 304, Dr. Fang Fang

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Patrick Bautista

Miyuki Akasaka

Joe Belton

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Introduction

Online Television is a new era in anytime, anywhere programming. A brief overview of what topics will be discussed in this paper are the history, technology, four major networks, statistics, and the business aspects of online television. You might be asking to yourself, "What exactly is online television?" Online television is television shows available for viewing anytime on a network's website via the internet. The ideal viewers for online television would be for the viewer that is unable to watch a particular show at its regularly scheduled date and time or the viewer that has missed one or two episodes and would like to get caught up to speed. Another, scenario is where viewers want to watch a show but do not have access to a television at the time. However, the viewer does have access to the internet, for instance, like at work, school, or any given place with their laptop.

One of the major advantages of online television is that it is on demand. Online television viewers do not have to be in front of their television at a certain day and time to watch their favorite show. The viewers can access the episodes anytime, anywhere at their convenience. Another, major advantage of online television is that it is absolutely free. All a viewer needs is a computer and a high speed internet connection. There is no charge to view any episodes. In addition, the viewers never miss out on anything. If the viewer missed an episode, they do not have to be lost and wonder or piece together what happened. The viewer can simply choose and watch whichever episode they missed at anytime.

Now, one of the disadvantages of online television is that each show's episodes have embedded commercials in them. Embedded commercials are commercial advertisements that appear at certain intervals throughout the episode just like regular television. However, the fact that these commercials are embedded means that the viewers cannot skip or fast forward

these commercials. So, viewers must watch the commercials in their entirety to be able to view the next segment of the episode. The other disadvantage with online television is that to view the streaming video episodes the viewer's computer and internet connection must meet the minimum system requirements. The minimum system requirements provide the viewer with optimal viewing performance. Otherwise, if minimum system requirements are not met, it would be virtually impossible or at the very least frustrating to watch online television.

Still, online television is fairly new to the world. The ABC network was the first to run a two month trial period with the streaming episodes. Only the most popular shows and just a few episodes were available. This trial period ran from May to June of 2006. The other major networks followed suit with their own trial runs. Simultaneously, the major networks determined the online television episodes were a success. Each network began to implement most, if not all, of their shows to online viewing in September of 2006.

Online television started because of the speedy progression of technology. This is a new and exciting way to use the internet. Online television is the latest and inevitable next step in video streaming technology. It was just a matter of time before these two types of media were combined. However, it was quite surprising that it took the major networks this long to employ streaming video technology into their business, especially, with the success of "You Tube" and "My Space".

Online television was been greatly influenced by many other types of technology that has come before it. Some of the influences that brought about online television are re-run episodes, using a VHS tape with a VCR to record episodes, video on demand, such as "Pay-Per-View", digitally video recorders or DVRs, such as "TiVo", and streaming videos, such as "You Tube". From the beginning of the list of influences to the end of the list, a definite progression

in technology is exhibited. Each technology built upon the previous technology before it. For instance, decades ago re-runs were the only way television viewers were able to watch episodes they had missed. Then, technology progressed and VCRs were born. VCRs allowed viewers to record episodes without the viewer being present, as long as, the viewer set the VCR to record at the correct time, date, and channel. Another, example is the success of “You Tube” using streaming video technology for viewers to share and watch videos of just about anything. The major networks finally realized the business potential in using this technology towards their own shows. As a result, television viewers can watch their favorite shows and episodes online.

As discussed before, there are minimum system requirements for viewing online television. For PC users, the minimum system requirements are as follows: a cable or DSL internet connection, Windows 98, a 1.5 GHz Pentium 4 CPU, 128 MB of RAM, and a 32 MB video card. For Mac users, the minimum system requirements are as follows: a cable or DSL internet connection, Apple Mac G4, OSX 10.2.8, a 1.5 GHz CPU, and 256 MB of RAM. These are the minimum system requirements to view the streaming videos without any complications. Nevertheless, the more RAM, the faster CPU and the faster the internet connection a viewer has will supply the better viewing experience. Also, the major networks require either one of the following: Adobe Flash Player 9, Windows Media Player, or Real Media Player to view the television episodes. If the viewer does not have the proper application to run the streaming videos, the networks provide the ability to download them for free.

Due to the emergence of online television, broadband providers have gained a competitive edge over satellite providers. The major difference between the two is in bandwidth. Broadband technology has at least twice the download speed of satellite technology. Now, that online television has become available, this gives another reason to use a broadband provider.

According to Stephanie N. Mehta of Fortune magazine, the following excerpt reiterates that statement:

“Streaming videos are best viewed via a broadband service.” (Mehta)

Satellite users will not be able to meet the minimum system requirements of a high speed internet connection to view online television. The assumption is that more consumers will want to go with a broadband provider over a satellite provider because of all the benefits of a broadband connection. One of those benefits, of course, is online television.

Consequently, online television certainly has the potential to revolutionize the television entertainment industry. The question is, “Will it?” It is too early to distinguish.

Objectives and Aims

The objective of this project is to demonstrate why rapidly changing Internet technologies, such as, streaming videos have forced the major television networks to reinvent their outdated business models and adapt to the advancements in technology and their technology savvy consumers. The project will illustrate why online television is an intelligent business move and how online television will make a lot of money for the four major networks. Also, it will be revealed how streaming videos protect the major networks against piracy. Finally, this project will explain how online television may eventually take over regular television viewing in the television entertainment industry.

Scope of the Project

The scope of the project will focus on the major television networks and how they are utilizing streaming video technology. The four major networks that will be discussed are

ABC, NBC, CBS, and FOX. A list of the shows offered for each network will be available. Also, some of the major network affiliates will be mentioned. In the previous section, the history, influences, and technology of online television have been reviewed in the introduction of the project. The demographics and business statistics of online television will be analyzed and conclusions will be drawn. The Porter's Five Forces Model will be applied to show how this new streaming video technology is affecting the four major networks and the television entertainment industry as a whole. Future online television shows will be mentioned. Lastly, network television programs made specifically for online viewing only will be discussed.

Research Methodology

In order to effectively research online television, we visited the websites of each major television company in order to examine how their online television programming was set up. First, we wanted to see how accessible each company made their viewers to the online television shows. Then, we wanted to see to what extent the different networks would allow the access into particular shows. For example, what shows were given full access to the entire season versus what shows were offered very limited access. We noticed that some networks were very generous on the show content that they offered while other networks were not so giving on their content offered. We then viewed several sample shows from each website to try and gather the average commercial placement and time. We tried to fast forward the shows in order to bypass the commercials but were unsuccessful in doing so.

ABC, CBS, and NBC all had great ease in the accessibility of their online programming. Generally, there was more than one access point from the homepage to the online viewing pages in which the customer could use. Fox however, was a little bit more complicated in their accessibility because FOX shows listed on the homepage menu were hidden and did not show

which show has full episodes available. When we reached MySpace page where they offer online television shows, we finally knew which shows are available.

Literature Review and Survey

We did our survey through ABC, CBS, NBC, and FOX website. These TV networks have started providing via the internet; 12 to 15 regularly syndicated television programs and 2 to 12 online only shows. This free access gives their loyal viewers the chance to view re-runs of their favorite television shows while giving them access to new shows that can only be seen online.

ABC Corp.'s website located at (www.abc.com), lists all of its full length episodes that have been made available since its inception in May of 2006. On their homepage's menu bar, there is a link entitled "full episode" on the top right of the page. This will bring you to a menu page that displays all their online shows available. Their website currently provides 14 online TV shows and 2 online only shows. Once you choose the show of your choice, you can then choose from any episode from within the selected show that is made available from past television airings. ABC will offer entire season access to some shows and limit episodes access for other shows. We found that each program contains at least three to four commercials. Commercials are run in 10 minute intervals of the show. These commercials are unavoidable and generally last about 20 to 25 seconds. To be able to watch online shows on the ABC website, your computer must be fitted with Adobe Flash 9 software and have DSL, Cable, or some other form of high speed internet connection. In addition, ABC also provides affiliated online programs such as ABC News, ABC Family, ABC Kids, ABC Sports, and ABC Radios that would attract all types of people.

CBS Corp. is one of the largest radio and TV networks in the United States. Their website (www.cbs.com) provides their viewers a full listing of free online television programs. Located towards the bottom of their websites' homepage, there is a section labeled "watch full episodes free". This section offers links to several of their regularly aired television shows that can be viewed online for free. Once you pick a show, the website will then run their online TV service called Innertube. Once in Innertube, you can choose from any of the previously aired episodes from the past that you want. CBS currently offers 15 online TV shows and 12 online only TV shows. CBS, like ABC, varies in the amount of past episodes that are available per show for viewing via the internet. CBS will offer entire season access to some shows and limit episodes access for other shows. To be able to view online shows within the CBS website, you need to have installed either Windows Media Player or Real Media Player. Also, you are required to have DSL, Cable, or some other form of high speed internet connection. CBS also has runs their commercials in 10 minute intervals within each episode. They also generally last about 20 to 25 seconds each. CBS also provides CBS Sports, News, Showbuzz, and Entertainment online that would attract many people.

NBC Corp. also provides free access to its online TV shows at their website located at (www.nbc.com). Their website provides 13 online TV shows and 2 only online TV shows. When you go to the NBC website homepage, located on the menu bar is a link entitled "watch episode". This link will lead you to a menu page where you can choose from amongst the 13 online TV shows and 2 online only shows. NBC, like CBS & ABC, varies in the amount of past episodes that are available per show for viewing via the internet. NBC also offers a feature called "two minutes replay" for 11 of its offered shows. Two minutes replay shows next episode's trailer. NBC also provides NBC News. To be able to access online shows via NBC, you will

need DSL, Cable, or some other form of high speed internet connection. NBC is different in how it runs its online advertisements during each show. Unlike CBS & ABC, NBC breaks each episode into six parts. A shorter length commercial is then shown in the beginning of each part, therefore showing more, but smaller sized commercials.

Fox Corp. also provides free access to its online TV shows at their website located at (www.fox.com). Their website provides 14 online TV shows programs and 4 online only TV shows for free. On the menu bar located at the top of the homepage, you can click the link entitled “shows” to gain access to the many fox TV programs. Each show has its own page and in some of these pages is a link entitled “FOX on demand”. When you click this link “FOX on demand”, it will bring you to a MySpace.com page maintained by FOX. FOX utilizes the MySpace video function to offer their popular shows. Their commercials generally last for 15 to 20 seconds and they too come in 10 minute intervals within the show. High speed internet connections are required to watch these episodes. Their episodes are more limited because they only offer limited re-runs versus the other networks that offer full season access on some of their shows Therefore, this leaves FOX offering the smallest number of available episodes compared to ABC, CBS, and NBC.

Although the main focus of our research effort was the online television programming generated by the four major networks (ABC, CBS, NBC, and Fox), most of the information we gathered did not come from their respective websites. Quite frankly, the network websites themselves contained virtually no industry, statistical, or technical information to speak of. Instead, general information about the industry as a whole, the individual business models of the four competitors, the marketing and advertising aspects of the industry, and the technical matters of this new “Web TV” phenomenon was derived from other sources. In particular, the vast

majority of our sources included websites and blogsites specifically dedicated to the media or entertainment industries, and other online sources specializing in marketing or advertising topics. In addition, traditional printed sources such as business periodicals were utilized, as well as encyclopedic websites for definitions and other general information, and even a non-profit research institute website specializing in the internet and its effect on society. A list of all of these sources can be found in the bibliography.

Of course, we did survey each network website for specific information regarding their collection of online offerings. The information we sought included: (1) the number of traditional broadcast television programs available also online; (2) the number of television programs available only online; (3) the specific software package(s) required for viewing online programming; and finally, but most interestingly, (4) the quantity and placement of advertising. This advertising included not only the often seen yet most disdained pop-up and banner ads similar to those found on virtually every Internet website, but also the “commercials” embedded within the online programming, formerly seen by traditional broadcast television viewers only. The subjects of marketing and advertising will be covered in greater detail later.

Analysis, Results, and Conclusions

Nonetheless, after reviewing and analyzing all of our source data, several interesting yet diverse facts became readily apparent. These are as follows:

- (1) Online television, like its older sibling traditional broadcast television, is a highly competitive industry, with billions of dollars in advertising revenues at stake.
- (2) Online television is a rapidly growing entertainment delivery method, with the potential to eventually become so popular that it may threaten the very existence of traditional broadcast television itself.

- (3) Online television is most popular with urban and suburban young adult viewers of average means, but is being aggressively marketed to two new key demographic groups, the so called “teens” and “tweens”.
- (4) The key technologies that made online television (and other extremely popular web-based video content) possible were high speed integrated circuits, greater bandwidth delivery systems, and distributed storage strategies developed in conjunction with improved content delivery algorithms.

Each of these conclusions, along with the sources and methodology employed to arrive at them, will now be addressed in greater detail.

Dr. Michael Porter’s classic “Competitive Forces Model” was used as a basis for analyzing the online television industry. As stated earlier, the industry is highly competitive, and by addressing the five main elements of his well known model we can determine precisely why this is so. Furthermore, we will attempt to show how this relatively young industry has recently changed, and how it will most likely continue to change, as a direct result of these competitive forces. To briefly summarize, the five forces described in Porter’s model that are used to analyze the structure of a given industry are as follows: (1) the intensity of rivalry amongst existing industry competitors; (2) the threat of new entrants, and therefore new competitors, into the industry; (3) the threat of substitute products or services to those currently provided by firms within the industry; (4) the bargaining power of current suppliers within the industry; and lastly, (5) the bargaining power of current buyers within the industry. Each of these five elements will now be addressed in turn.

The intensity of rivalry in the online television industry is clearly evidenced by the four media giants fiercely battling over a rapidly growing customer base, with the battle being fueled

by powerful advertising revenues increasing at a geometric pace. In fact, the growth rate of money being spent by companies peddling their goods and services online over the last three years is staggering. In 2004, online ad revenues totaled \$9.6 billion. By 2005, this number increased 30.3% to \$12.5 billion. As of last year, the rate of increase had accelerated 34.4%, with a total of \$16.8 billion being spent on online advertising. At this pace the total amount of money spent on online advertising during 2007 will most likely top \$22 billion. Some of the smaller niche companies in the industry rely on advertising revenues for a majority of their income. For example, MTV (which is owned by Viacom, the same parent company that owns CBS) receives nearly 60% of its total revenues from advertising, and its current online ad income of \$150 million is projected to grow to \$500 million in three years. Thus, it is quite clear that the main driver of the intensity of the rivalry amongst existing industry competitors is advertising revenues. The money is simply too good to pass up.

The second criterion, the threat of new entrants into the industry, has played a secondary yet still critical role in intensifying this rivalry. The main reason why the four major networks are fearful of new entrants is that that virtually anybody with a digital video camera, a computer, and a basic understanding of HTML programming can now host a website containing User Generated Content (UGC), as it is commonly referred to. In essence, technology and the Internet have “democratized” the industry by lowering the barriers to entry, at least at the lower end of the scale. The preeminent examples of UGC sites include some of the most popular online destinations, including YouTube, MySpace, Joost, Google, and Yahoo. In fact, YouTube is among the 15 most visited websites in the world, with 34 million unique guests each month. Of course, UGC is technically not the same as online television, but it does satisfy the appetite of many young viewers who crave web-based video. With 110 million potential “online television

households” in the United States (with an approximate average of 3 persons and one computer per household), capturing even a small percentage of this audience from the major online television providers can have a huge impact on the bottom line of any new entrant.

To make matters worse for the traditional networks, some video sites also contain illegally obtained or “pirated” television shows whose intellectual property rights are still controlled by one of the four major players. To combat the growing popularity of these sites and the inevitable competition that these potential new entrants threaten to unleash, some of the networks have resorted drastic measures. For example, utilizing the power and bank accounts of their parent companies, some of the networks have partnered with or even purchased UGC sites to bring them into the fold and prevent competitor networks from doing the same. Indeed, in a recent collaboration, Fox now allows its full-episode online television programs to be viewed on MySpace via a link from its own website. This agreement was the result of a larger deal in 2005 in which News Corp., the parent company of the Fox network, purchased the parent company of MySpace for \$580 million. Likewise, Time Warner Inc., the owner of Turner Broadcasting’s CNN, recently announced a deal with UGC provider Joost to host a variety of programs, including the ever popular “Larry King Live”. Other similar arrangements will most likely occur in the future as the main industry players jockey for position in an attempt to maintain and even increase market share in one of the fastest growing markets.

On the other end of the spectrum, some networks have pursued legal action against the owners of certain UGC sites in an effort to prevent them from continuing to host copyrighted material. In their defense, these owners state that they simply provide the platform for hosting content, and are not responsible for what users upload on their servers. It appears that the First Amendment has bumped heads with the power of corporate shareholders, and that this debate

will continue for the foreseeable future due to the amount of money at stake.

As far as the subject of substitute products or services is concerned, there really is no alternative to first-run, current season, online television. In the traditional broadcast television industry these shows are referred to as “prime time” programs. For example, some of the most popular shows on both broadcast and online television, such as “Lost” and “Desperate Housewives” from ABC, “CSI” and “Survivor” from CBS, “The Apprentice” and “Heroes” from NBC, and “24” and “Prison Break” from Fox, simply cannot be replicated by other websites, at least legally. As future viewership moves from traditional broadcast to an online audience, the battle for market share will intensify. Therefore, although UGC sites and other web portals may host similar video content and even legally syndicated rerun episodes of popular shows from previous seasons, the major network players remain the only providers of contemporary first-run programming, since they are the firms that produce the shows. In this sector of Porter’s model the major networks appear to be safe, at least for the foreseeable future.

Moving on to the issue of the bargaining power of suppliers, we see that once again the major players in the industry have positioned themselves, or more appropriately, have been positioned, to take advantage of vertical integration. Although it is not well known by most consumers, every major television network, which includes the online business, is owned by a parent company who is also a supplier of online content. For example, ABC is owned by Disney, whose studios have been prolific creators of children’s animated programs and other content for many years. CBS is owned by the large media conglomerate Viacom, which also controls Paramount Studios, another key entertainment company. NBC’s parent is Universal, who like Disney has film studios and production companies in their family. And finally, the Fox network is owned by News Corp., which also runs Fox Studios, formerly known as 20th Century

Fox. In each of these cases, the bargaining power of industry suppliers has been mitigated by the fact that both the content supplier and the network itself are members of the same organization. In short, none of the major networks fear their own parent company, acting as a supplier, from gaining bargaining power over them because it is their profits that eventually feed into the income statement of their respective parent companies.

Finally, we reach the bargaining power of buyers, and in this sector of Porter's model the position of the industry competitors is the weakest. It is the buyer, in other words the "consumer" of online television, who is truly in the driver's seat, and both the online networks and companies who advertise on their websites are stumbling over each other gain their business. There are several reasons for this. First of all, all of the online programming we surveyed was completely free of charge. From the consumer's point of view, there is nothing better than "free". Of course there is the slight consumer burden of being tracked online. This is due to the fact that online marketing companies are desperate to know such things as which shows were watched, how much time did the viewer spend online, which links or icons were clicked on, how much time did the viewer spend on each page, and other valuable metrics. In fact, firms like Doubleclick and other online marketers make millions capturing and selling this data to consumer product and service suppliers and advertising companies. Overall, however, the burden to online viewers is insignificant when compared to the added flexibility of being able to view online television virtually any time or anywhere.

Online marketing and advertising companies are doing everything in their power to capture data and develop the latest demographic of the "typical" online television viewer. The current mix of online viewers is 55% female and 45% male. The prime target audience is 20 to 34 years old, with the age of the average consumer being 29. Most online viewers are urban and

suburban dwellers, due simply to the accessibility of high-speed Internet connectivity. As far as economic measures, the typical viewer has at least one internet access device (desktop, laptop, PDA, cell phone, or game console), and either access to or the ability to pay for high-speed internet service, which places the average user in the lower-middle to upper-middle income brackets.

Two new demographics which are receiving a great deal of attention from marketers and advertisers are the “tweens”, ages 7 to 12, and the “teens”, ages 13 to 19. These two groups of customers, either current or future, are being aggressively pursued for one very important reason: they have been around computers and the internet for their entire life, and are quite comfortable with it and extremely adept at using it. If these consumers can be captured early, the online television providers and their advertisers will have customers for life. These are called “alpha” customers, and are the most loyal of all.

Finally, this entire “Web TV” consumer revolution would not have been possible without the development of several key technologies. These include special purpose video cards with high speed integrated circuits, content delivery systems with ever increasing bandwidth, and a strategy called “distributed storage”, where copies of popular programs are pre-staged in key geographic locations for quicker delivery. In addition, improved content delivery algorithms are utilized to minimize packet loss and provide a seamless presentation.

Recommendations

Online television promises to revolutionize the entertainment industry. With the ever expanding pace of technology, and the increasing numbers of Internet users, the traditional broadcast television networks have been forced to reinvent their business models because the industry has nearly been turned upside down. No longer are the networks able to control the

medium according to their desire and schedule. Today technology and the Internet have empowered the consumer, specifically the online television viewer. This promises to be an exciting industry. Our recommendation is for industry members, marketers, and advertisers to pay close attention today's technologically competent consumer, in particular the "teens" and "tweens" mentioned previously. These groups promise to be powerful and demanding customers, and they will be around for a long time.

Scope of Further Work

We firmly believe that it would be most interesting to follow these two demographic groups, the "teens" and "tweens", for the next ten to twenty years, from today through middle adulthood. These young, powerful consumers have been raised on the Internet; it has been a part of their lives since they can remember. They are thoroughly comfortable with technology, and their future internet activity, including buying patterns, entertainment choices, communication methods, and other activities are readily measurable, and could provide valuable insight into two entirely new and very important demographic groups. Now would be the time to begin this process.

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