Digital Media Battleground

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Digital Media Battleground

Consumer-driven simplicity vs. Content monetization

Current digital media distribution platforms continue their march towards streaming service-based infrastructures, delivering content to users when and where they want it: laptops, set top boxes, home entertainment systems, and the new ubiquity: mobile devices. This model was first demonstrated by utilizing the multicast backbone technology in the early 1990s and took the better part of a decade to make inroads in changing the way individuals consume broadcast, mainstream, and syndicated video media. It took the advent of streaming technology, high-speed internet adoption, and a willingness from content owners to license their treasured content with upstart streaming media platform companies. Digital music distribution showed consumers, content owners, and distribution channels what can happen when one player effectively creates a new, disruptive technology platform, i.e. Apple's iTunes Music Store. Now content owners are afraid of a single distributor dictating the methods, prices, and channels by which their content reaches consumers. Today, streaming technology is making a play against the incumbent iTunes transactional model of Buy, Download, and Own digital distribution by providing varies models to consumers: integrated advertising-based, subscription-based, and traditional cable "packages" with integrated on-demand streaming, all of which retain no permanence or ownership for the end user. Content owners are treading carefully, trying to avoid the single, dominant point of distribution that Apple achieved in music distribution. The results of this are less optimal from both a market standpoint and especially the experience for consumers. Media companies frequently change the terms of their licenses, or drastically increasing their licensing costs, causing radical fluctuations in the long-term viability of the nascent distribution platforms. Consumers interact with this environment through complicated, multi-party subscriptions, multiple applications or web interfaces, umpteen logins, various bills, and a nebulous understanding and ability to sit down and watch premium content when and where they want it. The entire market is in its juvenile form, stretching, growing, and trying to find that balance of monetization and the critical mass of consumer adoption required to truly transform media consumption from the real-time, over-the-air broadcast format it has been since television's inception, to a time-shifted, choose your own, content delivery system based around the internet as the delivery medium. In this paper we idealize the situation by analyzing the largest incumbents for each of the monetization models, provide input into their strength and weaknesses and finally analyze and postulate what we believe will the trends and concerns moving forward into this new digital media panacea.

Comcast On-Demand, a streaming service provided with your monthly cable subscription (*Image source*)

iTunes, the incumbent digital media distributor (*Image source*)

Netflix, a monthly subscription-based service (*Image source*)

Hulu, an integrated advertising streaming provider (*Image source*)

Streaming

What is it?

Nowadays the words 'streaming' and 'to stream' has become a part of daily vocabulary. We use these words very often we chat with our friends and colleagues. Let's understand what does streaming and to stream mean.

Streaming "is a technique of transferring data so that it can be processed as a steady and continuous stream" (Streaming, Webopedia.com) of data for the end user. Streaming media is the multimedia that is compressed and constantly received by, and presented to, the end user while being delivered by the provider. The word 'To stream' refers to the process in which the media is delivered to the end user (Streaming Media, Wikipedia.com).

Traditionally, one used to download media from the internet completely to the computer hard disk to playback. With the advent of the streaming technologies and compression algorithms one has been able to play the media even before it is completely downloaded from the internet and content does not occupy any space in the hard disk. The streaming technologies and the streaming of multimedia is becoming more and more popular with the growth of the internet as one does not have to wait for the entire file to be transmitted to watch it but he can watch it instantaneously.

History

In early 1920, George O. Squier was granted patents for the transmission and distribution of signals through electrical lines which later formed the technical basis for the streaming technology. The commercial implementation of this technology, Muzak, streamed continuous music to the commercial customers without the use of radio, originally over electrical lines.

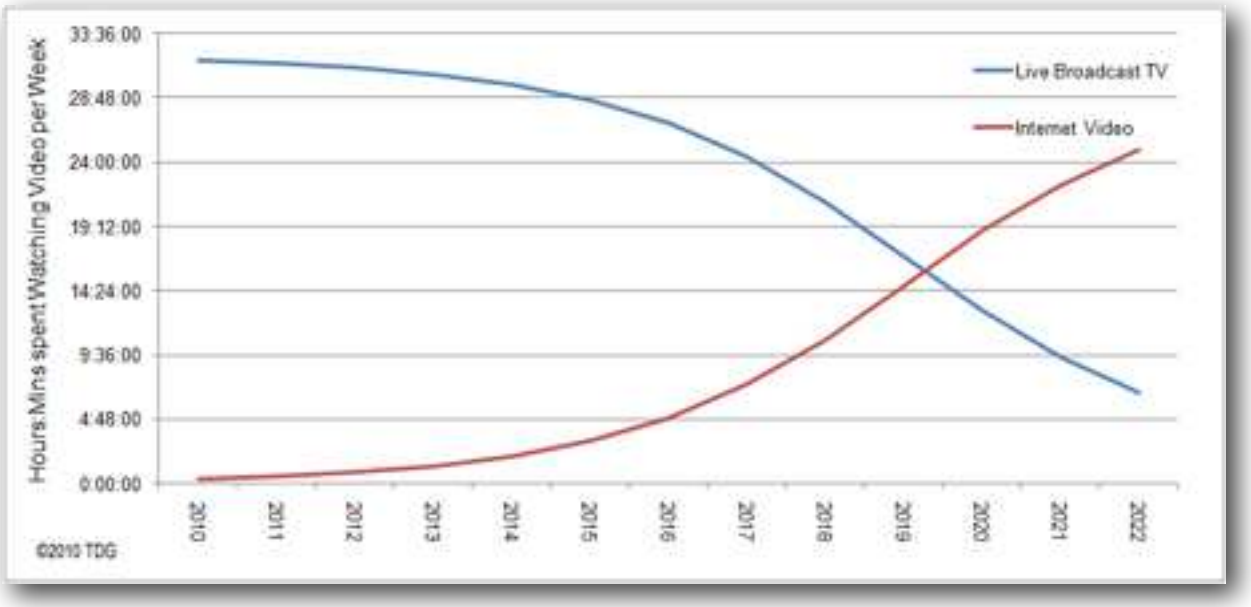
Later in the mid-20th century, there were attempts to stream media to computers but all of these attempts failed due to the limited capabilities of the hardware, internet, and network bandwidths. The late 1990s and early 2000s saw the advent of streaming technologies as the internet became more commercialized and the network speed and bandwidths have been increased drastically to support it. In 1992, a new streaming technology was developed to broadcast media over internet using multicasting. In1993, The Severe Tire Damage band was the first to play online when it was broadcasted in Australia and elsewhere. Later in 1994, a Rolling Stones concert was broadcast on mbone. In 1995, RealNetworks was formed and launched RealAudio, becoming a pioneer in the media streaming markets. An early achievement was the broadcast of a baseball game live, over the internet. In 1996, Vivo launched Vivo Active and Microsoft launched NetShow, which was the precursor to Windows Media Player in 1999. In 1997, RealVideo was launched and Microsoft bought VXtreme. In 1998, RealNetworks bought Vivo and Apple announces QuickTime streaming. In 1999, RealNetworks and Yahoo bought XING and Broadcast.com, respectively. In 2000, RealPlayer reached a 100 million users and Akamai bought InterVu. Windows Media Player 7.0 and RealPlayer 8.0 were released (Girod, n.d.).

Over The Top Content

Over-the-top or OTT refers to the delivery of content over a platform that is not under the control of the content owner or service provider. Originally, it referred to the delivery of audio and video content, but has grown to refer to any content or media available on the internet. In the fields of broadcasting and content delivery, over-the-top content (OTT) means broadband delivery of video and audio without the internet service provider being involved in the control or distribution of the content itself. The provider may be aware of the contents of the IP packets, but is not responsible for, nor able to control, the viewing abilities, copyrights, and/or other redistribution of the content, which

is the nature of the internet (Over-the-top content, Wikipedia). OTT in particular refers to content that is transmitted by a third party, such as Netflix, Crackle, Hulu, or myTV, and arrives to the end user's device, leaving the internet provider responsible only for transporting the IP packets involved.

Table 1: Projection of Live vs Broadcast TV consumption



Internet-based video consumption is projected to overtake and nearly replace traditional live broadcast television viewing. (Image source)

Evolution of Streaming Media

In 1995, Progressive download technology often referred as progressive streaming allowed audiences with standard personal computers to view video files. In this the content is downloaded to the user's hard disk. In 1999, true streaming was introduced to the general market in which the content is not downloaded to the users device and is viewed immediately. In 2000, several file sharing protocols and file sharing formats were introduced enabling peer to peer video streaming. In 2004, Comcast launched its on demand service enabling users to stream media from a large catalog of movies and shows. In 2005, Apple iTunes supported purchasing and viewing videos and TV shows and later in 2006, it added purchasing full length movies. In 2007, Netflix started its transition from rent-through-mail DVD delivery to video on demand via the internet as a subscription based service. At the same time, Sony acquired an online video site Grouper which it later renamed as Crackle to provided free streaming of movies with integrated advertisement. (Halim, et. al., n.d.)

Streaming Technology

Compression Technologies

Streaming is currently expanding to new user platforms like hand held wireless devices, interactive television set-top boxes, game consoles, and mobile phones (Kozamernik). Streaming is made possible by compression algorithms. Currently the most widely used compression algorithms are Windows Media, RealNetworks and QuickTime. These algorithms are scalable and can be streamed efficiently over the internet while coping with the channel-bandwidth fluctuations prevalent on the internet (Kozamernik). Streaming can deliver live content and can provide random access to movies with features similar to VCR functions, allowing the user to use forward and backward functions. Streamed content occupies no space on the user's hard disk. These features made it attractive to users.

To enable streaming, digitizing is done by video hardware, a computer hardware card, cables, and a software application that converts the original signal into digital media. This digital media can then be edited and transferred back to numerous formats for internet streaming. Source media files are too large to transfer over the internet and only through the advent of compression algorithms was streaming made possible, even for very large files.

The Motion Picture Experts Group sets standards and pools patents to ease consumer product creation and adoption. (*Image source*)

Originally, streaming music and video over the internet was impossible due to the size of the files and slow internet speeds. Some of the reasons for the success of streaming is the advances made in compression algorithms along with development of streaming servers and improvements in broadband networks (Kozamernik). The development of compression algorithms started with MPEG-1 but the compressions achieved by MPEG-1 video, even at low resolutions, lacked the quality to spur the adoption of users. In the late 1990s, MPEG-2 appeared and making it possible to compress up to 1/30 of the original video size and still maintain acceptable quality video. A much better compression algorithm MPEG-4 part 2 was later developed which gave the same picture quality as MPEG-2 using half of the band width used in MPEG-2 (Bylund).

Today, other compression algorithm standards are appearing, threatening to outdate MPEG-4 Part 2. The new advanced compression algorithm is H.264 compression standard. It is implemented by many, such as Apple's iTunes Video Store, and recently, YouTube's high-definition videos. H.264 is also known as MPEG-4 Part 10 or Advanced Video Coding (AVC). H.264 is the most improved compression standard over any previous generation.

H.264 is the current, widespread, advanced codec for video *(Image source)*

H.264 came out in 2003 and the hardware improvements are still catching up. With H.265– still under development–the file size can be reduced to half of H.264 while keeping the same picture quality. Streaming is becoming a very profitable business as compression standards continue to evolve making videos available for users everywhere, on any device, on a variety of internet speeds. The future of streaming will be based on highly compressed algorithms and the standards keep getting better.

Streaming also depends on the availability of internet access to the general public. Broadband internet adoption has increased over time, making streaming possible to consumers. According to the Federal Communications Commision (FCC), broadband technology actually started in the 1960s (Mojica). Government restriction on the internet market affected its growth potential until 1995. Even with restrictions, companies were offer-

ing dial-up internet access on a larger scale in 1993. Later, in 1995, government restrictions were lifted and larger scale progress started to happen. The internet for residential use grew exponentially beginning 2000. By 2003, the FCC estimated 39 percent of American households had acquired broadband internet service (The History of Broadband Technology, n.d.). Subscribers growth has continued in the intervening years, paving the way for streaming technology to flourish. In 2012 mobile internet users exceeded 1 billion (Press Release: Mobile Broadband, n.d.) making the new ubiquitous consumer platform and cellular internet delivery a key market for streaming media companies.

Table 2: History of Compression standards

YEAR	STANDARD	PUBLISHER	POPULAR IMPLEMENTATIONS
1984	H.120	International Telecommunications Union - Telecom Standards Sector (ITU-T)	
1990	H.261	ITU-T	Videoconferencing, Video-telephony
1993	MPEG-1 Part 2	International Organization for Standardization (ISO)	Video-CD
1995	H.262/MPEG-2 Part 2	ISO, ITU-T, International Electrotechnical Commission (IEC)	DVD Video, Blu-ray, Digital Video Broadcasting, SVCD
1996	H.263	ITU-T	Videoconferencing, Video-telephony, Video on Mobile Phones (3GP)
1999	MPEG-4 Part 2	ISO, IEC	Video on Internet (DivX, Xvid ...)
2003	H.264/MPEG-4 AVC	Sony, Panasonic, Samsung, ISO, IEC, ITU-T	Blu-ray, HD DVD Digital Video Broadcasting, iPod Video, Apple TV
2008	VC-2 (Dirac)	ISO	Video on Internet, HDTV broadcast, UHDTV

(Data source)

Comcast on Demand

COMPANY OVERVIEW

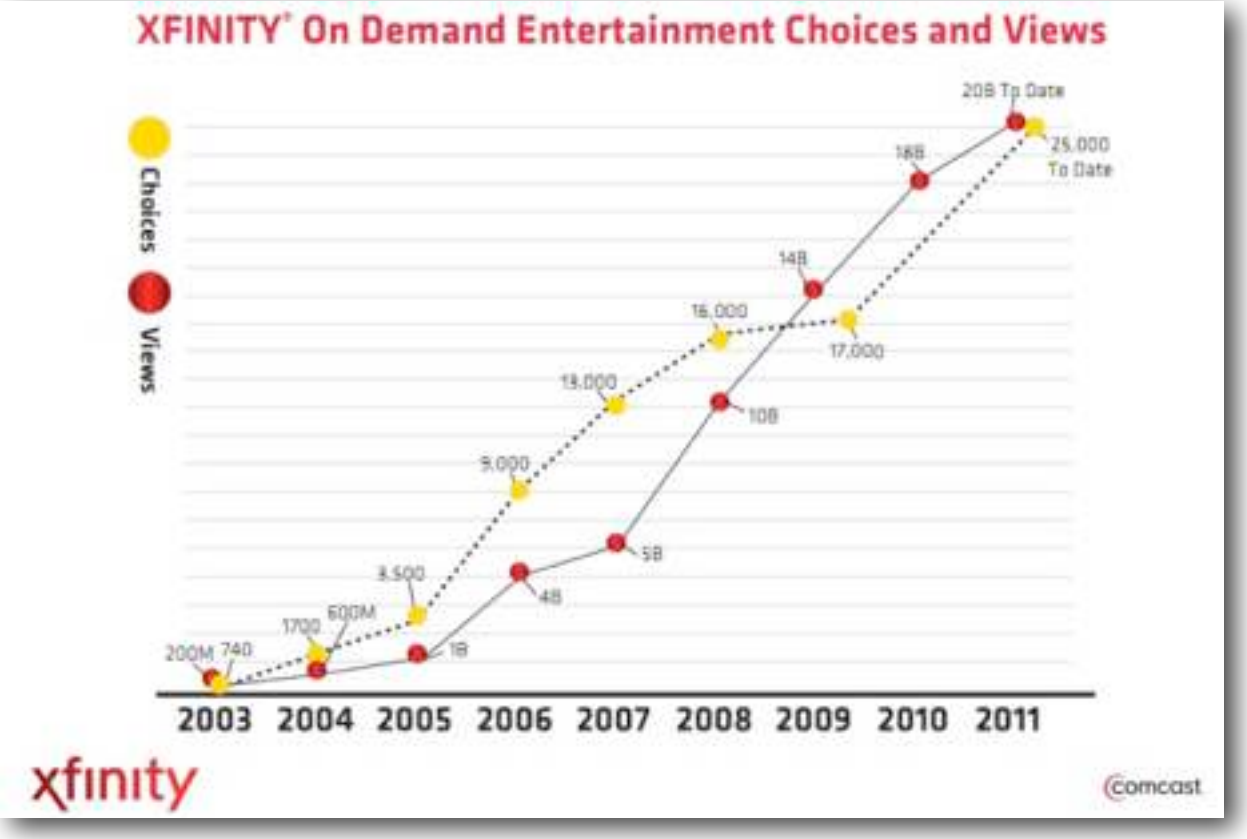
History

Comcast Cable was formed in 1963 as the American Cable Systems by Ralph Roberts. In 1969 its name was changed to Comcast, which is a combination of **com**munications and broad**cast**. In 1996, Comcast launched its broadband internet service after the acquisition of Sarasota Online. Since that date Comcast has grown to service over 18 million customers (Comcast, Wikipedia).

With broadband growing in the early 2000s the internet was not only maturing, it was getting faster. With faster internet, the notion of online streaming went from nearly impossible and barley tolerable to enjoyable.

In 2003, Comcast launched its video on demand service. In its first year there were 567 million views increasing over 300% in two years.

Table 3: On Demand Growth



Comcast On Demand views were total views were 200 million in the first year, surpassing 20 billion in 2011. Available content went from 740 titles to over 25,000 in the same time period. (*Image source*)

In 2011 Comcast was serving 15.5 million on demand views each day, exceeding 20 billion views since the services launch in 2003.

Business Model

Comcast is one of the founding cable entertainment companies establishing in 1963. As the business matured so did Comcast's business model. Currently Comcast has a business model of bundled services. Product bundling takes two or more services and sells them as one combined product, similar to fast food combos. Bundling motivates the customer to group their products, in exchange it gives them greater convenience and value then purchasing these products individually. Bundled customers receive only one monthly bill for their services, rather than two or three. In addition, consumers also experience savings because most companies will provide a discount on bundled services in exchange for the increased revenue of providing a household with more than one service.

Comcast does a good job of offering bundled services as it can provide customers with digital cable TV service, high speed internet access, and home phone service without farming out any of these offerings to other companies. This practice not only keeps Comcast profits up but it also keeps customers from "cord cutting." There is no other U.S. company that can compete with Comcast in this regard.

Comcast continually improves their product and service offerings with options strategic investment in its catalog of movies or providing home security monitoring. In February 2012 Comcast launched Xfinity Streampix with shows from ABC and NBC, as well as movies from Sony Pictures and Warner Bros. This service is designed to compete with other online streaming services such as Netflix, Amazon Instant Video, and iTunes. The service costs $4.99 per month, or customers who subscribe to bundled packages receive access to the service at no additional charge. With a strong infrastructure and business model, Comcast can expect to only grow its market share in the market of the entertainment industry.

STRENGTH, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT) ANALYSIS

Strengths

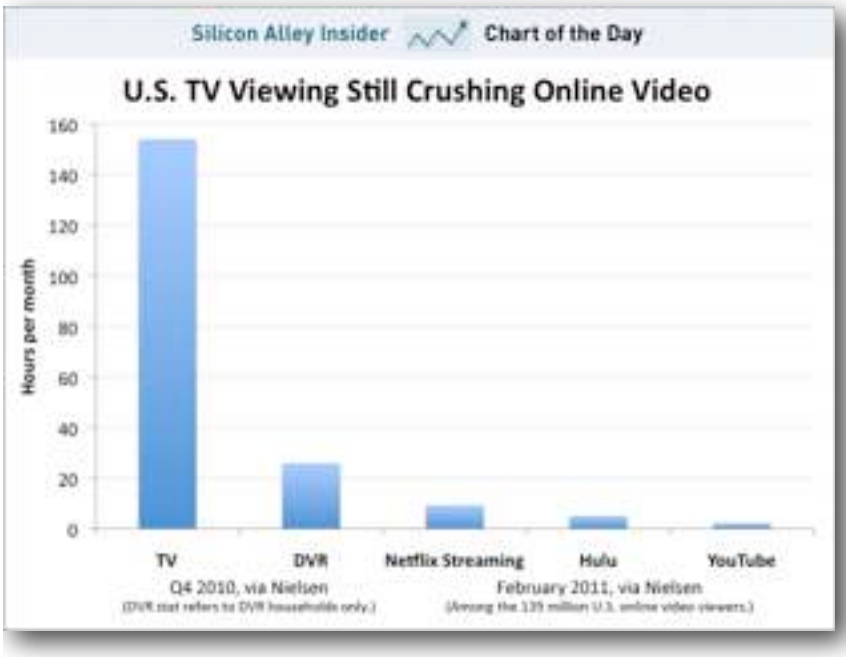
Market Share

As of January 1st 2012 Comcast had 22.3 million customers, their Xfinity® On Demand service provided customers with over 30,000 programming choices with millions of view a day. Comcast is the largest cable company in the United States at 22 million, followed by DirecTV at 19.9 million (Broadband Traffic Management, n.d.).

Economic Business Model

Subscriber's growth has leveled in recent years yet Comcast's profits continue to grow through new services and the acquisition or investment in other media companies; NBCUniversal Media, Metro-Goldwyn-Mayer, and United Art-

Table 4: US Viewing Habits



TV viewing still far surpasses online video consumption. *(Image source)*

ists Corporation being notable examples. These purchases assured Comcast access to more content for their cable and internet distribution. Another way to put is they bought the content makers so they have more products for their cable subscribers.

Weaknesses

Licensing / Content Fees

Programming costs are Comcast's largest operating expense. Comcast licenses a large portion of its programming from other media and distribution companies, e.g., Disney, Viacom, etc. In 2011 Comcast paid $858 million dollars in programming costs, a $500 million dollar increase over 2010. These costs include distribution rights for not only traditional broadcasting over their cable network, but On Demand and streaming rights as well. As programming costs and competition increases Comcast must look into long term and volume discounts to maintain profits without increasing the service costs consumers pay. With more and more competition, content fees could become Comcast's Achilles heel.

Table 5: Comcast Television Costs, 2011 & 2010

Television Costs:		
Released, less amortization	1,002	94
In-production and in-development	201	43
	1,203	137
Programming rights, less amortization	2,061	445
	6,214	582
Less: Current portion of programming rights	987	122
Film and television costs	$ 5,227	$ 460

Comcast television and film costs are a significant encumbrance for the organization. (*Image source*)

Opportunities

Mobile Distribution

To combat "cord cutting," Comcast started to heavily push its mobile Video on Demand (VOD) service. This has since become their frontline of defense in the digital streaming battleground. Comcast on demand service can be streamed to your mobile device under your existing cable plan which dissuades people from cutting the cord for competing services such as Netflix or Hulu Plus. In this new decade of smartphones and tablets, Comcast has been able to increase revenues which has been difficult for traditional media companies and cable providers.

Mergers and Acquisitions

In 2012 Comcast completed its merger with NBCUniversal Media. This not only gave Comcast more content and a stronger footing in the media world, it also gave them 30% ownership of Hulu, one of their major streaming media competitors.

Threats

Regulations

In February 2010, Comcast chief executive officer Brian Roberts was asked to testify in front of a U.S. Senate Judiciary Committee antitrust subcommittee. The panel was holding a hearing on a proposed merger between Comcast and NBCUniversal Media. Other cable companies represented at the hearing argued that they would be forced to pay

high prices for take-it-or-leave-it bundles of programming owned by NBCUniversal and other media conglomerates. The big cable distribution companies such as Comcast can get those bundles for far less than the smaller companies can, and owning the media conglomerate would only enhance this competitive discrepancy. Dissenters argued that the merger would stick U.S. consumers with higher prices while Comcast countered, stating that the situation for consumers would not be any worse than it already was [5]. Every purchase that Comcast makes must be reviewed and approved by the FCC. As they get bigger there will be a heightened level of scrutiny and a potential groundswell of antitrust advocates.

Competitive Market

Competitors offering similar services to Comcast on demand include: Netflix, Amazon, iTunes, VUDU, Redbox Streaming, Hulu and more. If any of these competitors offers a better selection with more convenience–which some say they already do–then Comcast will be at risk to lose some consumers to the "cord cutting" phenomena.

Financial Analysis

Comcast had revenues of approximately $900 million in 1992. In the next decade revenue grew to $9.8 billion in 2002, and over the next nine years revenue grew again by almost 600% to an astonishing $55.8 billion in 2011. Comcast revenues are projected to only grow in the coming years. They hold a powerful market position in the rapid and evolving landscape of the video entertainment industry, looking to not only maintain their lead but to grow it further with more acquisitions and internal development. Following Comcast's mergers and acquisitions it now sits in a unique position of controlling all aspect of media distribution, from content creation to end user delivery.

Apple iTunes

COMPANY OVERVIEW

History

iTunes is a multimedia software application owned and distributed by Apple, Inc. iTunes was originally developed by Robin Casady and Michael Greene and was originally called SoundJam MP. While watching the fight over music content take place between legendary rock band Metallica and the creators of the file sharing software, Napster, Steve Jobs, Apple's CEO, decided that he wanted to get into the business the right way and make money at it. After some negotiation, Casady and Greene sold the rights for SoundJam to Apple in 2001 for an undisclosed sum forever changing the landscape of digital media.

Apple wasted no time adopting SoundJam to form the base of what would become their digital media ecosystem. After tailoring SoundJam to make it their own, Apple quickly debuted iTunes later in 2001 alongside iDVD and the CD-RW enabled Power Macs, dubbing it the "world's best and easiest to use jukebox software." They offered the player as a free download along with installing it on all of their Mac products.

Between October 23, 2001 and July 17, 2002 iTunes downloads reached 1 million. During this time period Apple developed the iPod, which was bundled with iTunes, starting the Apple media ecosystem that would take the world by storm. From July 2002 to April 2003, iTunes 3 was released and 14 million copies of iTunes were downloaded since its inception. iTunes 3 also included incremental updates including: audiobooks, smart playlists, and library consolidation. Between April of 2003 and September of 2005, iTunes 4 was released and Apple became a music distributor. The iTunes music store now brought over 200,000 high-quality songs from BMG, EMI, Sony Universal, and Warner Music Group under one roof. iTunes 5 was released in October of 2005 added TV shows to their media repertoire. TV show downloads–initially only owned by Disney–became available. Other networks took notice after 1 million videos were purchased inside of a three week period. By the end of the year, NBC, MTV, Showtime, FOX and CBS all partnered with Apple providing more than 220 shows for purchase and download.

iTunes 7 was released from in September 2006 and was updated consistently with features until its succession in September or 2008. This version of iTunes made the leap into movies adding more than 2,500 films. From September of 2008, to September of 2009, HD content was added making renting and owning movies very desirable as the cost of high definition TVs was decreasing and adoption of the technology more widespread. iTunes 9 was released in September of 2009 and added new software additions like Home Sharing. iTunes 10+ has continued to evolve its software and adding iTunes U which offers education courses of all levels to its media catalog.

The business model of iTunes is broken into five basic areas: Music, App Store, Video, iBookstore, and other, which included iTunes U and audiobooks. Music was the initial area of focus for Apple as iTunes started as a music player. Once Apple was able to sign on all the major record labels, it was able to offer a huge library of music for sale that could be purchased and downloaded to the Mac or Windows platforms, then transferred to an Apple iPod or burned to a CD or DVD. Apple used this content to advance sales of its Macintosh computers and iPods as a media ecosystem that provided sleek designs and ease of use.

To date, Apple provides access to more than 13 million songs, having sold over 25 billion songs. They have done this by offering a Tiered pricing system of 69¢, 99¢, and $1.29 depending on the popularity and licensing of the song. This allows Apple to profit approximately 10¢ per song making them the largest and one of the most profitable distributors of music content in the United States.

In addition to music, iTunes makes a significant amount of revenue due to the sales of apps. Once again, with the development of their own devices such as the iPod, iPhone, and iPad products have allowed them to capitalize on the ability of iTunes to provide a central location to purchase and download paid or free apps. There are over 800,000 apps made by over 100,000 developers. Individuals pay $99 per year for a developer license, enterprises pay $299 per year. App Store users downloaded an average of 4.8 apps each, and ¼ of that amount are paid apps. The average price for a paid app is $2.70 and each app user spends an average of $4.37 a month. There are approximately 58 million app store users and in 2009, 280 million apps were downloaded generating $250 million. $75 million went to apple, and $175 million went to the developers. In 2013, there have been over 40 billion apps downloaded.

The third area of the iTunes business model is movies and television shows, consolidated under the Video moniker. A consumer can rent or buy movies or TV shows from apple via iTunes. By 2008 iTunes sold 200 million TV episodes, 1 million of those were in HD. By 2009, 33 million movies were purchased or rented and 1 million of those were in HD. By 2010 iTunes offered over 8,500 movies and over 55,000 TV shows. Consumers can rent movies from iTunes in standard definition for $2.99 for library titles and $3.99 for new releases. Consumers can also buy movies in standard or high definition for either $9.99 or $19.99 or TV shows from $1.99-$2.99 respectively. By 2008 iTunes was the leader in both movies and TV show downloads, holding 99% market share for TV downloads and 42% for movie downloads.

iTunes generates additional revenue by offering Audiobooks. They offer titles from bestsellers in fiction or non-fiction including "bargain" books at prices comparable to traditional books. iTunes also generates revenue through affiliate programs that link iTunes content through a web-page earning the affiliate a 5% commission on qualifying revenue. In addition to Audiobooks and the affiliate program, iTunes is also generating revenue through iTunes U educational content and games that are similar to the apps.

SWOT ANALYSIS

Strengths

Apple has developed a large, vertical ecosystem of products that include: iPods, iPhones, iPads, Apple TV, and Macs that all support iTunes anytime, anywhere. This makes it easy for consumers to download or purchase content onto their device at reasonable fee.

Another strength for Apple and iTunes is the support from major labels like: BMG, Sony, Disney and others. This backing allow iTunes to provide very large libraries of music, movies, and TV shows through easy to use software that comes preloaded on all Apple devices, or free on other devices which acts as a catalyst for both media and hardware sales.

Because iTunes is software, there are low operating costs. Apple does not have to build, equip and staff large manufacturing facilities to build and support iTunes. Most of the products in their ecosystem are sourced and assembled by a wide range of vendors allowing them to keep costs low, further maximizing profit.

Apple has been able to gain a large market influence and presence. All of this combined with sleek products and the "one-stop-shop" of iTunes has allowed for large revenues and cash in the bank. At the end of 2012 Apple surpasses Exxon Mobile as the most valued company in the world, but later fell to the number 2 spot as Exxon's market capitalization was able to once again surpass Apple's.

Weakness

One weakness that iTunes has allowed competitors to capitalize on is their lack of "flat-fee" or subscription-based access to content. Competitors such as Netflix or Hulu charge a monthly flat-fee that allows access to unlimited TV shows and movies. This model may be something that Apple should consider so that consumers do not have to use multiple vendors to view their favorite movies or shows. In addition to a flat-fee model, Apple may be able to expand their business with a la carte programming packages. Current cable providers offer packages that may limit the channels that a consumer has access to, or offer channels that a consumer may not want. Apple already has the hardware and software facilities that can deliver the content, and has been building their relationships with the major studios with their current movie and TV offerings, so they may be able to gain customers with an attractive build-your-own programming system.

Apple may also want to consider offering free content. It is currently very easy for anyone to find free movies or TV shows on the internet offered by competitors, supported by integrated advertising. Some of this content is usually offered with less advertising, or older episodes, but is still very attractive to consumers because it is free. Apple can attract more consumers by offering free content that will prompt a consumer to subscribe to flat-fee content, a la carte programming, or purchase other premium products.

Opportunities

Apple is positioned very well because of their current product offerings. They are also positioned to grow by exploiting their current weaknesses and turning them into products and revenue. The high demand for flat-fee content and the frustration consumers have with the major cable providers could generate significant revenue for Apple if they capitalize on this market opportunity. They may also generate more customers if they open their software allowing more developers to create apps and games for them for a reduced or no fee structure, rather than the pay-to-play developer model they currently provide.

Another area for opportunity for Apple is to consider adding a gaming or home entertainment product to their hardware portfolio. A home entertainment system similar to an XBox or Playstation could be used as the central portal for music, movies, web, flat-fee content, and games. Competitors such as Microsoft have already developed gaming consoles that now act as a central media station. Apple has the resources to enter into this category and possibly do it better by making it more user-friendly, aesthetically desirable, and backed by one of the largest, best monetized, developer communities on the planet.

Threats

Like all companies, Apple is not immune to threats. Even though they are the most successful at what they do, other companies are continuing to innovate and develop new products that can and will cut into Apples business and profits if they do not build on what they have as well as develop new products and innovations. Apple is at a key point in their existence. The recent loss of one of their co-founders and visionary has left them vulnerable; their ability to innovate and dominate as they have over the last decade is being called into question for the coming decade.

At any time Apple can lose their significance if the music and movie industry feel like exerting their power on Apple. They can limit access to content, increase licensing costs for content, or completely severe ties if they wish, rendering Apple helpless in the music, movie and TV world. It is of the utmost importance that they foster current relationships and build more to keep them relevant. Apple must also understand what competition from Netflix, Hulu, Amazon, Walmart, and Redbox means. They will need to understand their strategies and have an answer for them, or risk loosing significant marketshare to this highly innovative and rapidly growing competitors.

Netflix, Inc. - Subscription-based

COMPANY OVERVIEW

History

The inconvenience of going to a movie store, locating the desired title, and being fed up with late fees led Reed Hasting to found Netflix, Inc. in 1997. Netflix came into full operation in 1998 as a company providing DVD rentals and sales through the postal mail service. It was not long before Netflix realized the demand for DVD rentals out weighed the demand for sales. The company eliminated its DVD sales and focused on providing the perfect rental experience. Netflix introduced a flat subscription rate for renting any movie with no late fees. In addition, the consumers did not have to worry about the shipping fees when done watching their movie. The consumer had to only pay the subscription fee and not worry about any other complications.

In 2002, Netflix–through its outstanding service–reached more than 500,000 subscribers. The growth of subscribers tripled by 2003 to approximately 1.5 million and Netflix continued expanding its movie inventory, acquiring more than 16,000 titles and opening more and more shipping and distribution centers. Realizing the threat of the larger companies involved in the movie rental business, and properly foreshadowing the dawn of streaming as a new vehicle for content consumption, Netflix began investing in their video streaming service. By 2007, Netflix launched its first internet streaming service which allowed consumers a top-tier experience capable of watching movies on all multiple platforms including TVs, video game consoles and PCs. "Between 2008 and 2009, Netflix also negotiated agreements with networks, CBS, Disney, Starz Entertainment, and most recently MTV, to acquire rights for streaming their TV and movie content."(Carroll, 2009). Today, Netflix has over 30 million subscribers and over 75,000 movie titles available.

Business Model

Netflix did not invent a new technology when it first launched into operation; in fact it reused the existing optic discs adopted by other DVD rental companies such as Blockbuster. Netflix, just like Blockbuster, had a per-rental fee as well as late fees, however it leveraged the lightweight nature of DVD media and used this to its advantage by shipping it through first class postage. The mail provided the ease and comfort for customers to pick their movie online and have it delivered to their homes.

The business model did not favor those who decide at the last minute to run to a store to rent a movie, as it took up to 3 days for delivery by mail. "Blockbuster initially saw Netflix as a niche mail order business that didn't represent a significant competitive threat" (Kaplan, 2012). This all changed when Netflix switched their business from a pay-per-rental to a subscription-based model.

The transformation in Netflix' business model was recognized as being innovative, offering–for the first time ever–a flat subscription fee to rent an unlimited number of titles including free two-way shipping service. Netflix went from annual sales of $1 million to $500 million in just one year. It continued this growth to reach sales of $1 billion within a period of 8 years since it launched the monthly subscription-based business model. The number of Netflix subscribers grew from 1 million in 2001 to 33 million in 2012. Today Netflix' business model has improved even further, offering new technology-driven services such as movie recommendation features, Blu-ray rentals, and now their Netflix Watch Instantly streaming service. The strong infrastructure and business model that Netflix has built has led them to hold the largest market share in the movie rental industry.

SWOT ANALYSIS

Strengths

Market Power

Netflix is recognized as a household product, and is available for nearly all entertainment products: TVs, Blu-ray players, video game consoles, PCs, tablets, mobile phones, etc.

Economic Business Model

Netflix has a low operating cost due to its flexible infrastructure and DVD mailing system. The advantage of such a feature with growing subscribers is a steady growth of profit.

Customer Service

Netflix' patented DVD recommendation feature, based on subscriber's ratings, suggests titles to customers based on similar rating of other subscribers. The unique service is available only at Netflix.

Weaknesses

Subscription Acquisition Costs (SAC) and Average Revenue Per User (ARPU)

Netflix is a subscription based business model, thus continual growth is dependent on maintaining low SAC and returning a high ARPU. The two elements are considered difficult to change in the movie rental industry.

Globalization

Netflix services are limited to the United States only and lack globalization. This dependency on one market does not favor stable and continual growth for the company.

Opportunities

Digital Distribution

The popularity of digital distribution is creating a market with a high demand. Netflix has the advantage of bridging between DVDs and streaming video, while other competitors are still adapting or completely failing to make this transition.

Partnership and Contracting

Netflix could benefit by partnering with companies to add their service as a built-in feature in every device available on the market. In addition, the growth of Netflix could be expanded by expanding their media catalog through acquiring exclusive distribution rights from major content owners.

Threats

Studio Power

Hollywood studios control the window of movie releases. This release window is usually 5 weeks and Netflix is beholden to their licensing to when they are able to provide access to this content to their consumers, either in DVD or streaming formats.

Competitive Market

In the entertainment industry there are a lot of competitors offering similar services to Netflix such as Amazon, iTunes, Walmart, and Redbox. If any emerging competitor offers a larger catalog than Netflix at a cheaper price, their service would be at risk.

Shipping Delay

Because of funding issues within the US Post Office, there has been discussions of cost-cutting measures that may impact mail service, causing excessive delays in delivery. This delay would directly impact the delivery of movie rentals to consumers and potentially impact subscriber levels.

Financial Analysis

When examining Netflix' financial statement, it is evident that their business model has been a success. In 2010, Netflix earned approximately $2.2 billion in revenue, a growth of more than 29% over 2009 revenues of $1.6 billion. Moreover, this revenue growth continues in 2011 to $3.2 billion, an increase of 48.2%.

Table 6: Consolidated financial highlights for 2009, 2010, and 2011

	2011	2010	2009	Change	
	(in thousands, except per share data)			2011 vs. 2010	2010 vs. 2009
Revenues	$3,204,577	$2,162,625	$1,670,269	48.2%	29.5%
Operating income	376,068	283,641	191,939	32.6%	47.8%
Net income	226,126	160,853	115,860	40.6%	38.8%
Net income per share—diluted	4.16	2.96	1.98	40.5%	49.5%
Free cash flow (3)	186,550	131,007	97,122	42.4%	34.9%

Large growth has catapulted NetFlix, Inc. to a billion dollar company in recent years. (*Image source*)

Due to the changes in plans made in 2011, the separation of DVD rentals from streaming service, there was a large set of subscribers who cancelled service. It was mentioned in the 2011 Netflix annual report that "consolidated revenues for the first quarter of 2012 are expected to be flat as compared to the fourth quarter of 2011 and we may experience slower growth in consolidated revenue for the year ending December 31, 2012 as compared to the year ending December 31, 2011" because of this change.

As a result of this potential loss and available cash flow, Netflix raised $400 million in capital via $200 million in senior convertible notes with zero interest payable by 2018 and another $200 million of common stocks offered to the public. Overall, Netflix is still a young firm with large potential for growth. "Netflix benefits from a solid e-commerce business model backed by a decade of growth and increasing revenue" (Carrol, 2009). Netflix could profit by taking on long-term debt for further investment in research and development to maintain its competitive advantage in the budding streaming marketplace. Maintaining a leading position will be difficult due to the rapid and evolving changes in the video entertainment industry.

Hulu

COMPANY OVERVIEW

History

On March 22, 2007, Jeff Zucker, President and Chief Executive Officer of NBC Universal and Peter Chernin, President and Chief Operating Officer of News Corporation, announced the birth of a new premium online site with unprecedented reach: Hulu. It took only 6 months for them to launch the beta version of their online video service on October 29, 2007. Hulu offered a vast selection of on demand, premium programs utilizing a free, ad-supported model. Amazingly, Hulu was offering some information about the future films and programs. Undoubtedly, signing a co-operational contract with MGM and Sony Pictures Television was a huge jump for Hulu to achieve its goals. It gave them the opportunity to cover the most comprehensive selection of premium video content online. Offering content from many of the big content providers and networks made Hulu a marvelous and opportunistic company.

There is no doubt that 2008 was the best year for this newborn online video venture. On March 22, 2008, Hulu publicized that customers could watch and enjoy free videos from 50 top broadcast networks, cable networks, movie studios and web-centric content providers. Hulu grew rapidly day by day. While Youtube was number one in video streaming with more than 5 billion videos streamed to more than 77 million unique users in July 2008, Hulu held the number eight ranking on Nielson's top 10 video sites. They generated more than 105 million streams to more than 3.2 million unique viewers during the month. It is interesting to know that in June of 2008, one month earlier, Hulu had ranked number ten with more than 82 million streams delivered to 2.6 million unique visitors. Yes, a 20 million jump in one month, an astounding accomplishment for a new online video venture. Hulu must have been doing something right.

Increasing the number of shows from 90 to 1000 in October was enough for Hulu to be ranked number four of 50 best inventions in 2008. Obviously, Hulu obtained the "website of the year" by keeping this upward trend during 2008.

Hulu announced itself more fervently than ever by implementing a brilliant and wide-reaching marketing idea. Hulu aired a one minute ad during Super Bowl XLIII, which was a huge oppotunity for the site to present itself to millions of viewers; the results were enormous. Hulu had a 55% growth and clocked in 7.8 million unique visitors in February. This Super Bowl ad was the first step in Hulu's success in 2009. One month later Hulu presented new documentaries and clips to the site, including President Barack Obama's inauguration speech. Obama's inauguration speech motivated more people to turn to Hulu for their streaming video needs and thus, drew new users to the site. In April, Hulu had great news for its fans; they added Disney as one of their new content partners. Cooperating with such content providers and networks, paired with short advertisements helped Hulu to propel their video empire to reach a broader audience. Hulu was still growing steadily. In July, one of Hulu's commercials was nominated for an Emmy Award under the category of "outstanding commercial." In 2010, Hulu had innovative news for its customers: they lunched Hulu Plus, a specialty subscription-based service for $7.99 a month. Hulu Plus provided customers access to top hit TV shows like Glee, Modern Family, The Office, and House with perks such as minimal ads, ad swapping, access from multiple computers, and was required for accessing content on TVs, mobile phones, and tablets. The service allows customers the ability to "favorite" shows adding them to a queue to be saved and watched at later time.

In 2011, Hulu established many partnerships with main content provider and network suppliers such as Viacom, The Criterion Collection, TED, Miramax, etc. Hulu's added a Facebook app in August of 2011, marketing to a broader

audience and making Hulu a site that would have as much household recognition as Facebook. Hulu started its preparation to be a global brand in August by launching its first product out of the United States in Japan. In January 2012, Hulu surprised its customers with a New Year's gift, exclusive access to their first scripted original program "Battleground." In the same year they added support for Hulu Plus access on the Nintendo Wii and AppleTV. This gives you some idea about how many devices now support the Hulu Plus service. Consumers can have access to Hulu on nearly all available high-tech devices. There is no doubt that this helps keep its customers satisfied and motivates potential customers to try the service, no matter what devices they have.

Hulu expanded its global target by signing a multiyear agreement with HBO to support their service's launch in Japan. They set their sights to catch more of Japanese's customers by inspiring them to check out American TV shows and films with Japanese subtitles. They also uploaded a number of Japanese TV shows. HBO as content provider supports was a big win in driving customer interest and adoption.

Business Model

There is no doubt that Hulu's mission is to support people to have access to premium TV shows, clips, and documentaries. They keep their internal costs low by only employing 125 people and only taking 20% of the sales revenue. They form their video service around the promotion of legal access to TV, communicating with their content partners and not allowing home video uploading like other streaming sites; Hulu is first and foremost, a premium content provider. Hulu promotes good business practices by directly communicating with its customers through a blog. Their focus on customers is shown on their website with their handling of Hulu's interface and Hulu Plus's personalization; Hulu allows Hulu Plus customers to personalize ads, tracks shows they are watching and suggests new shows based on previously viewed videos. They have also signed exclusive content agreements for a number of TV shows in order to differentiate their service from other streaming video outlets. The Hulu website and Hulu Plus activation are well-known for their simple, intuitive interface, ease of use, and ability to get customers to the video they want quickly. The service provides quality controls that ensures that whatever device or speed of internet connection, your content will be delivered quickly and efficiently.

SWOT ANALYSIS

Strengths

Hulu provides a best-in-class interface that presents a smart, user friendly interface. Ad-swapping personalizes the user interface and shorter-than-broadcast commercial breaks keeps user's waxing attention. Intuitive controls for stream quality and closed-captioning round out their streamlined offering.

By focusing on quality, convenience, and free and legal premium content, Hulu is able to focus efforts on delivering their content to users.

Strong relationships with content partners and exclusive rights to certain shows keep customers coming back for more.

Forcing users to move to the subscription-based Hulu Plus service for specialized device access and catalyzes adoption for increased service monetization. This low low-pressure, try-before-you-buy environment also eases consumer worries about paying for something they are unsure of.

Hulu is one of the only services providing near-immediate access to premium network content. Netflix and others focus on movies and full-season releases, well after their original air date.

Weaknesses

Content partnerships need to grow to augment the growth of the user-base. More content licensing deals will go a long way to convince more users to adopt the service. There is currently a significant lack of cable network content, news, and sports content.

The Hulu Plus subscription is off-putting to some consumers as it does not remove commercials, just provides better access to the content available such as old seasons, back-catalog titles, and additional movies. Consumers might choose services like Netflix over Hulu if they do not want commercials for the same price point.

Hulu is currently behind some of the other providers on the breadth and depth of their mobile device compatibility. They are currently providing more access to more devices, but they have room to improve to remove this barrier to entry.

Being available in only two countries, Hulu lacks the growth opportunities possible with a more global-centric distribution platform.

Opportunity

Most of the weaknesses can be turned into opportunities: sign more content licensing deals, enhance the device compatibility matrix, and expand into more foreign markets. All of these opportunities should provide significant growth to the Hulu user-base.

Threats

Like all of our distribution examples, the content owners are in control; if they are unwilling to sign over streaming rights, Hulu will be unable to gain access to the content users are begging for.

Currently, Hulu is the premier streaming platform for network television consumption at or near the original air date. If other streaming services move in on this territory, Hulu may find one of its key differentiators in a battle with an uncertain outcome. Diversifying the device ecosystem that Hulu Plus operates on will help insulate them from competitors like Apple whom operate on a single device ecosystem, but entrants from a service like Netflix or another startup could seriously diminish Hulu's value to the consumer.

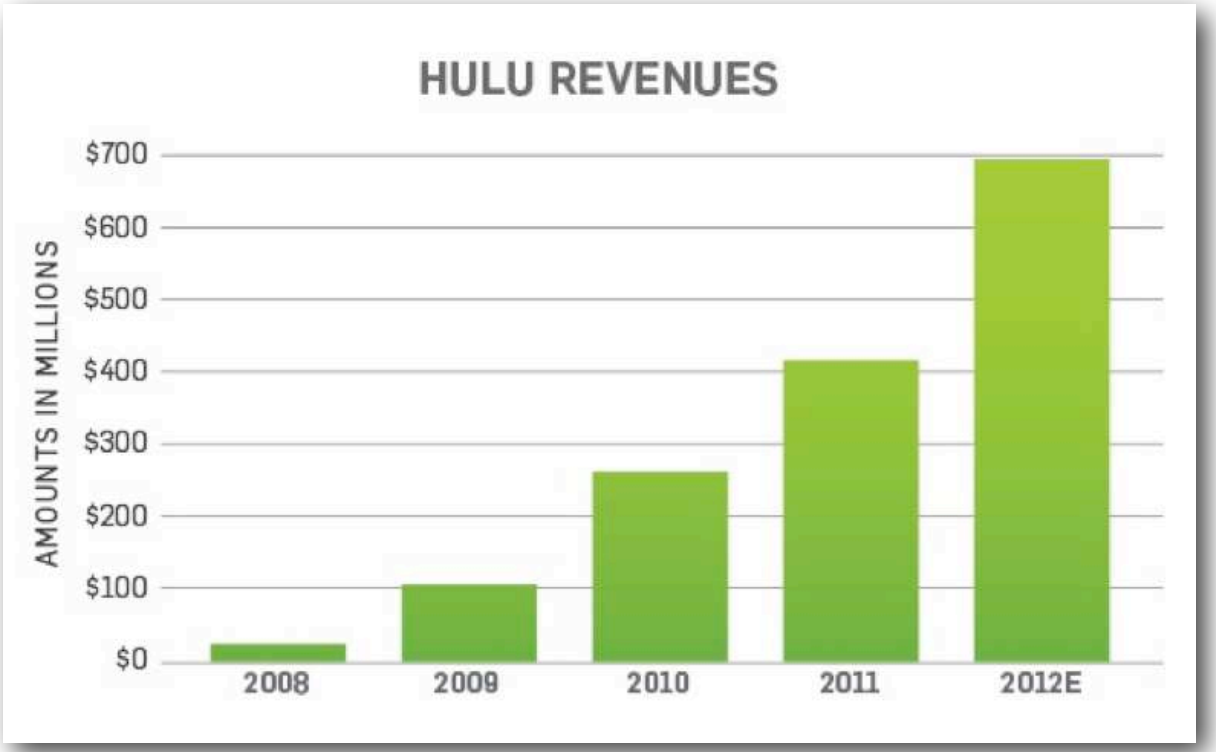
Since Hulu is an advertising-driven platform, it will be imperative for them to show returns for both their advertisers, and maintain a tenable portion of this ad revenue. Another service that undercuts their 20% cut of ad revenue could sway advertisers to move content away from the platform.

Lastly, failures in launching in international markets can be expensive ventures. If they are unable to consolidate the right content deals and gain momentum in international markets, costs could get unwieldy and reverse their profit growth.

Financial Analysis

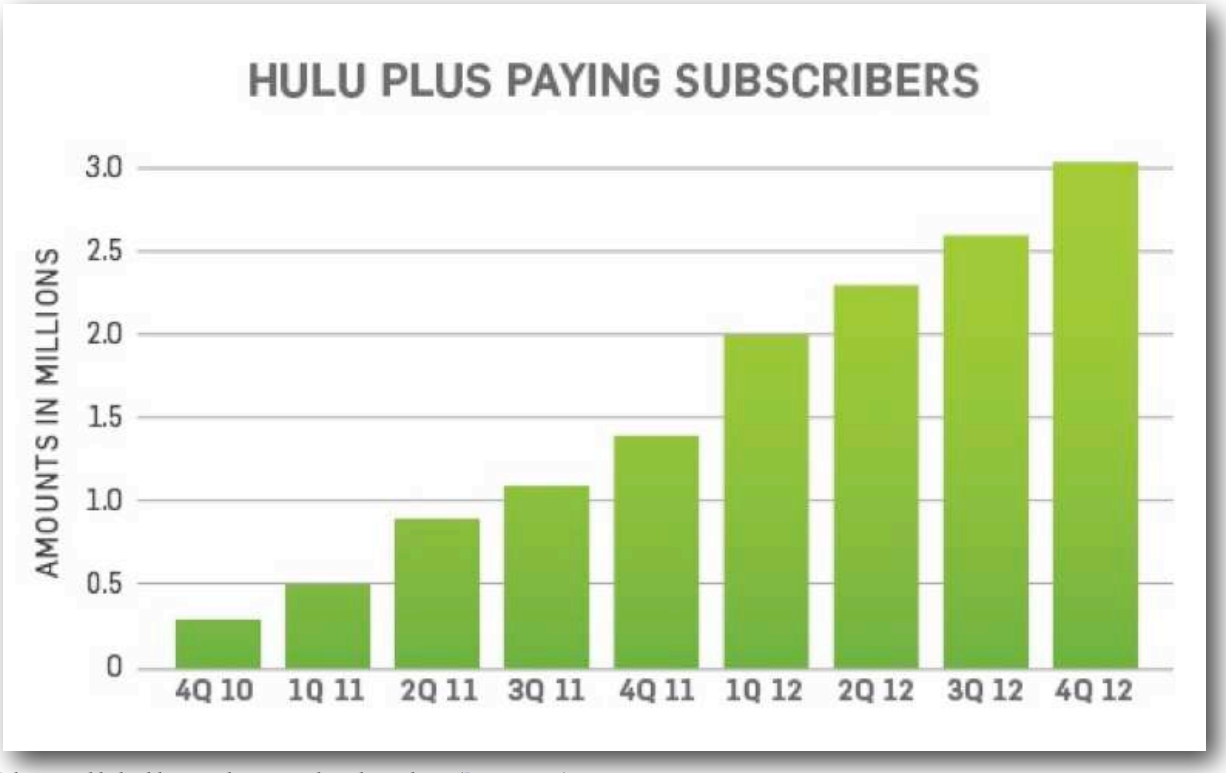
As show in the following graphs, Hulu's revenue in its first year of operation rang it at around $20 million. Revenues grew to almost $700 million in 2012. In just five years Hulu made more than a $650 million jump in revenue. Hulu has also proven that consumers are willing pay $7.99 a month to watch premium TV shows, with 3 million paying subscribers in the 4th quarter of 2012, just two short years.

Table 8: Hulu revenue growth, 2008-2012



Like the other successful streaming companies, Hulu is making big gains quickly. (*Image source*)

Table 9: Hulu revenue growth, 2008-2012



Hulu is quickly building a subscription-based user-base. (*Image source*)

Conclusion

WHAT ABOUT THE CONSUMER

Customer Confusion

Even within the limited set of options presented within this paper, consumers are faced with a myriad of options, competing platforms, inconsistent viewing experiences, and multiple bills, passwords, and configurations to gain access to and enjoy the content they wish to consume. The current market screams of a technology innovation in its infancy, unable to balance the needs to maintain a profitable business and provide consumers with a compelling product. The service platforms discussed are the top contenders within their competing delivery models–on demand, transactional, subscription-based, and integrated advertising–but there are many other competitors vying for market-share. In the end, consumers loose out on a solution that is simple, comprehensive, and consistently available for their devices to access the content they want, when and how they want.

Fragmented marketplace with dangerous dependencies

Because of this infancy, it is inevitable that consolidation in the marketplace will occur. With the larger providers gathering steam and building ever-larger war chests, a couple patterns are emerging driving consolidation. Platform exclusive licensing contracts (Fritz & Flint, 2012), content control through the acquisition of studios (Chozick & Stelter, 2013), and lastly–a new trend–the transformation of distribution platforms into a hybrid distributor and content creator (Satell, 2013).

iTunes led the way with the iTunes Music Store in a nascent market to overtake retailers such as Tower Records and Walmart as the number one music retailer in the United States. Movie and television studios have realized that this power imbalance between Apple and the record labels is not an ideal business position, and have carefully crafted their licensing arrangements across various digital platforms, hedging their bets and teasing out how to best monetize the digital revolution occurring in their media's battlefields. With this careful apportioning of licenses to various entities, the content owners have maintained the majority of power in contract negotiations with the distribution platforms. On a whim, a studio who thinks one player is getting too popular, or too large, or too powerful, to the point of manipulating or dominating the overall market, the studios and content holders have shown their willingness to drastically curtail or even eliminate licensing deals in the eleventh hour (Peralta, 2011). These distribution platforms are complicated technology packages that are expensive to run at-scale. Loosing large swaths of your catalog of movies and TV shows overnight makes the fickle consumers and market nervous, unsure whether they should buy into one platform or another.

This careful apportioning of licensing deals has also created an unnaturally insulated market place. Instead of a free wholesale or commodities market–where the best platform with the most successful product earns the consumers loyalty–we are left with a market that confuses consumers and stagnates innovation. Everyone is left worrying about what tomorrow will bring. Inevitably, many platforms will launch and only a few will survive. As much as content owners and studios want control over distribution, they will come to the realization that distribution platforms are a necessary intermediary as studio-owned digital distribution platforms are third-rung-at-best solutions in this fast-paced, technology-driven marketplace. This is again a repeat of the music industry's woes over the last decade; distributing electronically is a no brainer, but it takes a lot of brains and infrastructure to create an effective and stable platform. The content owners will have to relinquish some power to boost profits by providing content through an increasing number of channels so that more eyes are able to view, and hence pay for, their content. This is a realiza-

tion that the music industry is finally beginning to realize. Unfortunately it take many more years for the movie and TV studios to come to the same conclusion.

Simplified Future

Device manufacturers are the third player pressing on both the content owners and distribution platforms. With such radical change in the mobile device and home entertainment sectors over the last five years, it's been a frenzy of activity for these sectors and the distribution players to provide access to as many end points as possible. Trends thus far lend credence to the idea that users will entrench into a product or platform ecosystem to maintain ease of use an interoperability. Only early adopters with the time and inclination generally venture into multi-platform configurations and the headaches these bring. This leaves vertically-integrated platforms, such as Apple's iOS and iTunes, positioned to maintain dominance through consumer loyalty, and lock-in compatibility and feature sets.

The biggest players, notably Netflix and Hulu, have spent copious amounts of capital to ensure there media platforms are as interoperable and available as possible. Hulu even leverages this effect to gain revenue, forcing users to pay for home entertainment and mobile device access to their content via monthly subscription. This platform and device ubiquity eases consumer adoption, making choices in providers less challenging, but still very fragmented. Without content ubiquity, you can not locate the specific movie or show you want, and which platform might have access to it. In addition to the device confusion, consumers are paying for multiple services in many cases, having to service several monthly bills or manage which services to pay for when new content becomes available. This is another reason cable retains a dominant position, it is less to think about and always there.

With the eventual consolidation of the market and the widening of licensing deals across the various distributors, these concerns should diminish, resulting in an digital media ecosystem where you buy your favorite devices, pick a distribution platform, and you will have access the content you want on any device you own. The notable holdout in this device abstraction is Apple and its iTunes stores. They are designed for use on Apple devices, or through the iTunes application only. They have made no efforts to provide iTunes player interfaces for any third party hardware platforms, a business tactic to reinforcing their dominant ecosystem, as well as provide the most consistent end-user experience of any vendor. Whether or not this is a viable long-term strategy in an increasingly competitive marketplace is yet to be seen; will consumers begin to reject the closed Apple ecosystem in the future? Most likely if Apple is unable to continue their track record of ease of use and innovations that upends existing technology markets well ahead of their competition, providing them the much sought after first-to-market benefits.

Market maturation and consolidation

Any successful venture, from the studios, to these early digital media platforms, will be watching their books very closely. Will content owners realize that ubiquitous access to their goods–thus the mass-adoption of paid for, legal content–is the path to heightened monetization, or will they continue their current trickle of licensing deals, slowly bleeding consumers and over the top content providers at every turn to maintain their balance of power? No matter how long this takes, consolidation will drive the market to a mature, many-to-few player environment. The four providers reviewed here are at the forefront of this innovative new marketplace. It is probable they will still be here in a decade, either owned by a much larger organization, such as Microsoft or Google, or possibly as fully-independent, distributor-come-network. Can you say Netflix Broadcasting Corporation? However this plays out, it will be a fascinating journey that will forever change the way we consume our video content after over 60 years of one-room, live, broadcast television.

Table 10: Conclusion Summary

CONSUMERS	DISTRIBUTORS	CONTENT OWNERS	DEVICE MANUFACTURES
Customer Confusion			
Desire one-stop-shop	Need access to content to grow marketshare	Want to maintain control, avoid single-distributor monopoly	Want to provide best experience, provide access to all viable distributors
Fragmented marketplace with dangerous dependencies			
Don't care about who owns what, they just want to watch their shows	Under duress to keep licensing deals	Wish to maximize profits	Vertical products like iTunes & iOS insulated, provide good experience, but could loose market to "open" platforms
Difficult to locate the premium content when and where they want it	Changes in licensing costs can directly impact bottom lines	Unsure and experimenting with various platforms and monetization techniques	Least affected as distribution platforms are all vying to provide access on all devices
Simplified Future			
Give us a unified interface for all content at a reasonable cost	Continued licensing deals will provide ever-larger content libraries for the largest players	Will eventually realize that a broad-base content delivery will catapult revenues once critical mass is met	Continued integration and vertical product stacks entice customers. Apple and Amazon uniquely positioned
Market maturation and consolidation			
Eventual consolidation will alleviate some confusion	Only the strong will survive, or be bought out	Need to move to digital distribution across-the-board to maximize profits	The Three Big Platforms will likely shake out leaving the smaller platforms desolate
Mobile device and home entertainment ubiquity will simplify customer demands for other parties	Content consolidation will enhance user experience and critical-mass adoption	Will take forever to actually make this move because of the potential loss of control	Market appears to be moving to an open platform (Android), a closed (iOS), and the third is unsure (Windows Phone, Ubuntu, Firefox, or possibly a custom, unannounced Amazon platform

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