

ONLINE PIRACY AND THE EMERGENCE OF NEW BUSINESS MODELS

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ABSTRACT

This explorative paper examines the impact of online piracy on the emergence of innovative, legitimate business models. While often dismissed by academics and professionals alike, online piracy has shown to be a valuable source of innovation to both industry incumbents and entrepreneurs. The paper briefly summarizes the evolution of piracy technologies and associated online communities. Then, the paper explores piracy in the media industry and discusses the means by which it has influenced innovation. Finally, the paper observes the Torrent phenomenon and suggests its potential impacts on the emergence of new business models.

EXECUTIVE SUMMARY

This explorative paper examines the impact of online piracy on innovation and new business creation. While often dismissed by academics and professionals alike, online piracy has shown to be a valuable source of innovation to both industry incumbents and entrepreneurs for the following four reasons:

First, the online pirates have pioneered the use of new technologies. For example, they have made a significant impact in the evolution of file-transferring technology, which has created breakthroughs in information distribution for both illegal and legal uses. Second, the piracy communities have been the source of invaluable market insight to the business world. Third, online pirates have contributed to new market creation. For example, many of former Napster users have migrated to the legal version of Napster and Apple's iTunes. Finally, online piracy has often spurred the creation of legal and innovative business models.

We observe that this pattern of piracy pioneering new market insight, market communities and business models is repeated with each generation of new pirate technology. We point out that companies that understand the pattern and take advantage of the innovation offered by piracy communities can build businesses of significant value.

Our paper is one of the very first and rare attempts on the subject of online piracy in management or entrepreneurship literature. It is also one of the first writings to describe the transition of online piracy to legitimate businesses. We believe that this is a practical paper that can be of use to academics as well as entrepreneurs.

INTRODUCTION

In the online world piracy refers to the unauthorized use or reproduction of copyrighted or patented material, such as music files or software codes. In most cases, piracy is illegal; in all cases, it is unquestionably unethical. Nevertheless, piracy is something that should not be ignored by strategists, entrepreneurs or academics.

Besides the negative connotation associated with the term, piracy has historically had little to do with legitimate businesses. While infringement of copyright caused by piracy has led societies to take new measures of security and policing, it is not usually identified for its ability to spur new legitimate businesses or economic value creation. In recent years, however, the piracy of information assets, such as media files and software codes, has had a profound impact on innovation and the emergence of new business models.

First, the online pirates have pioneered the use of new technologies. For example, they have made a significant impact in the evolution of file-transferring technology, which has created breakthroughs in information distribution for both illegal and legal uses.

Second, the piracy communities have been the source of invaluable market insight to the business world. As users of pirate music, game or software files tend to be early adopters, they have served as useful source of emerging consumer behavior. By researching the pirate communities, perceptive businesses and entrepreneurs were successful in identifying the needs that existing businesses were not adequately addressing.

Third, online pirates have contributed to new market creation. For example, many of former Napster customers have migrated to the legal version of Napster and iTunes. Today's 4 million piracy community members are likely to become legitimate consumers, as businesses catch up to meet the demands of these communities. (Economist, 2005).

Lastly, online piracy has often spurred the creation of legal and innovative business models. These new businesses were effective in large part because of their ability to take advantage of the new technology, market insight and market creation initiated by the piracy communities. At times, it was the online pirates themselves that were actively involved with the creation of next generation, legitimate businesses.

We find that this pattern of piracy pioneering new market insight, market communities and business models is repeated with each generation of new pirate technology. We believe that companies that understand the pattern and take advantage of the innovation offered by piracy communities can create businesses of significant value.

The paper briefly explores the evolution of piracy technologies and associated online communities starting with the beginning days of the Internet through the recent Napster and Torrent phenomena. In particular, we analyze the influence of the recent peer-to-peer (P2P) technologies and communities on the creation of new business models in the media industry. Finally, the paper analyzes the recent Torrent phenomenon and suggests its potential impacts on the creation of new business models.

LITERATURE REVIEW

Very little academic research exists in the area of online piracy in management literature. Most of the academic work has been legal (published in law journals) or ethical (published in law or ethics journals) in nature. For example, Kaplan (2005) and Smith and Rupp (2004) explore the legal impact of piracy on the entertainment industry, while Delaney et al. (2003) discuss measures for deterring copyright piracy. Goodman and Brenner (2002) examine the criminality of piracy, and Lichtman (2004) writes about holding Internet Service Providers accountable for Internet piracy. Kruger (2003) discusses the ethical elements of piracy.

Most of the management related discussions have been in the popular press in the form of newspaper or magazine reports. Most have been descriptive in nature. For example, Chmielewski (2005) writes about the “world of file sharing”, while Cullen (2003) reports on the comeback of Napster. Some articles have been more analytical and have attempted to examine the lasting impacts of piracy on the media industry. Pesce (2005) analyzes the potential impact of video piracy on broadcast television, while the Economist (2005) discusses online piracy’s impact on the overall entertainment industry.

Our paper is one of the very first and rare attempts on the subject of online piracy in entrepreneurship literature. It is also one of the first writings to describe the transition of online piracy to legitimate businesses. Specifically, the paper aims to identify common patterns, i.e., processes by which each generation of piracy influences the creation of legitimate businesses. Finally, the paper examines the parallels between the Napster and Torrent phenomena, a topic not yet analyzed by most academic researchers.

HISTORY OF PIRACY AND THE SOCIAL COMMUNITIES

The history of piracy is as long and complicated as the birth of the Internet itself. During the late 60’s the Department of Defense (DOD) funded a program called the Advanced Research Project Agency (ARPA). It was devised as a method for researchers to “share” information between the large supercomputers of the DOD. The first established computer connections occurred in 1969, when ARPA connected the computers of Stanford, UCLA, UC Santa Barbara, and the University of Utah. These established connections were coined the “ARPANET”. It grew quietly and slowly during the next 10 years. The mid 80’s saw a drift of the ARPANET away from its military roots, as the DOD released its ban on commercial enterprise on the ARPANET.

It is important to note that the early adopters of the Internet, many of whom were technologists and scientists, strongly believed in the idea of sharing information for mutual benefit. After all, the Internet was created by the government for the purpose of sharing information for scientific discovery. The computer communities grew over the years with their original philosophies intact. During the 70’s and 80’s nearly all software was “open source”, meaning that the code used to create the program was available for all to see and use, so that people across the world were able to make their own improvements to the software for the benefit of the whole. When companies like Microsoft and Novell started to charge for their software, many people previously accustomed to free software were surprised and displeased. It was some of these disgruntled users that became the first software pirates. They didn’t think much about the

legality or illegality of their actions. For them it was companies like Microsoft that was breaking the deep-rotted code of ethics.

The piracy scene evolved further with the rise of the World Wide Web in the mid and late 90's. Many communities served as the central hubs for engineers and programmers from all over the world who cooperated amongst themselves – with fundamentally the same ideology that began the concept of the Internet in the 60's. A widely known cooperative project was the development of Linux, an open source operating system started by Linus Torvalds in 1991 and developed together with the community from the Minix operating system. Another example is Apache, one of the world's most popular web server software, maintained by the Apache Software Foundation (ASF). ASF is a decentralized community of developers working on its open source software projects.

In the world of music and video piracy, some of the old mentality about “sharing” continued to prevail. In 2002, Wired Magazine profiled one hardcore Morpheus user, a 44-year old computer consultant, who had accumulated 2,500 music, video and software titles (O'Brien, 2002). He stated, “A lot of people out there don't have any idea what their computer really is for.” “To anyone who can't afford to take the family to the movies or buy the latest PlayStation 2 title”, he felt that he was “doing a public service.”

NAPSTER AND THE PEER-TO-PEER REVOLUTION

The Napster story presents a clear illustration about how online piracy evolves into new legitimate business models through the four-step processes mentioned above. In the Fall of 1999, the 19-year-old college student Shawn Fanning became a pioneer in the P2P file sharing technology when he released the original Napster, a software program he had developed in his dorm room. Fanning wanted an easier method of finding music and devised a way for computer users to use the Internet as a channel for copying files stored on someone else's hard drive. To the surprise of many skeptics, millions became Napster users in a matter of months. The Napster servers contained hundreds of thousands of bootlegged audio files donated by users.

The Napster and its followers' contribution to technology was noteworthy. A leading entertainment and media analyst considered Napster to be “absolutely a groundbreaking technology that changed the way consumers listened to music, discovered music, and interacted with music...”(Denison, 2002). Universal, BMG and Sony had promised to make music available for downloading by the end of 1999, only to let the deadline pass, invoking the lack of adequate technology (Anand & Cantillon, 2003). Then, the majors participated in industry setting efforts such as Secure Digital Music Initiative (SDMI), but they were unable to achieve consensus and abandoned the project in 2001.

The rapid success of Napster became a source of valuable market insight, though neglected by most industry incumbents for many years. Hordes of college students praised Napster because it enabled them to obtain hit songs without having to buy an entire album. Napster proved the existence of an immense market interested in online distribution and storage of music to create customized CDs, access older songs and concert recordings, etc. Prior to Napster, no music label was even selling music online.

The P2P successes contributed to new market creation. It created a mass of music lovers who consumed music in a very different way. Note that pirates were not utilizing Napster and similar P2P services only because they were free – this is where many industry experts got it wrong. Napster was immensely popular because it offered a wide range of important features, e.g., wide selection, convenience, and high-quality recordings, which offered strong benefits. Consumers would have been willing to pay for a service with such collection of beneficial features, as Apple's iTunes later proved.

The revolution started by Napster gave way to a new generation of business models. Pressplay.com, a joint venture between Sony Music Entertainment and Universal Music Group, and MusicNet, a partnership between AOL Time Warner, EMI, Bertelsmann, and Real Networks both launched in December 2001. But they had several flaws in their business model: PressPlay offered songs from only Sony and Universal, while MusicNet offered songs from its partners only. They operated with a monthly fee which its target market was not willing to pay for. Concerned about cannibalizing their CD sales, PressPlay and MusicNet either prohibited or limited, the "burning" of music files onto a CD. Both PressPlay and MusicNet became a disappointment to their founding partners.

On the other hand, Apple took a different approach. In April 2003, Apple launched the iTunes online music service with a library of more than 200,000 songs from a wide range of artists and labels. Users were able to search by song title, artist name, album title, and genre and hear a 30-second preview of any song in the library for free. Songs were \$0.99 each and purchased tunes were then transferred to a folder within their desktop console. Additionally, Apple incorporated a Digital Rights Management (DRM) system that ensured that music could be transferred only up to three Apple computers, burned up to ten CDs, and downloaded to an unlimited number of iPods. The songs were offered in industry-standard Dolby Advanced Audio Coding format, which allowed for CD-quality sound and better data compression, and enabled users to hold more music and store files more quickly. According to reports, iTunes has sold more than 500 million songs in the United States alone, more than 50 million within a year of its launch in Europe (Kageyama, 2005). The iTunes service accounted for 82 percent of all legally downloaded music in the United States (Kageyama, 2005).

Interestingly, the online pirates have themselves been the leaders in the creation of new, legitimate businesses. Shawn Fanning, the founder of Napster, has become the Chief Strategy Officer of Snocap, Inc., a small startup that has inked deals to register the entire catalogue of all the major music labels that initially sued Napster. A former manager of Kazaa has gone on to create Joltid, a consulting company which develops peer-to-peer based solutions. It is noteworthy how leading P2P businesses and personalities that were once threats to the music industry have begun together with music industry leaders to develop next generation technologies, communities, and market research.

BITTORRENT – THE NEW NAPSTER OF TELEVISION PROGRAMMING?

The new BitTorrent phenomenon is very similar to the Napster story. A major P2P downside had been the slow speed at which large video files transferred. In February of 2002, Bram Cohen took the P2P model to the next level with the release of the BitTorrent technology. The software allowed a user to download files from a multitude of users, rather than a single individual, on a bit by bit basis, therefore decentralizing the source of the file from any single storage. The BitTorrent program became an instant hit with Linux users who wanted to swap their enormous open-source programs. Like the Napster, BitTorrent was considered a significant technology breakthrough, which could also be used in distributing legitimate video over the Internet. Even Microsoft was impressed and experimented with the technology (McHugh, 2005).

The breakthrough in technology has allowed for strong marketplace adoption. More than 20 million people have downloaded the BitTorrent application (Thompson, 2005). According to British research firm CacheLogic, BitTorrent accounted for an astounding 35% of all the traffic on the Internet in 2004 – more than all other P2P programs combined (Thomson, 2005). On a global scale, BitTorrent consumed an astounding 53% of all P2P traffic in 2004 (Mennecke, 2004). BitTorrent's market adoption was not limited to viewing films and TV shows.

The success of BitTorrent has demonstrated the economic and technological feasibility and the potential market acceptance of watching movies, music videos and television shows from the Internet. In the case of the award winning documentary, *Outfoxed*, the producers actually gave permission for online viewers to download the movie, as other producers are starting to do. Interestingly, the cost of hosting the 750 gigs of traffic for *Outfoxed* was estimated to be a mere \$4 because of the nature of BitTorrent technology. On October 15, 2004, CNN's audience for Jon Stewart's appearance on *Crossfire* was 867,000; the number of viewers torrenting the show was in millions (Thompson, 2005).

As in the case of Napster communities, many of the BitTorrent communities have already begun to migrate to new, legal communities. In recent months, independent BitTorrent communities have been successful in convincing independent producers to distribute their TV shows, offering educational programs, and distributing various open-source software.

For example, ShunTV specializes in political shows. It began with the (approved) distribution of *Daily Show with Jon Stewart*, daily episodes of the popular satirical Comedy Central show. The site evolved to include all other political junky shows, documentaries and specials, attracting a strong community of intellectual college students. BitMe, whose slogan is "Feed Your Brain!" specializes in the distribution of technical and scientific journals, books, documentaries and audio books.

Like the early Napster users, these BitTorrent consumers are not there just because of the free videos, especially since they are mostly television shows. The BitTorrent pirates are connecting to their communities for the purpose of sharing information between like-minded thinkers to share their passion, such as politics and science.

NEW BUSINESS MODELS AND MODEL ADOPTIONS

BitTorrent communities can seem like groups of computer geeks too lazy to turn on the television, but their behavior may point to a new way of consuming media in the future, e.g., watching shows when they want, sharing experience with a virtual community, etc. Table 1 shows the combination of traditional media companies and new business models competing, and in other cases, collaborating to prepare for the next generation viewers.

Table 1: Sample New Business Models (Arising from BitTorrent)

Business Model	Players
Video on Demand (VOD)	Comcast, Newscorp, Disney, Time Warner Cable, Cox Communications
Internet Protocol (IP) TV Infrastructure	SB Communications and many regional telcos, Google, Yahoo!, MSN, AOL
Internet TV Broadcasters	Akimbo, Brightcove, DaveTV, Yahoo!, MSN, AOL
Video Search	Google, Yahoo, MSN, AOL, Blinkx, The Feedroom
BitTorrent Infrastructure	Ourmedia, Avalanche
BitTorrent Consulting	CacheLogic, Joltid, Thinkingest, Broadcatch

Traditional cable companies are increasing their video on demand (VOD) services. Companies like SBC have recently started a multibillion dollar expansion project stretch their fiber-optic lines to homes to provide adequate bandwidth for high-definition Internet Protocol television (IPTV) streams (McHugh, 2005). Looking to cut in to the cable companies, telcos are building ultra-high-speed networks that use Internet Protocol to deliver videos over the phone lines. At the same time, a host of new startups – led by Akimbo, Brightcove, and DaveTV – are establishing their presence as Internet content broadcasters.

All four major engines (Google, Yahoo, MSN, and AOL) have entered the video broadcasting business. In 2005, each company has quietly rolled out video specific search engines. In addition, each company is also attempting to distribute exclusive Internet content, or even original content. Yahoo is already providing subscribers with special extra episodes of *The Apprentice* and it has launched an exclusive music-related show, *Smash*, online, which originally aired on TV. AOL has the advantage of having Time Warner.

New companies like Ourmedia are in the BitTorrent infrastructure business. They offer free storage and bandwidth for videos and audio files using the latest BitTorrent technology. A series of new research and business consulting firms have started offering their professional services for companies interested in distributing Internet content using the BitTorrent model. BitTorrent, as in the case of the Napster, as spurred the creation of new, legitimate business models.

CONCLUSION

Online piracy has had and is likely to continue to have a large impact on the fast changing media and software industries. We observe that online piracy impacts the industries through the following processes: It (1) pioneers the use of new technologies; (2) provides the business world

with invaluable market insight; (3) contributes to new market creation; and (4) evolves into legitimate and innovative business models.

Interestingly, we observe that the above four-step processes are repetitive and they reappear with each technology generation. Media incumbents should recognize that legal actions are not sufficient to protecting their business or participating in new wealth creation. For the entrepreneurially-minded companies or individuals, the changes brought by online piracy can present unique business opportunities when they are promptly and correctly identified.

REFERENCES

- Anand, Bharat and Estelle Cantillon. (2003), "The Music Industry and the Internet", Harvard Business School, 9-7030513.
- Cullen, Drew, (May 19, 2003). "Napster Reborn! Roxio buys Pressplay", *The Register*.
- Chmielewski, Dawn C. (August 1, 2005). "A Whole New World of File Sharing", *The Mercury News*.
- Delaney, Edwin M., Goldstein, Claire E, Gutterman, Jennifer, and Wagner, Scott N. (Oct 2003). "House subcommittee holds hearings on Copyright Piracy Deterrence Act", *Intellectual Property & Technology Law Journal*. Clifton: Oct 2003. Vol. 15, Iss. 10; p. 20.
- Denison, D.C., "The Legacy of Napster," *The Boston Globe*, May 16, 2002.
- Goodman , Marc D. and Brenner, Susan W. (Summer 2002),"The Emerging Consensus on Criminal Conduct in Cyberspace", *International Journal of Law and Information Technology*, Oxford: Summer 2002. Vol. 10, Iss. 2; p. 139.
- Kageyama, Yuri, (August 8, 2005). "Downloads for Japan iTunes Hit a Million", *Yahoo News*.
- Kaplan, Debra. (Mar 2005). "Broadcast Flags and the War Against Digital Television Piracy: A Solution or Dilemma for the Digital Era?", *Federal Communications Law Journal*, Los Angeles: Vol.57, Iss. 2; pg. 325, 20 pgs.
- Kruger, Robert. (Jul/Aug 2003). "Discussing Cyber Ethics with Students is Critical", *The Social Studies*, Washington: Vol. 94, Iss. 4; p. 188
- Lichtman, Douglas. (Winter 2004/2005), "Holding Internet Service Providers Accountable", *Regulation*, Washington Vol. 27, Iss. 4; p. 54.
- McHugh, Josh (September, 2005), "The Super Network", *Wired*
- Mennecke, Thomas, (September 29, 2004). "P2P Usage - Which Network Consumes the Most Bandwidth?" *Slyck*.
- Mennecke, Thomas, (May 25, 2005). "MPAA, FBI and U.S. Customs Shut Down EliteTorrents", *Slyck*.
- Mulligan, Mark (June 23, 2005). "iTunes Hits 50 Million in Europe, But is That a Success?", *Jupiter Research*.
- O'Brien, Jeffrey. M., "Would You Download Music From This Man?", *Wired Magazine*, May 2002.
- Smith, Alan D. and Rupp, William T. (2004). "Exploring the impacts of P2P networks on the entertainment industry" *Information Management & Computer Security*. Bradford: 2004.Vol.12, Iss. 1; pg. 102.
- Thompson, Clive, (January, 2005). "The BitTorrent Effect", *Wired*.
- Thomson, Iain, (March 10, 2005). "New BiTorrent flows across the web", *IT Week*.