

only the difficulties in policing the online space, but also the cultural and structural frictions that accompany attempts to apply social control online.

## Review of the Literature

Research on Internet media piracy has come from a variety of sources, ranging from computer scientists and engineers to economists and criminologists. Social science scholars have focused mainly on individual motivations, legal implications and harm, and the enforcement of Internet piracy. This interdisciplinary research reveals a variety of behavioral motivations.

### Individual Motivations and Factors Influencing Participation in Piracy Activities

Many studies have surveyed college students and young adults, groups known for high levels of illegal file sharing (Einav 2008). For example, a survey of 500 college students found respondents valued purchased music significantly more than downloaded music, suggesting they were unlikely to have purchased it in the first place (Rob and Waldfogel 2004). Studies also show that students believe in a separate moral code when it comes to file sharing and pirating. A study of students at two religiously affiliated campuses found no differences in that students' moral acceptance of downloading copyrighted software and music compared with the acceptance of students at secular institutions (Siegfried 2005).

Criminologists have attempted to apply criminological theories towards explaining motivations for piracy. Hinduja (2006) applied *social learning theory*, *self-control theory*, and *general strain theory* to explain the prevalence of intellectual property theft. He found general strain theory, which explains crime as a result of decisions by rational individuals with blocked legitimate means to pursue *innovative* and deviant means in order to obtain their goals (Merton 1936; Agnew 1992), does not adequately explain music pirating activities. Instead, he found piracy rates highest amongst individuals with low self-control coupled with higher online technical skills (Hinduja 2006). Malin and Fowers (2009) tested the predictability of college piracy using high school students' level of self-control by applying Gottfredson and Hirschi's (1990) general theory of crime. They found biological sex, Internet experience, and affiliation with deviant peers to be the most significant factors that influence piracy (Malin and Fowers 2009).

Higgins (2007a) found a link between low self-control and rational choice that influences a person's propensity for piracy. A sample of college students were surveyed using different scenarios that measured self-control and factors that influence rational choice (shame, perceived value, morals, external sanctions, and prior piracy activities) with digital piracy. He found the link between low self-control and digital piracy to be mediated by perceived value and other factors related to rational choice (Higgins 2007a). Higgins (2007b) also predicted low self-control and biological sex contributed significantly to initial levels and rates of change in pirating activities. He found male students to be more likely to initially apply neutralizations in order to pirate music and remove any considerations or perceptions of criminality.

International studies on the motivations for media piracy are equally diverse. A study in Taiwan found that singer/band idolization positively impacted purchase decisions (Chiou, Huang, and Lee 2005). A software piracy study in Germany cited an increase in knowledge of external consequences, fear of personal legal consequences, and a downward trend in software prices as explanations for a significant reduction piracy from 2003 to 2006 (Nill, Schibrowsky, and Peltier 2010). The same study found that file sharers often justified piracy with Robin Hood-like wealth redistribution attitudes and peer-oriented social norms which perceive downloading software as illegal, but generally acceptable. A study in Hong Kong found that software pirates perceived the lack of punishment, high availability of pirated material, and the cost of legitimate software as being too high as significant factors for piracy (Moore and Dhillon 2000). The harm caused by file sharing reflects the lack of consensus among motivations for piracy.

Researchers have found individual motivations for digital piracy are often influenced or facilitated by a variety of environmental and other external factors. Some consider unauthorized file sharing a normalized activity. Cos, Johnson, and Richards (2008) apply Cohen and Felson's (1979) *routine activities theory* to explain the normalization of file sharing, attributing it to the many conditional opportunities online, such as the availability of a suitable targets, lack of guardianship, and motivated offenders.

Researchers found attitudes that affect the likelihood of piracy were influenced by peer groups. For instance, a study of over 2,000 university undergraduate students who illegally downloaded music found that normative peer beliefs and behaviors in the university environment trumped law breaking attitudes (Ingram and Hinduja 2008). The study linked peer-influenced behavior with individual *techniques of neutralization* (Sykes and Matza 1957), such as denials of harm, victimization, and responsibility, to explain the students' dismissal of any real harm associated with piracy (Ingram and Hinduja 2008; Moore 2011). Similarly, Higgins, Wolfe, and Marcum (2011) examined the

longer term effects of *techniques of neutralization* in a longitudinal study of digital music piracy amongst college students using Latent Trajectory Models (LTM) and found variability in piracy rates and a general decrease over time as students reflected on the criminality of their behavior.

Perceptions of digital music itself can influence individual decisions to engage in piracy. Yu (2010) compared perceptions of stealing with digital music piracy. Using a sample of students from six universities, he found that despite negative correlations with general morality and stealing, moral justifications for piracy replaced general morality. Yu's findings suggests a perception of substantive difference between online and offline crime. These findings are consistent with perceptions of the Internet as a space disconnected from "reality," where earthly rules and legal notions of property do not apply, as discussed later.

Technology itself can facilitate piracy activities. Holt and Morris (2009) compared piracy rates between college students who owned a digital music device (MP3 player) with those who did not. They observed that MP3 player ownership compounds deviant peer associations in significantly increasing the likelihood of individual involvement in digital music piracy activities. Holt and Morris' (2009) findings suggest that an individual is more likely to pirate music after acquiring devices such as an iPod.

Other disciplines offer different perspectives on digital piracy that further enrich criminological understandings and theoretical research. Smith and Telang (2009) take a more economic approach to understanding digital piracy by charting DVD sales with concurrent alternative, free outlets, such as over-the-air television broadcast and unauthorized peer-to-peer versions of the movie. They noted a spike in DVD sales after the airing of a movie, suggesting that the presence of free alternatives does not significantly impact individual decisions to pursue piracy. Smith and Telang's findings complement those of Ramayah, Ahmad, Chin, and Lo (2009), who tested a causal model of Internet piracy behavior amongst college students using a structural equation model investigating the effects of habit, affect, and intention on actual piracy behavior. They found habit to have a strong effect on piracy. Moreover, respondents remained undeterred despite acknowledgement that it is illegal, citing that "downloading information from the Internet should be free and it is full of fun and joy" (Ramayah et al. 2009, 212).

As the above examples of the research have shown, individual motivations for piracy are varied and often difficult to categorize and understand, which reflects the complexity of activities, social interactions, and normative values online. Moreover, the complexity of digital piracy is reflected by the lack of consensus in terms of the actual harm created, which ranges from little or no harm to potentially threatening the existence of the industry.

## The Impact and Harm of Piracy

The estimated costs and impact of digital piracy and its distribution have been significantly different between the industry and scholars. Studies commissioned by the Motion Picture Association of America (MPAA) have drawn criticism and doubt about the true financial impact of piracy on ticket sales, with some pointing to record profits of *The Avengers* movie despite bootlegged versions made via camcorders available during its opening weekend (Tassi 2012; Galloway 2012). According to the study, the major U.S. motion picture studios lost an estimated \$2.3 billion in 2005 from Internet piracy worldwide, costing over 141,000 in lost jobs (Siwek 2006). A similar study on sound recording piracy found losses of \$12.5 billion in 2006, constituting over 71,000 jobs directly from both the industry and retail outlets (Siwek 2007). Both studies correlate each download to the full price of a movie or music album or song. However, critics have pointed out that individuals who downloaded those movies may not have ever intended on its purchase, implying that those figures supported by the motion picture and recording industry are wildly overstated (Rob and Waldfogel 2004). Schechter, Greenstadt, and Smith (2004) estimate the cost of piracy by using an economic multiplier effect, calculated by adding the initial extraction cost to the per-copy distribution cost multiplied by the size of the distribution network.

Some scholars point out the ideological impact of piracy on competition. Gu and Mahajan (2004) propose that common price discrimination models, which target poorer consumers with competitive prices, may actually reduce company profits in the long run. They reason that by allowing file-sharers to pirate material the industry eliminates smaller companies. This finding is consistent with the MPAA's view that piracy can actually reduce competition by making products produced by smaller companies "compete" against pirated versions of expensive products (Smith and Telang 2009; Nhan 2010). These findings are contrary to the common notion that piracy forces producers to make better products. Different enforcement strategies often reflect divergent understandings of the root causes and costs of piracy.

## Enforcement of Piracy Laws

The Recording Industry Association of America (RIAA) and MPAA's legal enforcement of piracy laws has drawn attention from different scholars. In the late 1990s and early 2000s, the RIAA's aggressive stance on individual file sharers in particular has drawn sharp criticism from the public and some artists.

Bhattacharjee, Gopal, Lertwachara, and Marsden (2006) found that threat of prosecution does result in lower levels of file sharing but does not impact the availability of music files on P2P networks. Harbaugh and Khemka (2001) argue that aggressive enforcement of expensive products only affects existing customers and actually gives greater incentive for low-level and marginal buyers to pirate material. Bachmann (2011, 155) metaphorically described the lack of deterrence as attempting to sue the “genie back in the bottle.”

A replacement effect has largely undermined the effectiveness of Hollywood’s litigation strategies. Legal attacks against early P2P indexing services, such as Napster in the early 2000s, have resulted in more sophisticated file sharing technologies taking its place, such as The Pirate Bay and *Cyberlockers* (“Policing Internet Piracy” 2011). Aggressive piracy law enforcement has led to a cycle of endless conflicts between P2P operators and file-sharers with Hollywood production companies. In addition to litigation strategies, Hollywood has employed different enforcement strategies that use public and private security.

The U.S. considers piracy a major economic problem. In 2009, the Obama Administration recognized piracy as a threat to economic recovery and appointed Victoria Espinel as the U.S. Intellectual Property Enforcement Coordinator, who stated; “Protection of our innovation and protection of our creativity is an essential part of our plan for economic recovery” (Corbin 2010, 1). Particularly, she underscored the threat of piracy by foreign countries and cited China in particular as a major source of copyright infringement activities. Espinel has sought to pass international laws as well as increase collaborative enforcement efforts.

Several large-scale international operations have been executed to fight piracy. For example, in 2001, the U.S. spearheaded *Operation Buccaneer*, a collaborative effort between the U.S. Customs Service, FBI, and agencies from six countries to fight international software, game, and movie piracy. Agents raided dozens of locations in the U.S. and other countries, resulting in the takedown of a warez site *DrinkOrDie* and arrests of members of the highly organized “elite Internet pirate organization” that ran the site (Associated Press 2001; U.S. Department of Justice 2001). In 2004, The FBI, U.S. Department of Justice, and Interpol conducted a similar collaborative campaign named *Operation Fastlink*, which has yielded similar arrests and convictions on several warez release groups, which pirated computer software, games, movies, and music (U.S. Department of Justice 2004). In 2009, Operation Fastlink yielded 60 felony convictions (FBI 2009). Despite such large-scale collaborative efforts, digital piracy remains a significant problem.

In California, the RIAA and MPAA have formed partnerships with public law enforcement agencies throughout the state. Both organizations are part of

a high-tech crimes consortium of specialized federal, state, county, and local policing agencies. Scholars have studied this collaborative model of security using a *nodal governance* theoretical framework, which identifies the roles, assets, and relationships of each security stakeholder (Nhan and Huey 2008; Nhan 2010).

Hollywood has discretely employed the services of private high-tech security firms. The security company MediaDefender, for example, employed disruptive technologies, such as seeding decoy or corrupt files in P2P networks to slow down traffic, which interfered with file-sharing activities. These “torrent poisoning” strategies, however, have largely been ineffective and P2P networks have developed anti-corruption detection methods. Moreover, retaliatory efforts by Internet hackers resulted in the source code for MediaDefender’s anti-piracy system being released on to P2P networks, including a file which contains a leaked phone conversation between MediaDefender employees and the New York State Attorney General’s Office (Schonfeld 2008). The cycle of skirmishes between Hollywood and file-sharers is the framework for the evolution of piracy.

## Timeline

This paper attempts to create a brief history using a framework based on significant cycles in technologies and legal strategies. Through these evolutionary shifts, one can tease out the dialectical relationship between Hollywood and Internet users in order to show major cultural differences that dictate transitions in technologies and enforcement/ legal strategies.

### *The Digital Transition: From Hard Goods to Soft Goods*

The transition from physical media (“hard goods”) to digital media (“soft goods”) represents the first salvo in many piracy conflicts. In 1996, the Motion Picture Experts Group (MPEG), with the support of the Industry Standards Organization (ISO), developed a codec for audio compression, Audio Layer 3, or “MP3.” The MP3 format allowed users to compress large audio files to a much smaller size for easier transportation during a time when most users connected through dial-up modems. In the years following the codec’s release, free MP3 playing software, such as Winamp, became popular. By 1999, the first MP3 portable playing device was created, which ushered in a new era in music consumption.

The growth of the Internet facilitated the development and eventual ubiquity of MP3 files. According to Internet World Stats, an organization which tracks

Internet usage and population statistics, Internet usage grew from 16 million users in 1995, constituting 0.4% of the world's population to 2.11 billion in 2011, or roughly 30.4% of the world's population ([www.internetworldstats.com/emarketing.htm](http://www.internetworldstats.com/emarketing.htm)). Internet connection speeds also grew significantly. The Pew Internet and American Life Project found high-speed broadband connections grew from roughly 2% in 2000 to nearly 55% in 2008 (Horrigan 2008). By comparison, dial-up usage declined from approximately 35% in 2000 to approximately 10% in 2008. The adoption of high-speed Internet, coupled with MP3 compression technology, facilitated the rapid growth of online music piracy. This digital transition also has social and cultural significance.

Technology has often been a driving force behind social change (Heidegger 1977). Technological development often reflects power and affects material relations. Technology can serve as an impetus for discourse in these areas. According to Sterne (2006), MP3s contextualize legal, political, economic, and broader cultural dimensions of file-sharing by breaking the traditional use/exchange value system presented by Karl Marx, where the value of a product is derived from the utility of its use as well as its exchange. According to Sterne (2006) MP3s are akin to "recorded music without commodity form," a problem compounded by an erosion of exchange value for the music labels since "they are not paid for and therefore do not require much labor," further exacerbated by "free, easy, and large-scale exchange" (p. 831). In essence, digital music fundamentally differs from other forms of copyright protection. When MP3s were coupled with the global online distribution network of the Internet, its distribution grew exponentially. However, it would be years before it drew the attention of Hollywood.

As users increasingly digitized and distributed music online, media and software companies were busy fighting piracy offline. A wide range of anti-piracy measures were in place, ranging from crackdowns on illegally copied magnetic and optical discs being shipped and sold on the streets, to research on copyright protections built into the media. Nevertheless, digital music was initially distributed unrestricted on the web. Simply put, the success of the MP3 format caught Hollywood, which was focused on large profits from optical disks, by surprise.

### *Website Hosting Music*

Websites directly distributed digital music files freely throughout the latter half of the 1990s, where users downloaded them with impunity. Hollywood was slow in recognizing and reacting to digital distribution as a threat to their business. Consequently, the music labels were slow to lobby for changes in laws

and solicit the help of law enforcement. Instead, recording labels focused on protecting against threats from pirates of optical media. In the early 2000s, the RIAA was aggressive in seizing and arresting illegal CD distributors in major cities. The RIAA conducted over 250 large busts and seizures in 2002 and over 230 in 2003 ([www.grayzone.com](http://www.grayzone.com)).

Several popular websites emerged during the late 1990s and early 2000s. Mp3.com became the top MP3 distributor in 1998 when it allowed users to download full albums directly from its website. To bypass any potential legal troubles, the site required users to prove ownership of music by either purchasing the CD from the website or putting a CD in the computer's drive. By 2000, the music hosting website had over 10 million registered users downloading from a database of over 45,000 albums. When the company went public in 1999, it raised over \$370 million. Mp3.com's success drew the attention of the RIAA, which sued and won for copyright infringement at the tune of \$750 to \$30,000 per violation, essentially destroying the business (King 2000). Consequently, increasingly sophisticated and larger distribution networks quickly filled the vacuum that was created by the legal attacks by the RIAA and other production entities.

### *Peer-to-Peer: The Napster Era*

The P2P network architecture became popular in late 1990s to resolve two main issues associated with web hosting. First, as MP3 music files gained popularity, demands for network bandwidth and storage increased substantially. In P2P networks, files are stored on individual computers (peers) and exchanged directly through the HTTP Internet protocol. Indexing services, such as Napster, merely facilitated connections and monitored network traffic amongst different users, which saved company bandwidth. Secondly, P2P networks served a legal function by moving data files away from a central server and to individual computers. P2P networks, such as Napster, argued that they only served a passive indexing role for users to share indiscriminate files. Policing a system with the millions of files being exchanged daily by transient users, they argued, was too much of a burden (*Metallica et al. v. Napster* 2000; *A&M Records v. Napster* 2000). At its peak in 2001, 2.79 billion music files were traded through Napster in the month of February (Lowe 2003). Moreover, users of Napster typically log in to the service for less than one hour (Saroiu, Gummadi, and Gribble 2003).

Prior to the widespread use of Napster, which provided an easy P2P interface for users to share digital music, digital files were distributed through Internet Relay Chat (IRC) channels. In 1998, Jarkko Oikarinen wrote the IRC protocol to allow for simultaneous communications amongst users in thou-

sands of chat rooms. Music file transfers initially required users to communicate with each other online in order to initiate peer-to-peer file transfers (Cooper and Harrison 2001). Users interested in obtaining a specific song or album typically entered a chat room, found another user with the desired files, communicated with that person and struck a deal. IRC piracy was initially used to illicitly distribute and share computer software ("warez"), creating a subculture or "scene" that was largely based on vouching for another user (Cooper and Harrison 2001). File transfers were later facilitated by File Transfer Protocol (FTP) servers automated by IRC robots, or "bots," to users in each channel. Despite the automation and organization of FTP servers, the piracy scene consisted of more advanced Internet users who navigated an assortment of piracy sources, such as IRC or USENET channels (Cooper and Harrison 2001). Moreover, these more covert channels required users to sort through a variety of file types and execute scripts, which may be difficult to the casual computer user. However, Napster created an exclusively MP3 centralized location using a user-friendly graphical interface which led to the exponential proliferation of unauthorized music piracy in the general population.

Hollywood perceived Napster's massive file sharing as a substantial threat to their CD sales and pursued legal action. The first lawsuit came from the rock band Metallica, who discovered one of its singles was available for download via Napster before its official release. Napster defended its passive position and pointed to the fact that it did not generate revenue from the exchange of files. Nevertheless, a district court in Northern California underscored the music industry's position that by brokering a real time index of available music files, Napster was essentially acting as a music piracy service (McCourt and Burkart 2003). Another similar lawsuit reinforced the outcome of Metallica's case. In this lawsuit, filed the same year by A&M Records against Napster (239 F. 3d 1004), the Ninth Circuit Court of Appeals upheld the District Court's ruling in finding that mass distribution of music adversely affected CD sales and undermined prospective future digital ventures by Hollywood. Consequently, a federal judge placed an injunction which ordered Napster to police and enforce all instances of copyright infringement. In 2001, under intense legal pressure, Napster agreed to settle out of court and transform itself into an officially licensed digital outlet. However, with a pay model in place, Napster's traffic quickly faded, leading to an evolution of other P2P services.

### *Peer-to-Peer: BitTorrent Era*

In the early 2000s, BitTorrent, a new file sharing protocol, became popular. Unlike Napster, BitTorrent ("torrent") allows for multiple sources to down-

load and upload simultaneously instead of going through a single server, which yielded higher traffic throughput. While Napster kept an index of music files on its server, BitTorrent services relied on a variety of sources for finding files. Torrents serve as true peer-to-peer indexing services that merely direct traffic from individual users who host the files. A user initially contributes to the database with a file, or "seeds," while others download, or "leech." Once a download is completed, the once leecher becomes a seeder of the file, growing the number of sources of the file exponentially. Parts of the file can be obtained from multiple sources simultaneously in packets, creating redundancy and optimizing for slower traffic. As a result, BitTorrent was faster, more robust, and truly decentralized. By 2004, BitTorrent services accounted for over 50% of all P2P traffic, due to its wide availability to the public; ability to filter out bad or "fake" files, and ability to handle large surges of traffic (Pouwelse, Garbacki, Epema, and Sips 2005).

Dozens of BitTorrent sites emerged during this era, each with hundreds of thousands to millions of users. Perhaps the most famous site is *The Pirate Bay* (TPB), which gained notoriety with its open disputes with Hollywood production studios. In 2003, TPB quickly became one of the most popular torrents on the Internet, offering users not just music, but full movies, software, games, and other content in an easy-to-use interface. Like other BitTorrents, Hollywood targeted TPB despite it being thousands of miles away in Sweden, a country known for its lax copyright laws.

The Pirate Bay is best known for its open defiance of Hollywood's legal actions. Under pressure from the MPAA, Swedish police raided and confiscated TPB's servers in 2006, causing a service disruption. However, Pirate Bay administrators reopened the site in a matter of days with remote servers, with double the traffic. Moreover, the site returned with a logo of a pirate ship sinking the Hollywood sign. In 2007, TPB failed to permanently insulate itself from prosecution when it proposed to establish itself as a sovereign state by attempting to buy an uninhabited sea fort off the coast of England. Nevertheless, the site continued to operate despite active attempts by Hollywood to abolish its existence. In 2009, three Pirate Bay site operators were convicted of violating Swedish copyright law, sentenced to one year in jail each, and ordered to pay fines of millions. Despite the legal trouble, the site still operates—even touting itself as "The world's most resilient bittorrent site" while boldly listing legal threats and their responses on their website (<http://thepiratebay.org/legal>). For example, when council from DreamWorks informed TPB of violations of the Digital Millennium Copyright Act in 2004, which prohibits circumvention of copyright technologies, Pirate Bay administrators responded with:

As you may or may not be aware, Sweden is not a state in the United States of America. Sweden is a country in northern Europe. Unless you figured it out by now, US law does not apply here. For your information, no Swedish law is being violated.

### *The Cyberlocker Era*

The evolution of Internet delivery continues to change the way media is consumed by the public. Specifically, the growing ubiquity of smartphones has driven demands of streaming music and movies to devices for mobile consumption. A 2014 Pew study shows that 58% of all Americans own a smartphone, a number that continues to grow considering 90% of Americans own a cell phone and will eventually require replacement (Pew Research, 2014). Streaming content allows users to access media files remotely over Internet servers, or the “cloud,” without having to download and store them individually on their smartphones and tablets. Cloud computing is a more attractive option, allowing users to upload their personal music files and access them from any device.

Digital lockers, often referred to as cyberlockers, are digital storage services that emerged to fill the demand for storing, sharing, and streaming personal content without users needing to manually download and transfer files to their individual computers and devices with limited storage. Moreover, cyberlockers are very easy to use, much faster than traditional P2P services, and generally anonymous. Users simply visit a cyberlocker site and click on a download link, often after a series of advertising windows. Lobato and Tang (2014) explain cyberlockers are “a ‘dumb’ storage-and-retrieval technology with limited and highly specific functions [that] depends on an array of intermediary sites that work to channel traffic through to the active URLs,” constituting the “backend of a larger infrastructure that includes release logs, bulletin boards and forums, where links to cyberlocker-hosted content can be found” (p. 426). Many users pay subscriptions of approximately \$10 per month for faster premium services to sites, who also generate revenues through banner ads, leading Lobato and Tang to describe the scenario as a “gold rush” prior to legal and enforcement action by the industry.

In 2011, the recording industry took notice and took legal action. EMI and 14 other record companies sued digital locker music service MP3Tunes, arguing that digital lockers contained pirated files in violation of the DMCA. The Southern New York District Court ruled in favor of MP3Tunes, reasoning that users were responsible for their music collections and protected under the “safe harbor” provision of the DMCA (07 Civ. 9931). This ruling has led to the growth of legitimate digital locker music services, such as Amazon Cloud Drive

and Google Play, allowing users to upload music to their servers. Despite the legal loss, the music industry continues to pursue legal avenues and has taken steps to dismantle cyberlocker networks that have been known to contain illicit content, a similar approach it has taken to The Pirate Bay.

One cyberlocker site in particular, Megaupload, has been the target of Hollywood and law enforcement action. In 2012, Megaupload averaged three million monthly users who uploaded, stored, and distributed illicit files much faster and efficiently than peer-to-peer networks (Menn 2012). That same year, the USDOJ and New Zealand authorities raided its headquarters and arrested its outspoken founder, Kim Dotcom, over charges of copyright infringement and money laundering. The law enforcement action was a response to allegations that between 2005 and 2011, Megaupload rewarded users for uploading illegal content, including unreleased full movies and software that circumvented copy protection (Enigmax 2012).

While usage remains very high for digital locker services, Hollywood's actions against Megaupload sent a rippling effect throughout other digital locker services that allow all files to be uploaded and shared. In 2014, for example, cyberlockers Filesonic and Fileserve banned all third-party downloads, effectively shutting down file sharing, prompting one angry user to argue, "I just paid for a premium account and can now only download my own fucking files an unlimited number of times ... What use is that?" (Enigmax 2012, 1).

Hollywood's actions against cyberlockers are part of a larger continuous challenge-response cycle. Legal and enforcement strategies have evolved in response to more clever ways by file sharers to circumvent legal moves. Hollywood has applied a four-pronged strategy: (1) litigation targeting individual users, (2) influencing Internet service providers (ISPs), (3) changing legislation, and (4) forced takedowns of networks with high-profile arrests.

### *Litigation*

Unable to stem the tide of illegal file sharing, the RIAA drew public disdain when it began suing individual file sharers for copyright infringement in 2003. This tactic began when the RIAA sued four college students for copyright infringement for running a file-sharing network from their dormitories. Facing the possibility of being fined \$150,000 each, they quickly settled out of court, with fines ranging from \$12,000 to \$17,500. This success began several years of suing hundreds of users each year. The strategy initially appeared to be mildly successful, as P2P traffic on popular sites dropped significantly in 2003. However, closer examination shows that P2P traffic has never declined but merely migrated to different networks (Karagiannis et al. 2004).

In the wake of legal setbacks on cases where the RIAA attempted to force ISPs to turn over lists of user identities, Hollywood filed a series of "John Doe" lawsuits against computer users known only by their IP addresses. ISPs, such as Verizon, argued that the subpoenas which did not require court review threatened customer privacy. In 2004, John Doe cases found early success as 233 out of 382 defendants settled out of court for an average of \$3,000 each (Roberts 2004). However, the public and media began questioning the legitimacy and effectiveness of the RIAA's strategy when reports surfaced showing that a grandmother and 12-year-olds were being sued, suggesting that even suing high-volume file sharers only gave a false sense of security (Sag 2006). In 2008, the RIAA abandoned its strategy, which critics described as a public relations disaster that did little to stop online piracy (McBride and Smith 2008).

In order to enhance enforcement, major Hollywood entertainment companies have pressured ISPs to monitor illegal P2P activities. In 2011, the RIAA implemented a "six strikes" plan that places increased penalties for individuals who are caught illegally sharing content, which starts with warnings that can escalate to suspension of Internet services. In the past, the RIAA has sued ISPs, who have an incentive for keeping their customers, for turning a blind eye to copyright infringement activities. For instance, in 2003, the RIAA filed a lawsuit against Verizon for its refusal to respond to subpoenas to identify its clients who they suspected of trafficking copyrighted material (351 F. 3d 1229).

A third controversial strategy used by Hollywood that has drawn public attention is their proactive stance on enacting legislation. Copyright law in the United States has existed for decades. The original intent of contemporary copyright law in the U.S. is to protect intellectual property, ranging from literature and artwork to products. In 1976, Congress amended existing copyright law to take into account technological advances in intellectual property, namely sound recordings, film, television, and radio. These protections, scholars argue, serve an instrumental purpose by allowing authors to create content that contributes to social value and where authors are compensated for their efforts (Stark 1996). Despite existing copyright laws, Hollywood sought to enhance existing legislation and enact new legislation to deal with file sharing and digital distribution.

Congress added three key pieces of legislation to existing copyright law that have made acts of file sharing highly punitive. First, the No Electronic Theft Act (17 U.S.C. and 18 U.S.C.), known as the NETAct, enacted in 1997, increased the maximum penalties for unauthorized replication of copyrighted material ("criminal infringement") to up to 3 years and \$250,000. Trafficking

attempted to force a series of "John Doe" IP addresses. ISPs, which require court orders to find early success, found an average of \$3,000 in questioning the reports surfaced, suggesting a sense of security which critics described as "McBride and

entertainment companies. In 2011, the penalties for infringers with warnings in the past, the RIAA sued, for turn of instance, in 2003, responded to subpoenaed copyrighted materials drawn public attention to copyright law in the contemporary ranging from literary existing copyright, intellectual property, protections, scholars to create content compensated for Hollywood sought legal with file sharing

copyright law that Electronic Theft Act in 1997, in addition of copyrighted 3,000. Trafficking

in counterfeit goods can bring a maximum penalty of 10 years and \$2 million. Second, the "Sonny Bono Act," enacted in 1998, amended Title 17 Copyright Right Act to extend the copyright protection period for an additional 20 years. Third, the Digital Millennium Copyright Act (DMCA) (Pub. L. No. 105-304, 112 Stat. 2860), also enacted in 1998, gave Hollywood the tools to tackle some of the unique aspects of digital music, such as making circumventing copyright protection technologies a criminal act. Despite these three significant pieces of legislation, Hollywood has continued to pursue legislative changes.

Two pieces of proposed legislation have drawn an Internet firestorm. Senate Bill 968, known as The Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act of 2011 (PROTECT IP Act or PIPA) and the Stop Online Piracy Act (SOPA) are mainly designed to stop foreign distribution and sales of copyrighted material by restricting access to websites that host unauthorized content. PIPA, which broadly defines infringement to include illegal distribution of digital content or circumventing anti-piracy technologies, when used in conjunction with SOPA, which addresses the aforementioned TPB non-U.S. jurisdiction defense by mandating U.S. service companies, such as Google, MasterCard, and PayPal payment services, is designed to withhold services and payment to these organizations. The rationale behind the bill is, "If you can't force overseas sites to take down copyrighted work, you can at least stop U.S. companies from providing their services to those sites" (Peipone 2012, 1). However, the bill has sparked concerns by tech companies over liability and privacy issues since it essentially makes companies responsible for content uploaded by users.

Due to provisions in PIPA/SOPA, many concerned individuals see the bills as slippery slopes that can potentially escalate to increasing Internet policing and, ultimately, censorship. The bill can potentially monitor and limit U.S. traffic to certain sites by blocking or redirecting certain domain names that contain pirated material, without any form of due process. In addition, Internet security experts have raised concerns with interfering with the Internet's directory service, leading to the provisions being removed (Lee 2012). The White House has also voiced its opinion on SOPA after massive Internet opposition to the bill. According to the official White House Blog, "Any effort to combat online piracy must guard against the risk of online censorship of lawful activity and must not inhibit innovation by our dynamic businesses large and small" (Espinel, Chopra, and Schmidt 2012). An Internet "blackout" date was enacted on January 18, 2012, by several prominent websites in order to show opposition to the bills, including Wikipedia. However, several senators who once supported PIPA, as a measure to protect U.S. jobs, have reversed their position under strong pressure from technology and web services

companies and netizens. Consequently, PIPA was delayed in 2012 without a time-frame for reconsideration. This conflict illustrates the friction caused by divergent interests between technology companies, such as Google and Wikipedia and Hollywood.

### *Internet Culture*

Deeply rooted and inherent contradictions in the Internet subculture can explain Hollywood's friction with technology companies and Internet users. The Internet was conceived as an open space for the free and unfettered exchange of ideas. According to Leonard Kleinrock (2004, 195), one of the forefathers of the Internet, the early vision of the Internet includes the following principles: (1) its technology was to be ubiquitous, (2) always accessible, (3) always on, (4) accessible from any location and device, and (5) be invisible. Moreover, he lists the positive characteristics that include principles such as, no one controls it, no one can turn it off, it provides a means to share works and ideas, it is empowering, and it is owned by no one (Kleinrock 2004). Internet rights advocate John Barlow cemented these principles with his *Declaration of Independence of Cyberspace* that underscores the principles of freedom and rejects formal social controls online in 1996 (<https://projects.eff.org/~barlow/Declaration-Final.html>). Internet users as whole, therefore, perceive the actions of Hollywood studios as attempting to privatize, commoditize, and censor this open space, which are clear violations of Barlow's declaration. Moreover, strict content-owner control hampers the product development of technology companies (Lasica 2005).

Laws enacted in favor of Hollywood are seen as a direct affront to the core principles of Internet freedom, which is often used to further justify piracy and other activities. For instance, the DMCA is often viewed in an anti-competitive instrument used by the wealthiest and most powerful entities, which also undermines technological advances (Lasica 2005). Silicon Valley, which requires constant changes and advancements in technology, therefore, is reluctant to adopt the Hollywood model of proprietary content protection. However, according to Lasica (2005), this antagonistic relationship has eroded, as technology companies have waned in their role as consumer advocates for several reasons. First, technology companies have consolidated with media companies, such as Sony's electronics and movie roles. Second, technology companies refusing to cooperate with Hollywood could mean more governmental mandates. Finally, computer companies seeking larger roles in entertainment digital technologies, such as digital televisions, have become more reliant on Hollywood for content.

### *Legal Alternatives*

The growth of illegal file sharing services may be symptomatic between high demands for content and limited options of content. Video streaming service, Netflix, for example, reported million subscribers in the first quarter of 2014 to over 48 million (Sharma 2014). This has led some to call Netflix as piracy's killer. Internet news site TorrentFreak explains, "It doesn't talk about that Netflix' popularity has a negative effect on the market in the U.S.," adding, "Although no torrent site has gone online, Netflix certainly is a serious 'competitor' for access to movie content." In Norway, movie and music piracy rates were reduced by 10% with rise of inexpensive and user-friendly legal alternatives such as streaming music service, Spotify (Curtis 2013).

Despite its potential effect on curbing piracy, Netflix and other services are not available in all regions. Netflix, for example, is not available in European countries and all of Asia. According to the copyright report, their international unit lost \$35 million due to the big piracy in new markets (Richwine and Jan Bartunek 2014). Piracy to contain unreleased movies and television shows. Moreover, content differs by country, making many movies unavailable of their customer base. The combination of limited availability for content further drives piracy markets.

A look at the most pirated television shows reveals demand. In 2014, the most pirated show on BitTorrent was HBO's *Game of Thrones* with its fourth season finale becoming the most pirated show with 7.5 million downloads in the first few days of airing (Ernie Blaine HBO's business model, which limits digital streaming who pay a premium in addition to cable television subscription). HBO's business model, which limits digital streaming who pay a premium in addition to cable television subscription, is supported by publicly considering circumventing cable distribution streaming service, HBO GO, directly to subscribers (McDevitt). Changes in Hollywood's business can potentially have the effect of piracy but nevertheless remains complicated and limited. This is part of a larger strategy against Internet piracy that continues to evolve.

### **Conclusion and Limitations**

This paper has shown that the history of Internet piracy reveals divergent views on the purpose of copyright and the Internet.

### *Legal Alternatives*

The growth of illegal file sharing services may be symptomatic of a conflict between high demands for content and limited options of obtaining the content. Video streaming service, Netflix, for example, reported adding four million subscribers in the first quarter of 2014 to over 48 million in total (Kell and Sharma 2014). This has led some to call Netflix as piracy's primary competitor. Internet news site TorrentFreak explains, "It doesn't take a genius to conclude that Netflix' popularity has a negative effect on the movie piracy rates in the U.S.," adding, "Although no torrent site has gone out of business yet, Netflix certainly is a serious 'competitor' for access to movies" (Ernesto 2011, 1). In Norway, movie and music piracy rates were reduced by nearly half in 2013 with rise of inexpensive and user-friendly legal alternatives such as Netflix and streaming music service, Spotify (Curtis 2013).

Despite its potential effect on curbing piracy, Netflix and legal alternatives are not available in all regions. Netflix, for example, is not available to most European countries and all of Asia. According to the company quarterly report, their international unit lost \$35 million due to the high cost of launching in new markets (Richwine and Jan Bartunek 2014). Piracy channels continue to contain unreleased movies and television shows. Moreover, licensing agreements differ by country, making many movies unavailable to large portions of their customer base. The combination of limited availability and demands for content further drives piracy markets.

A look at the most pirated television shows reveals demand-driven piracy. In 2014, the most pirated show on BitTorrent was HBO's *Game of Thrones*, with its fourth season finale becoming the most pirated show to date with over 7.5 million downloads in the first few days of airing (Ernesto 2014). Many blame HBO's business model, which limits digital streaming to its subscribers, who pay a premium in addition to cable television subscriptions. HBO has responded by publicly considering circumventing cable distributors to offer their streaming service, HBO GO, directly to subscribers (McDuling 2014).

Changes in Hollywood's business can potentially have the most impact on piracy but nevertheless remains complicated and limited. This approach is part of a larger strategy against Internet piracy that continues to play out.

### **Conclusion and Limitations**

This paper has shown that the history of Internet piracy reflects deep-rooted divergent views on the purpose of copyright and the Internet space. In a larger

