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PANDORA.COM AND THE LAWS OF STREAMING MUSIC

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ABSTRACT

The development of the Internet has dramatically altered the music industry. While the easy availability of MP3 music files have contributed to declining revenues for the industry as a whole, the U.S. Congress has passed legislation in an effort to protect the music industry from collapse. Websites that stream music online (Internet radio stations) now face a variety of fees and restrictions. One of the most popular Internet radio sites is Pandora. Unlike traditional radio stations, Pandora uses its “genome project,” an innovative system of algorithms and tags, to generate customized playlists for individual listeners based on their music preferences. This new use of technology raises important business and legal issues for Pandora and the future of Internet radio. This thesis explores the current legal, technical, and financial environment of Pandora, and discusses the likely long-term impact of Pandora on the music industry.
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Chapter 1

Introduction

With the increasing popularity of the Internet, a growing number of entities have begun streaming music online. Streaming allows for music to be played onto the computer without being downloaded and saved on the user’s PC. Streaming music stations called webcasts are unlike their over-the-air radio predecessors, because they do not have to compete with local radio stations for broadcast frequencies. Also, music streamed online can be heard by listeners in any part of the world, not just people in the city where the station is located. These advantages of Internet allow for a different kind of radio play called “narrowcasting.” The webcaster, or broadcaster of music online, can focus on a specific radio audience, not the public as a whole.¹ Internet radio allows for an infinite number of stations that are not limited by competition or geography, and lets anyone with some knowledge of the Internet and a playlist of music be heard.

While many Internet-only stations are similar to traditional radio stations in that they have a set playlist that is heard by every listener, some streaming stations have taken advantage of digital technology to develop a new, more personal model for radio. The most successful of these innovative stations is Pandora. Pandora Internet radio employs a unique webcasting method based on the Music Genome Project, which is a proprietary method to analyze music that uses 400 music qualities, or genes. These genes include types of harmony, rhythm, instruments, and lyrics, making up each Pandora song’s musical DNA. Categorizing all of these genes requires Pandora-employed musicians to analyze every song for about 20 to 30 minutes before adding it to the Pandora database,

¹ Sterling & Kittross, p.776
because, according to Pandora, only humans can properly pick up on the nuances of songs. At Pandora, musicians have carefully listened to songs of tens of thousands of different artists.

Over time, several laws have been passed by Congress to address the copyright aspects of new online music services such as Pandora. In 1995, the Digital Performance Right in Sound Recording Act (DPRA) was passed to govern the digital transmissions of songs. This act amended the Copyright Act of 1976 and granted a limited public performance right in sound recordings. The ruling also granted separate rate structures for both interactive and non-interactive radio services. However, the rate structures for non-interactive stations were unclear under the DPRA.

Three years later, the Digital Millennium Copyright Act (DMCA) modified the copyright law to address the emerging streaming music technologies. The DMCA extended statutory licensing to cover eligible non-subscription transmissions, thereby covering the loophole that had exempted certain Internet radio stations from paying royalties in the DPRA. It also modified Section 114d of the copyright law that defined interactive services as those that offer songs on demand. After the DMCA was enacted, SoundExchange was made the sole entity to collect and distribute performance royalties to record labels and independent artists.²

In 2009, the Webcaster Settlement Act of 2009 (WSA) gave SoundExchange and webcasters the chance to establish their own royalty rates for the performance of sound recordings. SoundExchange could negotiate rate structures, which were then agreed to by both parties and entered into the Federal Register as part of the statute. Different

² Myers p.441
types of streaming stations agreed to pay varying rates. Currently, about 95% of
SoundExchange’s licensees, including Pandora, pay one of the alternative rates proposed
by SoundExchange.\(^3\) The rates Pandora pays are laid out in the Pureplay Settlement.\(^4\)

Pandora is a highly customizable station, but if deemed “interactive” under
copyright law, it would not qualify for discounted royalty payments. The vague wording
of the copyright act makes it unclear whether Pandora Radio should pay the higher
royalty rates of an interactive station (as opposed to a non-interactive one). To determine
whether Pandora should be considered interactive, this thesis examines a judgment from
a recent court case (Arista Records v. Launch Media) that involved an Internet radio
service similar to Pandora. This thesis is intended to address the current law on streaming
radio, with regard to the legal, financial, and technical status of Pandora. Accordingly, the
five research questions below are considered.

1. What is the purpose of the current legal rules for Internet radio?
2. What is Pandora and how does it operate from a technical and financial
   perspective?
3. Does Pandora comply with the legal requirements for Internet radio?
4. What is the likely long-term impact of Pandora on the music industry?
5. Do current rules for Internet radio need to be amended?

Chapter 2 will give context for when streaming music emerged and then talk about the
current state of streaming music and the music industry. Chapter 3 will discuss how one
specific Internet radio station, Pandora, started and how it operates now. Chapter 4 will

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\(^3\) Anderson, Laura. Personal email from Info@SoundExchange
\(^4\) SoundExchange, http://soundexchange.com/service-provider/rate-
tables/commercial/alternative-rate-structures/pureplaysmall-pureplay-rates/
explore how different forms of radio have been regulated and what laws have impacted this regulation, eventually delving into how webcasters are regulated today. Chapter 5 will talk about how Pandora Internet radio complies with the current law and how it and other Internet radio stations have impacted the music industry. Finally, this chapter will include recommendations for how the copyright law should be amended, and then the thesis will conclude.
Chapter 2

Internet Radio

History of Streaming Music

In the words of Madonna (in her 2000 single “Music”), “Music makes the people come together. Music mix the bourgeoisie and the rebel.” Aside from the imperfect grammar, I think Madonna had it right: music is the common ground among diverse groups of listeners and musicians. Music can help bring people together in a shared cultural experience. Today, with the advent of steaming music, there are infinite opportunities to hear music. In order to understand what streaming music is and how it affects the way people listen to music, it is important to look at how the music industry operated before music was transmitted online. This chapter will analyze the past 100 years or so of the music industry, starting with the beginnings of sound recordings and ending with streaming music of today.

It is safe to say humans have produced music since well before recorded history. These prehistoric melodies likely consisted of sustained sounds, vocal tones, and repetitive beats. Nonetheless, it was music indeed, and it has been played ever since. In its beginning stages, however, this music had to be played live to be heard. It wasn’t until the late 1800s that a song could be recorded and played back later.

The first device able to record music was the phonograph, invented in 1877 by Thomas Edison. Though the machine’s original purpose was to record dictation,

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4 Straubhaar, LaRose, Davenport, p.127
musical entertainment quickly became its main use. In 1906 the Victor Talk Machine Company introduced a home phonograph called Victrola. This machine revolutionized the music industry by creating an avenue for music to be recorded, reproduced, and then heard without the presence of a musician. Recording technology made it possible capture a musical performance for playback at a later time or location. The Victrola introduced more music to more people, and so the notion of popular music caught on. By the end of World War I, two million phonographs were being manufactured each year. Consumers did not make their own records, which required expensive equipment to produce, but instead relied exclusively on records sold by the industry to play on their phonographs.

In this post-war environment of national change, radio broadcasting began. In the early 1900s, radio technology allowed for millions of people to listen to the same song at once. The innovation of sound being carried on radio waves also allowed for a number of radio stations to be transmitted simultaneously. However, it took years of sorting out patent disputes over the design and manufacturer of the radio apparatus before the radio proliferated.

As radio took off, more was being written about the subject. According to the book Media Now, “The radio craze or fad of 1921 and 1922 perhaps is best seen in popular literature that grew up to feed and support, and be supported by, the national interest in wireless.” For example, Radio Broadcast periodical was formed in 1922 and

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6 Straubhaar, LaRose, Davenport, p.126
7 Straubhaar, LaRose, Davenport, p.136
8 McGregor, Driscoll, McDowell, p.14-15
9 Sterling & Kittross, p.55
10 Sterling & Kittross, p.58-62
11 Sterling & Kittross, p.99
so was a radio section of *The New York Times*, later followed by *Variety*, a magazine primarily focused on radio.

Music fans adored the radio, because it allowed them to hear free music all the time. While the music industry feared that radio would squelch record sales, the radio broadcasters argued that their stations were providing free advertising for the recording artists, and thereby helping with record sales.\(^\text{12}\)

Thus began an uneasy partnership between the radio industry and recording industry. Radio relied on the recording industry for the latest popular songs as content. These songs attracted listeners to the radio, where listeners’ attention was then sold to advertisers. Meanwhile, the recording industry relied on radio airplay to promote and market the sale of records.

Though radio was all the rage in the 1920s, it did not have the cleanest audio. As *Stay Tuned: A History of American Broadcasting* notes, “Although serious technical interference and economic problems existed, its [radio’s] potential for supplying entertainment to the American public was evident.”\(^\text{13}\) The radio-transmitted sound had lots of white noise before experiments in frequency modulation corrected the static.

By the 1920s, the AM radio had become a popular household device. AM, short for amplitude modulation, carried information in the amplitude (height) of the radio wave to broadcast sound to the radio receiver.\(^\text{14}\) In 1922 there were only 218 radio stations, but by 1923 there were 556 stations.\(^\text{15}\) These stations played news, weather reports, music, 

\(^\text{12}\) Straubhaar, LaRose, Davenport, p.129  
\(^\text{13}\) Sterling & Kittross & Kittross, p.100  
\(^\text{14}\) Straubhaar, LaRose, Davenport, p.164  
\(^\text{15}\) Sterling & Kittross, p.66-70
and lectures. At this time, radio was seldom the primary interest of early broadcasters. Instead, it served primarily as a promotional device for groups like educational institutions, stores, and newspapers.\textsuperscript{16}

In 1925, radio stations in major cities mostly consisted of music stations and some vaudeville shows, which included comedy and musical acts. However, there were too many stations on a limited band for good reception in those places. In Chicago, for example, there were 40 stations, but only 7 could be played at a time.\textsuperscript{17} The U.S. government worked at regulating radio in order to eliminate interference on the radio waves. To do that, Congress enacted the Radio Act of 1927, then the Communications Act of 1934. These laws imposed order on broadcasting and gave the Federal Communications Commission (FCC) control over the airwaves.\textsuperscript{18}

The FCC dealt with the issue of overcrowded airwaves by regulating who was able to broadcast. The FCC had to give broadcasters legal permission before stations could operate, which meant that the FCC did not always award or renew broadcasting licenses, thereby eliminating the number of stations over the air. The FCC also determined how close stations could operate and whether radio stations were “in the public interest,” which is a term that has never been clearly defined by the FCC.\textsuperscript{19}

In 1933, FM (frequency modulation) radio got rid of the crackling radio wave audio. It was not until the 1950s, though, that the FCC opened up the FM band with

\textsuperscript{16} Sterling & Kittross, p.68  
\textsuperscript{17} Sterling & Kittross, p.74  
\textsuperscript{18} McGregor, Driscoll, McDowell, p.236  
\textsuperscript{19} Straubhaar, LaRose, Davenport, p.460
nearly 700 new openings for stations to broadcast. In FM, the sound was carried by variations in the frequency of the radio wave around the central carrier frequency, meaning it had a greater frequency range than AM. Hence, FM had less static than its predecessor and could hit the low notes on the organ that AM radio could not. The introduction of FM revived the radio and finally made the phonograph vestigial, because FM allowed for a free, clearer way to listen to a greater variety of music.

Music dominated the radio programming of the 1930s, making up more than half of all radio programming. Before recorded music was broadcast over the air, radio stations would broadcast live performances of bands inside or right outside of their studios, called “big band remotes.” It wasn’t until the 1940s that radio broadcasts were recorded for later playback. At that time, entertainer Bing Crosby had a popular radio show that he performed twice in order for it to air on both the east and west coast. Crosby grew tired of repeating his show for both coasts, and realized that by recording his show he would only have to perform it once. This use of sound recordings over the radio offered Crosby and other broadcasters flexibility in their radio shows.

From the earliest days of radio, sound recordings were broadcast over the air. The American Society of Composers, Authors and Publishers (ASCAP), which had formed in 1914 to assure that music creators are paid fairly for the public performance of their

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20 McGregor, Driscoll, McDowell, p.241
21 Straubhaar, LaRose, Davenport, p.164
22 McGregor, Driscoll, McDowell, p.29
23 McGregor, Driscoll, McDowell, p.28
24 McGregor, Driscoll, McDowell, p.29
work, demanded that songwriters be compensated for their radio play.\(^{25}\) (Chapter 4 will go into more detail about how radio stations pay royalties to copyright holders.)

In the 1940s, during World War II, the radio became an important news source for reports on the war. Into the 1950s, dramas, variety shows, and quiz shows were eliminated from radio, leaving just music and talk radio. Broadcasters relied more on the sound recording (instead of the live band) to play music, and began using the “Top 40” format for their stations. This meant broadcasters from different stations would play the same popular songs.\(^{26}\) This also meant that some unethical radio practices took place in order to get certain songs in the Top 40.

Since radio played only a small selection of songs, radio personalities developed power over popular music record makers and sellers. If a song was played over the radio, it usually became instantly successful. Thus, the payola business became a public scandal.\(^{27}\) Payola is an unethical practice in which record executives pay disc jockeys under-the-table to put certain music on the air.\(^{28}\)

By the 1960s, a new format for listening was invented: the audiocassette tape. The recording industry initially felt threatened by the tapes, because songs from the radio could be recorded on them from the radio or from vinyl records. These recordings were time consuming to make, had low sound quality, and had to be made manually. Still, making illegal “mix tapes” became a trendy thing to do in the 1980s. The introduction of the Sony Walkman portable audiocassette player increased the popularity of cassettes.

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\(^{25}\) ASCAP, “ASCAP History”

\(^{26}\) McGregor, Driscoll, McDowell, p.32

\(^{27}\) Sterling & Kittross, p.368

\(^{28}\) McGregor, Driscoll, McDowell, p.143
providing an alternative to radio for making music portable. However, by the mid-1990s, the cassette tape was on its way out of style, replaced by the digital technology of the compact disc.  

The compact disc was created in 1983 and became the new standard for listening to music in the 1990s. The CD was the first consumer form of digital music, and it could replicate all of the sound frequencies audible to a human ear. The CD was less vulnerable to dust and scratches than earlier media, and provided more capacity for music than ever before. Other advantages of the CD were that it could be copied without degrading sound quality and that it allowed for digital music files to be compressed and organized more easily. (These features paved the way for the eventual development of interactive services like Pandora. More on that later.)

The CD’s high quality, small size, and durability made it an instant hit. Its major strength for record companies and weakness for consumers was that listeners could not illegally record music onto them, like they could with audiocassettes. Record companies experienced growth during this time, as consumers replaced their old records with new CDs. Then, the blank CD became available in the late 1990s.

With the blank CD and new advances in computer-based technologies, copying CDs became easy. CDs could be “burned,” which meant users could copy a friend’s CD onto their computer and then put the music from that disc onto a new CD.

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29 Sterling & Kittross, p.599
30 Straubhaar, LaRose, Davenport, p.137
31 McGregor, Driscoll, McDowell, p.57
32 Sterling & Kittross, p.600
33 Straubhaar, LaRose, Davenport, p.133
In 2001, XM Satellite radio was developed to fill the audience’s needs. XM Satellite radio began commercial operations using a frequency band auctioned off by the FCC. Less than a year later, Sirius Satellite radio also began operations. These two companies struggled to survive as competitors and eventually merged to form Sirius XM Radio in 2007. The combined company has 18.5 million subscribers and more than 300 channels.34

Meanwhile, another technology was being developed that would eventually transform the music industry: the Internet. The Internet was developed in the 1950s, but did not become widely used until after the IBM-PC was introduced in 1981. The IBM made home computers available to consumers and allowed for people to access the Internet. The Internet served as a web of information that connected hypertext documents stored on computers around the world. In 1990 about 100,000 computers were connected to the “World Wide Web” and by 1992 more than a million people shared information online.35 Figure 2-1 shows how Internet use increased among American adults from 1995 to 2010.

The Web allowed for international social networking and file sharing. On the Internet, consumers could also share prerecorded music with billions of other people. The development and public use of the Internet changed the way people listened to music.

34 McGregor, Driscoll, McDowell, p.50-1
35 McGregor, Driscoll, McDowell, p.53
Eventually, over-the-air radio stations saw the Internet has another forum for them to distribute their signals. In 2000, over 3,700 American radio stations streamed over the Web. In addition to these radio stations, other stations formed that were exclusive to the Internet. These Internet-only radio stations worked like the over-the-air radio stations that streamed on the Web by allowing for music to be played onto the computer without being downloaded and saved on the user’s PC. While traditional radio (also called terrestrial radio) and satellite radio were both limited by the number of licenses the FCC

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**Figure 2-1**

Source: *Pew Research Center*

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36 Pew Internet, “Trend Data”
37 Sterling & Kittross, p.790
was willing to issue, the Internet radio stations did not face these same limitations. Online, there was no government license required to make a radio station and no inherent limit to the number of potential Internet radio sites. Internet radio stations, also called webcasts, did not have to compete with local radio stations for broadcast frequencies. Also, music streamed online could be heard by listeners in any part of the world, not just those in the same city where the station was located. These advantages of Internet allowed for a different kind of radio play.

The webcaster, or broadcaster of music online, could focus on a specific radio audience, rather than the public as a whole. A streaming music station could “narrowcast,” or play music to various niche audiences. Internet radio allowed for an infinite number of stations that were not limited by competition or geography and let anyone with some knowledge of the Internet and a playlist of music be heard. As it says in *Stay Tuned: A History of Broadcasting*,

> By early 2000s, many listeners changed their habits, enthralled by the clearinghouse sites that allowed Internet users to select their own programming… in their home town, across the nation, or abroad.

The Internet allowed obscure stations to attract a limitless audience from around the world.

SomaFM was one of the first stations to stream music online. The streaming website, created in 1999 and officially launched in 2000, broadcast MP3s from a warehouse in San Francisco. According to the SomaFM website, it was started because Rusty Hodge could not find a radio station he wanted to listen to. In turn, he made one,

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38 Sterling & Kittross, p.776
39 Sterling & Kittross, p.608
himself. SomaFM and other early online radio stations marked a change in the way music was spread. As Chris Coomey says the San Francisco Chronicle, “Its [SomaFM’s] success suggests you don’t need anything much larger than a mouse these days to be heard.” Other early streaming radio stations like Last.fm and Broadcast.com also found early listenership online. Since then, Last.fm has remained a widely used music site and Broadcast.com has been purchased by Yahoo! for $5.7 billion in stock.

Many terrestrial radio stations also streamed their sound online, making their streaming stations very similar to their over-the-air counterparts. These stations, like SomaFM and other strictly streaming radio stations, merely streamed playlists online. Since then, many streaming radio stations have become more interactive.

Aside from streaming music, the Internet became an important forum for artists to post previews of their songs and sell albums without any physical sound recordings changing hands. The Internet also became a hotbed for music piracy. Unlike the copying of traditional radio with a tape recorder, downloading a digital recording took no time and had no degradation in sound quality. Because of its high susceptibility to music piracy, the Internet became referred to as “the world’s biggest copying machine” by the United States Register of Copyrights.

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40 SomaFM, “About SomaFM”
41 Coomey, “Move Over, Pirate Radio—From a Bernal Heights Garage, Internet Station SomaFM Plays Tunes for the Whole Wide World, And It’s All Perfectly Legal.”
42 CNN Money, “Yahoo! buying BCST.com: Leading gateway agrees to swap $5.7B in stock for video broadcaster.”
43 Sterling & Kittross, p.608
44 Arista Records, LLC v. Launch Media, Inc. 578 F.3d 148, (2d Cir. 2009). **12
The development of the MP3 made musical recordings easy to transmit over the Internet and steal. The MP3, which developed after blank CDs in the 1990s, means mpeg audio level 3. This is the audio compression algorithm the MP3 uses to shrink audio files and speed up the transfer process of music recordings.\(^{45}\) The MP3 gained huge popularity because it compressed songs into an easily traded format. One study shows that by 1999, the MP3 became so popular that “MP3” had replaced “sex” as the Internet’s most searched term, \(^{46}\) and according to Listen.com, hundreds of millions of unauthorized MP3 files were available over the Internet.\(^{47}\) In 1999, the first MP3 player was created to play MP3 files away from the computer.

File-sharing programs like Napster made it easy to share thousands of music files over the Internet. The MP3 allowed for easy peer-to-peer file-sharing, meaning that listeners could download songs over Napster from around the world without paying any music royalties.\(^{48}\) Napster, as it says in *Head’s Broadcasting in America: A Survey of Electronic Media*, “works through a shared server, which lists ‘addresses’ that tell an individual user’s computer how to find music files on the hard drives of other users.”\(^{49}\) From 1999 to 2000, Napster gained enough popularity to garner 100 million users (it took AOL 6 years to have that many users).\(^{50}\)

The emergence of illegal file-sharing sites like Napster and then Kazaa had become a legitimate music industry concern. Major record companies and artists like Dr.

\(^{45}\) McGregor, Driscoll, McDowell, p.57
\(^{46}\) Sterling & Kittross, p.600
\(^{47}\) The Infinite Dial 2011: Digital Platforms and the Future of Radio
\(^{48}\) McGregor, Driscoll, McDowell, p.57
\(^{49}\) The Infinite Dial 2011, Digital Platforms and the Future of Radio
\(^{50}\) The Infinite Dial 2011, Digital Platforms and the Future of Radio
Dre and Metallica fought against Napster. They claimed the site was infringing their copyrights, and therefore illegal. After the original Napster was sued and shut down because it was found guilty of contributing to widespread copyright infringements, Kazaa became the world’s most downloaded software in 2003, with over 230 million downloads.

In 2001 Apple created the iTunes Music Store, which provided music from almost all record labels for online purchase. Through iTunes, listeners could legally download music for 99 cents per song, and then sync their iTunes songs right onto their iPods. The iPod became the most popular MP3 player that could hold 5 gigabytes, or over 1,000 songs. By 2008, Apple had surpassed Wal-Mart to become the leader in all record sales (online and off). Now, iTunes has over 12 million songs in its music catalog and has sold over 10 billion songs online.

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51 *Wired*, “Dr. Dre Raps Napster”
52 RIAA, “Some Facts About Music Piracy”
53 Straubhaar, LaRose, Davenport, p.134
54 McGregor, Driscoll, McDowell, p.57
55 Straubhaar, LaRose, Davenport, p.135
56 iTunes, “iTunes Store Tops 10 Billion Songs Sold.”
Current State of Industry

Into the 2000s, Internet radio became a dominant force in the music market. From the summer of 2000 to the summer of 2001, music listenership online grew by an average of 8% each year, which is likely related to the higher incidence of broadband connections (see Figure 2-2). Now, as almost 90% of U.S. households have Internet access and two-thirds of those homes have Wi-Fi network, over 20% of Americans listen to online radio weekly (see Figure 2-3). Since 2001, weekly online radio audiences have doubled in size every 5 years.

![% With Internet Access From Any Location](chart)

Figure 2-2 [Source: Arbitron Inc./Edison Research (based on Americans 12+ years old)]

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57 Madden, “The Pew Research Center’s Internet & American Life Project.”
58 Infinite Dial 2011: Navigating Digital Platforms
59 The Infinite Dial 2011: Digital Platforms and the Future of Radio
60 Infinite Dial 2011: Navigating Digital Platforms, PDF p.9
In 2003, the digital revenue of the music industry was $20 million. Now, digital music accounts for 4.6 billion in revenue. Figure 2-4 shows this increase in digital sales and decrease in physical music sales from 1997-2010. Though digital music sales have increased, overall music sales have plunged in recent years. In 1999, physical music sales topped $27 billion, but in 2010 sales fell to $10 billion. In the last few years, album sales have dropped an average of 8% each year. This loss could be due to the concept that listeners are used to getting their music for free. Napster allowed peer-to-peer file sharing at no cost, so paying even as little at 99 cents for a song on iTunes might not be

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61 Infinite Dial 2011: Navigating Digital Platforms, p.20
so attractive to consumers. Many musicians like Coldplay and Girl Talk have reacted to this “music for free” ideology by giving away free albums to listeners online.

**Figure 2-4** Source: *International Federation of Phonographic Industry via PaidContent.org*

Since attacking Napster for providing a forum for illegal file-sharing, the Recording Industry Association of America (RIAA) now targets the downloaders of the music, themselves. The RIAA partners with universities to monitor the file sharing activities of college students in particular. At Penn State, for example, copyright infringement is a violation of the student Code of Conduct. The RIAA sends reports to

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63 IFPI via PaidContent.Org, “Music Sales Shed Another $1.4 Billion as Digital Growth Flattens Out”
64 McGregor, Driscoll, McDowell, p.58
the Penn State Office of Judicial Affairs about students that participate in illegal file sharing. The Office of Judicial Affairs sends letters telling the student they must attend an anti-piracy meeting with Judicial Affairs. Students are threatened with being disabled from the Penn State wireless network if they do not attend the meeting and stop sharing their files.

Even with the RIAA’s threats, pirated music is still available on the Internet. Through newer file sharing programs like BitTorrent, tens of millions of people are still downloading music for free.⁶⁵

Millions of people are also streaming music for free, legally. In the last few years, certain Internet radio stations have become increasingly popular. Instead of playing the same songs for every user, these webcasters play stations that are specially catered to each listener. Streaming music sites like Pandora, LAUNCHcast, and Rhapsody offer radio stations that are tailored to specific individuals, while also promoting the purchase of digital music. Some of these streaming stations can be played online, on the cell phone, and even in the car. In Chapter 3, this paper will discuss the most popular of these custom stations, Pandora.

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⁶⁵ Straubhaar, LaRose, Davenport, p.134
Chapter 3

Pandora

History of Company

Most Internet radio stations have the standard radio structure. There is a DJ who makes a playlist of songs that can be heard by any number of listeners. Each person who tunes in hears the same song at the same time. Only a few streaming stations have taken advantage of digital technology to develop a new, more personal model for radio. The most successful of these innovative stations is Pandora.

Unlike many Internet radio station that stream the same preselected playlists to all of its listeners, Pandora employs a different webcasting method. Pandora Internet radio is based on the Music Genome Project. The music genome is a proprietary method to analyze music, using 400 music qualities, or genes. Among the musical attributes important to Pandora are basics like harmony and rhythm, less obvious traits like different key tonalities and dissonance, and some genes that only true musicians can notice, like acoustic guitar layering and mid-tempo shuffle feel. Categorizing all of these genes requires Pandora-employed musicians to analyze every song for about 20 to 30 minutes before adding it to the Pandora database. The Pandora site eschews automation in favor of actual human musicians doing data entry. According to Pandora, only humans can properly pick up on the nuances of songs. The musicians at

66 Castelluccio, “The Music Genome Project”
67 Sirius, “Closing Pandora’s Box: The End of Internet Radio.”
Pandora have carefully listened to songs of tens of thousands of different artists to properly categorize the songs on Pandora’s database. The founder of Pandora, Tim Westergren, says in the Chicago Tribune’s article “Welcome to Custom-Made Online Radio,” “Our system is very, very different in that it doesn’t use other people’s tastes at all to recommend stuff for you… By definition, a collaborative filtering program is a popularity contest.”

At Pandora, songs are played regardless of their fame and celebrity status.

For the Pandora user, the website works simply. The user enters the name of a song or an artist to make a “station.” A user can name up to 100 stations. Pandora then streams a radio station that plays songs with similar genome profiles to the listener’s choice (see Figure 3-1). The user can give a thumbs-up or thumbs-down vote on the song to help guide Pandora and/or add additional seeds to the station (see Figure 3-2). Users can also add variety to their custom stations by requesting more songs and artists on one station. In this way, users shape the content of their own player and become active members of the Genome community, which is a far cry from choosing from one of the mere 20 stations on traditional radio. “Because of Pandora’s music gene approach, unusual combinations emerge and bands one would never imagine can appear next to each other,” says Althea Legaspi in the Chicago Tribune article. Today, approximately 8 billion thumbs and 1.4 billion stations have been utilized by users of Pandora.

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68 Legaspi, “Welcome to custom-made online radio”
69 Castelluccio, “The music genome project”
70 Legaspi “Welcome to custom-made online radio”
Figure 3-1: Pandora’s Home Screen
Here, the Pandora station is playing music with music genomes similar to those of Iron & Wine.
Source: Pandora.com
Fig 3-2: Thumbs Up
A close-up screen shot of the Pandora page shows a selected “thumbs-up.” This is clicked if the user wants more songs similar to the one played. Source: Pandora.com

Pandora promises individual engagement in order to get collective feedback. The radio station also provides bookmarks for songs the user wants to remember and gives brief biographies of each artist. For every song played, there are hyperlinks to where the user can buy the single on iTunes and Amazon.com (see Figure 3-3). In addition, Pandora gives its listeners a list of other users listening to the same artist and shows friends of the user that like the band.
The music genome project has allowed Pandora to become the largest and fastest growing online music site. The webcaster has seen a steady increase in the number of users registered for the site and in the total listener hours. Figures 3-4 and 3-5 show these increases by each quarter of the years 2009, 2010, and 2011.
Figure 3-4\textsuperscript{71}: Total Pandora listener hours by quarter (in millions).

Figure 3-5\textsuperscript{72}: Total registered Pandora users by quarter (in millions). Source \textit{Both charts from PANDORA MEDIA, INC registration statement.}

\textsuperscript{71} PANDORA MEDIA, INC., p.4
\textsuperscript{72} PANDORA MEDIA, INC., p.4
Pandora started because musician Tim Westergren struggled to get his music noticed. After his band fell apart in 1995, Westergren wanted to start a company that would let musicians’ songs be heard. Savage Beach Technologies was born and Westergren raised $1.5 million in capital for the company. However, two years later Savage Beast had 50 employees and no money.

In 2004, $9 million was invested into the company, renamed Pandora Media, Inc. When Pandora eventually went live, it had to double its capacity three times in the first week to accommodate for all of the site’s activity. After adjusting its business plan, going through changes in format, and developing an advertising platform, Pandora kept gaining listenership. However, royalty rates were so high that, according to Westergren, the costs for streaming music were unsustainable under the business model at that time. Since then, new statutes have been put in place and Pandora has made $90.1 million in revenue. However, the webcaster still remains unprofitable, suffering a $328,000 loss.\(^\text{73}\)

By 2008, there were 35,000 users joining the site each day and an iPhone application for Pandora was created. Subsequently, the app became available on Blackberry and Android phones, and Pandora’s audience doubled. As of January 2011, the Pandora app became the second most popular app of all time.

Driven in large part by the popularity of the Pandora apps, growth in the overall smartphone market, and increased adoption of the traditional computer-based service, Pandora had 22 million registered users by the end of 2008.\(^\text{74}\)

\(^{73}\) Metz, “Pandora Tunes Up For IPO, Looks to Raise $100M.”

\(^{74}\) PANDORA MEDIA, INC., p.44
“Pandora’s Box” in Broadcast Engineering. “Pandora's mass media box has been opened, and the media conglomerates no longer have as much power to control what we see.”

Since Pandora has become popular, there are several similar Internet radio sites that have also received a lot of attention. Internet radio services like Grooveshark and Musicover are popular and have business models similar to Pandora’s, with some twists. For example, Grooveshark allows its users to choose some specific songs on demand, while Musicover chooses songs based on the user’s mood, instead of based upon a music organizer or song genome. Like Pandora, these alternative Internet radio sites, have seen increased success in recent years.

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75 Birkmaier, “Pandora’s box”
Current Operations

This “never-ending music discovery,” as Pandora calls the streaming of its music, is expensive to run. Being a webcaster, Pandora is required to pay royalties to the copyright owners of both sound recordings and the underlying musical works themselves. Royalties are negotiated with and paid through performance rights organizations such as SoundExchange for sound recordings and BMI, ASCAP, and SESAC for musical works. (There is more on the entities involved in rate setting in Chapter 4.) Royalties are calculated using negotiated rates documented in master royalty agreements and based on revenue earned or other usage measures. If Pandora and rate collecting companies cannot agree on royalty rates, the disputes are resolved by the Copyright Royalty Board. (There is more on Pandora’s adherence to royalty laws in Chapter 5.)

To make money and offset the cost of royalty fees the site is required to pay, Pandora offers listeners a free service with advertisements or, less commonly, a subscription service called Pandora One (see Figure 3-6). Subscriptions are $30 a year, while the free service subjects listeners to national and local ads (see Figure 3-1). Through Pandora, advertisers can reach individual listeners based on the user’s age, zip code, and musical preferences. The substantial majority of Pandora’s revenue is derived from the sale of display, audio, and video advertising across the computer, mobile, and

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76 PANDORA MEDIA INC., p.2
77 PANDORA MEDIA INC., p.76
other connected device platforms. Revenue growth for Pandora has been principally attributable to selling display advertising, and listener hours define the number of opportunities Pandora has to sell advertisements.\(^{78}\)

Figure 3-6: Pandora One, Pandora’s ad-free subscription service.  
Source: Pandora.com

Ads are typically sold on a cost-per-thousand impressions, or CPM, basis. Advertisers pay Pandora based on a minimum number of compressions or the satisfaction of other criteria, such as click-throughs. In the 2010 fiscal year and the nine months that

\(^{78}\) PANDORA MEDIA INC., p.11
ended October 31, 2010, advertising revenue accounted for 90.9% and 86.4%, respectively, of the site’s total revenue. 79

One of Pandora’s largest expenses is the royalty rate it must pay to stream or publicly “perform” music. Unlike traditional radio stations that are only required to pay for licenses of musical compositions, Pandora and other Internet radio stations must pay for the licenses to the musical composition and the sound recording. The reason for this difference is the subject of the next chapter.

79 PANDORA MEDIA INC., p.46
Chapter 4

Regulation of Streaming Music

Copyright and Traditional Radio

Today, the term “copyright” protects works not only from being copied, but also from being used unfairly through derivative works rights, performance rights, and display rights. Copyright law is meant to, as Article I, Section 8 says, “promote the progress of science and the useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” Copyright protects “original works of authorship,” and its basic purpose is to provide incentive for new works to be created. It allows the creators of a work to let others use their creation in exchange for royalty payments. Under copyright, creators of works can sue infringers for violating copyright law and illegally using their work. Since the cost of copying many musical works is practically zero, copyright law prevents people from becoming free riders, people that use the content without paying for it. With copyright, it is more likely that creators of works will make back their initial investments, therefore, they will be more inclined to invest the time, money, and other resources necessary to create the work.

Copyright in the United States is governed by federal statutes. In the early 1800s, before music was ever recorded, sheet music was copyrightable. It was not until 1909 that copyright law dealt with public performances of live or recorded songs, and then in

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80 McGregor, Driscoll, McDowell, p.273
81 McGregor, Driscoll, McDowell, p.273
82 Varian, “Copying and Copyright”
1971 the law was amended to protect “sound recordings” against unauthorized copying. This amendment to the law was made as a response to the problem of bootlegging (illegally copying) sound recordings. The copyright protection of sound recordings gave credit to the creative contributions by the performers, engineers, and producers who oversaw the recording session and post-recording production. Before that, those artists who participated in the recording process went unrecognized in music copyright.  

With traditional over-the-air radio, stations have to pay for the right to perform a song, but they do not have to pay to perform the sound recording itself. Although recordings of songs have two distinct copyrights, traditional radio stations have only been required to pay public performance royalties to the songwriter, but not to the musicians that made the sound recording. As Professor Jackson says, “Lack of performance right for sound recordings is an anomaly in the law.” Meanwhile, webcasters must pay royalties for both the underlying musical composition and the sound recording. (More on this rate discrepancy in the next two sections.) Songwriter royalty payments are collected by performing rights organizations (PROs) like the American Society of Composers, Authors, and Publishers (ASCAP), started in the early 1900s.

In the early 1920’s, ASCAP demanded performance royalties for songs being played over the radio, just as concert halls paid royalties for live performances of songs. After stations argued that they should not pay to play songs, ASCAP threatened to file suit. As a result, some stations dropped the music that was controlled by ASCAP, and in 1939 radio executives founded Broadcast Music, Inc. (BMI) to compete with

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83 Joyce, Leaffer, Jaszi, Ochoa, p.171
84 Jackson, p. 451
85 Sterling & Kittross, p.99
Contracts for ASCAP and BMI come up for renewal every three to five years, so in the future there will be more disputes over the royalty rates paid to these PROs.  

At this time, the recording industry lobbied Congress to create a public performance right for sound recordings in addition to the already existing right granted to songwriters. The radio industry was able to persuade Congress that radio play led to increased record sales and that this was sufficient compensation to record labels for using their sound recordings on the air. Thus, to this day, terrestrial radio stations are not required to pay a public performance license for the use of sound recordings.

Internet radio differs from other forms of music distribution in two important respects. First, streaming technology allows the user to start listening to a song while the file is still downloading. In traditional downloads, the file must finish downloading completely before it can be played back. Second, when the performance is complete, there is no copy of the file remaining on the user’s hard drive. Because of this, the streaming song is considered a public performance rather than a reproduction of the copyrighted work. Since music recordings contain two separate copyrights: the copyright in the underlying musical composition (the song) and the copyright in the musician’s of the composition (the sound recording), a webcast must obtain permission to reproduce and perform both the musical composition and the sound recording. (Hence, webcasting royalty rates can add up.)

Up until 2009, most stations have operated under blanket licenses to copyright licensing organizations, meaning they paid a certain annual percentage of their income to

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86 BMI, “About BMI: Tradition”  
87 Sterling & Kittross, p.579  
88 Jackson, p.450
the PRO.\textsuperscript{89} Since then, PROs like ASCAP and BMI have had extension agreements with radio stations until their new license agreements are released for the next few years.\textsuperscript{90}

\textsuperscript{89} Sterling & Kittross, p.273
\textsuperscript{90} BMI, “About: Music Licensing”
Music Industry Concerns Regarding Streaming

Before traditional radio proved that it contributed to the sales of records, record companies were worried about it doing the opposite. With the advent of streaming music, record companies again feared that the purchase of records would be substituted by this new kind of radio. Although record companies and performers did not earn copyright royalties from when their songs were played on the traditional radio, the new form of radio gave labels a new opportunity to make a case for a public performance right for sound recordings. Congress responded by granting a public performance right for satellite radio and Internet radio while exempting broadcasts made using terrestrial radio. Through royalty collector SoundExchange, record labels could collect the performance right royalties that they were denied in terrestrial radio. In a commentary, the executive director of SoundExchange writes this about collecting royalties from streaming music,

> In the digital economy, these revenue streams are increasingly made up of fractions of pennies, multiplied by billions of transactions. Happily, those billions of bits can sustain the future of music—provided that each of those pennies finds its way to the musical creator who earned it, and each creator knows how to find his share.  

SoundExchange and record labels argued that the collection of performance royalties in streaming music was necessary nourishment for the recording industry.

> Although groups like the RIAA do not support the lowering of royalty rates for webcasters, Internet radio sites such as Pandora have had some lobbying help in Congress to argue for what they consider to be more reasonable royalty rates. Since the 1990s, Internet radio stations have dealt with ongoing legal battles to lower rates.

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91 Simson, “Your creative work should keep making money for you”
Legislative Response

In 1995, the Digital Performance Right in Sound Recording Act (DPRA) was introduced as a response to new technology in music broadcasting. It was meant to govern the digital transmissions of songs by amending the Copyright Act of 1976 and granting a limited public performance right in sound recordings. The ruling granted separate rate structures for both interactive and non-interactive radio services. The interactive stations had the most stringent level of copyright licensing, since these services were most influenced by the listener and more likely to substitute for the purchasing of songs. Interactive services had to negotiate performance licenses with both the copyright owners of the transmitted musical compositions and the copyright owners of the sound recordings. However, the rate structures for non-interactive stations were unclear under the DPRA, which has been criticized as “one of the most convoluted and unreadable laws ever passed” and a “perfect example of interest-group policymaking that has been the hallmark of copyright legislation since the beginning of the 20th century.”

The act did not specifically address Internet radio technology since webcasting was an emerging industry. When the law was first passed, Internet music was primarily used as background entertainment on websites. As streaming technology developed, amateurs, hobbyists, and commercial businesses began creating experimental online radio stations, similar to how terrestrial radio developed in the early 1900s.

Just three years after the DPRA, the Digital Millennium Copyright Act (DMCA) modified the copyright law to address the emerging streaming music technologies. The

92 Myers, p.439
earlier law had not adequately addressed how copyright law would apply to streaming broadcast. Under the DPRA “non-subscription transmissions” were exempt from paying statutory fees. This meant Internet radio stations would not have to pay royalties unless they were subscription-based services. Webcasters that relied solely on advertising could avoid payment. The DMCA extended statutory licensing to cover eligible non-subscription transmissions, thereby covering the loophole that had exempted non-subscription Internet radio stations from the DPRA. It also modified Section 114d of the copyright law that defined interactive services as those that offer songs on demand. After the DMCA was enacted, the independent, nonprofit organization SoundExchange was made the sole entity to collect and distribute performance royalties to record labels and independent artists. For webcasters, SoundExchange was responsible for collecting copyright royalties for performers, while the PROs (ASCAP, BMI, SESAC) were still in charge of collecting performance royalties for songwriters.

The entity responsible for setting the rates that SoundExchange would collect was the Copyright Arbitration Royalty Panel (CARP). The CARP was established to negotiate fair rates for webcasters and recording artists based on what would have been negotiated in the marketplace between a willing buyer and willing seller. The panel had from November of 1998 to February of 2002 to develop the royalty schedule and terms of rates.

In February of 2002, the CARP had to give its royalty rate report the United States Copyright Office. The panel said that the rates would be 7 cents per 100

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94 Myers, p.441
95 Jackson, p.463
performances on webcasts. Small webcasters claimed this per-performance metric of rate measurement would make it difficult for them to survive.

There was much negative response to the royalty rates decided upon by the CARP. Articles published in response to the CARP decision had headlines like “Not music to their ears,” “Labels to strangle Internet radio,” and “The last frontier of independent programming is under siege.” As a result, Congress enacted the Small Webcaster Settlement Act of 2002 to give smaller webcasters temporary relief until a different set of royalty rates was set.

Between 2005 and 2007, the Copyright Royalty Board (CRB) heard evidence from RIAA and the Digital Media Association (DiMa) on behalf of webcasters. In March 2007, CRB and SoundExchange established another royalty rate system. Many webcasters were publicly displeased with the new set of rates. According to Pandora founder Tim Westergren, the new rates would “ruin Internet radio.” In April of 2007, Westergren founded SaveNetRadio in response to the new royalty rates. A number of webcasters joined SaveNetRadio and ran a national campaign to affect change in rates. In a Pandora blog post about SaveNetRadio, Westergren wrote:

The last couple weeks have made it quite clear to us that it's going to take nothing short of a major public outcry to reverse the results of this concerted campaign by the RIAA to shutter Internet radio. Westergren and other webcasters campaigned for change on Capitol Hill.

In a June 2007 hearing House of Representatives about the impact of the CRB decision to increase royalty rates, congressmen, webcasters, artists, and representatives

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96 Jackson, p.466  
97 Pandora, “Blog”  
98 Pandora, “Blog”
from SoundExchange and RIAA discussed the royalty rates that had been established. At
the hearing, Representative Jay Inslee (D-WA) said there were failures of the CRB’s
decision:

“One, they dramatically raised the per-song fee…second, the groups curiously
adopted the per-station minimum fee... for Real Networks, Pandora, and Yahoo
will be over $1.15 billion under this particular structure. These new rates will
dwarf the radio-related revenues by substantially more than a billion dollars.”99

Clearly, Pandora and other Internet radio stations wanted the CRB to change their
royalty-collecting fees.

To SoundExchange, however, the rates established seemed fair since, according
the law review titled *The RIAA, The DMCA, and The Forgotten Few Webcasters*, “The
ruling by the CRB gave SoundExchange nearly everything they asked for.”100 The
executive director of SoundExchange, John Simson, said in a Senate hearing about
assuring fair royalty rates,

“Webcasters want to pay less so they can make more. The problem is they want
to pay less than what was judged fair by an impartial panel of judges [the
CRB].”101

Simson was obviously not keen on revising the rate structure.

At this point, Pandora, considered to be an Internet radio giant, said it was on the
verge of shutting down with royalty fees constituting 70% of its projected revenue of

99 *Full Committee Hearing on Assessing the Impact of Copyright Royalty Rates on
the Recording Artists and Webcasters, 110th Cong. p.38* (statement of Inslee,
Washington Congressman).
100 Myers, p.450
Platforms, 110th Congress Cong. p.12* (statement of Simson, SoundExchange
Executive Director).
$25M for 2008. The president and chief executive officer of Pandora Media Inc., Joe Kennedy, said at the Senate royalty rate hearing,

“The royalty rates exceed the total revenue of the average Internet radio service, leaving nothing to cover the many other costs of business… the CRB royalties would cost us over $18 million this year… a crushing amount.”

Kennedy said Pandora could simply not pay the royalties proposed by the CRB.

Other legislation was proposed by lawmakers who disagreed with the rates established by the CRB. Rep. Inslee proposed the Internet Radio Equality Act in April 2007 on behalf of the webcasters. This bill, supported by SaveNetRadio, Pandora, and DiMa, (but not SoundExchange) made Internet radio royalty rates similar to those of satellite stations. The bill never became law. In February 2009, Sen. Patrick Leahy (D-VT) introduced the Performance Rights Act (PRA). This ruling would amend the Copyright Act by forcing traditional radio stations to pay royalties to the performers of sound recordings like the Internet radio stations had been ordered to do. The PRA sought to create a more balanced royalty structure by leveling the playing field of who pays royalties. In a hearing about the PRA, Representative John Conyers, Jr. (D-MI) outlined the copyright issue with traditional radio that the PRA sought to remedy:

“I think that it is fair to say that the current situation involving recording artists is not one we can be very proud of. We hear a song on the radio and someone is singing or playing melodies, who receives absolutely no compensation.”


103 Performance Rights Act: Hearing Before the Committee on the Judiciary House of Representatives. 111th Cong. p.13 (statement of Conyers, Michigan Congressman)
Vocalist and lead guitarist for The Smashing Pumpkins, Billy Corgan, agreed that withholding royalty payments from performers is wrong and outdated. In that same hearing, he said,

“The change to the law… redresses an outmoded, unfair practice that favors one participants needs over another. This legislation is simply a form of restoration to artists long overdue.” 104

Although many lawmakers and musicians like Conyers and Corgan have been in favor of the PRA, the bill never became law.

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104 Performance Rights Act: Hearing Before the Committee on the Judiciary House of Representatives. 111th Cong. p.29 (statement of Corgan, musician)
Current Webcasting Rules

In 2009, a bill modifying the royalty rates for webcasters did become law. The Webcaster Settlement Act of 2009 (WSA) gave SoundExchange and webcasters the chance to establish their own royalty rates for the performance of sound recordings, in lieu of the license rates determined by the CRB.\(^{105}\) SoundExchange was given the authority to negotiate rate structures, which were then agreed to by both parties and entered into the Federal Register as part of the statute. Under the WSA, different types of streaming stations pay varying rates. For example, “interactive” stations, as defined by copyright law, follow different royalty payment plans than non-interactive stations. (There is more on the difference between interactive and non-interactive stations in Chapter 5.) Currently, about 95% of SoundExchange’s licensees pay one of the alternative rates proposed by SoundExchange.\(^{106}\)

The WSA was an experimental formula including revenue-sharing for most services and stronger reporting requirements in exchange for a discount on per-stream rates.\(^{107}\) The agreement applies to all commercially-released sound recordings streamed by webcasters. (To see the rates Pandora and other similar pureplay webcasters pay to SoundExchange see Chapter 5.) Most of these negotiated rates expire in 2015, so SoundExchange will need to negotiate new rates for after that time.

\(^{105}\) H.R. 2344: Webcaster Settlement Act of 2009
\(^{106}\) Anderson, Laura. Personal email from Info@SoundExchange
\(^{107}\) Radio, “Sound exchange and pure play webcasters reach experimental rate agreement.”
An important part of the licensing structure created by Congress is that non-interactive Internet radio stations are eligible for a statutory licensing scheme, while interactive Internet radio stations must negotiate individually with copyright owners. A station that is interactive according to Section 114 of copyright law, is “one that enables a member of the public to receive a transmission of a program specially created for the recipient, or on request, a transmission of a particular sound recording, whether or not as part of a program, which is selected by or on behalf of the recipient.”108

As technology changes, a key issue is whether innovative stations like Pandora still qualify as non-interactive under copyright law. The final chapter discusses this topic.

108 17 U.S.C.S. § 114
Chapter 5
Pandora and Copyright

Analysis of Pandora’s Compliance with the Current Law

Since Pandora is a streaming music station, it must pay royalties to copyright owners of both the sound recordings and the underlying musical works themselves. These sound recordings royalties are collected by SoundExchange and the musical works royalties are collected by performing rights organization (PROs) like BMI, ASCAP, and SESAC. The current rate structure of the sound recording royalty payments were established in the Webcaster Settlement Act (WSA).

In 2009 under the WSA, SoundExchange offered nine different optional agreements for webcasters ranging from small non-commercial stations to SIRIUS XM satellite radio. Pandora and several other webcasters negotiated their own royalty rate agreement with SoundExchange in the “Pureplay Settlement.”

The Pureplay Settlement applies to Pandora and other pureplay webcasters, which are webcasters that are not intending to sell or promote any other service or product, but rather are focused on offering streaming music as their primary service. Under the Pureplay Settlement, Pandora must pay whichever royalty rate is greater: either a per-performance rate for each song played or 25% of Pandora’s total revenue. For Pandora’s service, royalty rates are paid on a per-spin rate for the sound recordings that Pandora streams on their ad-supported, free stations. This service allows listeners a

109 SoundExchange, “Pureplay/Small Pureplay”
110 SoundExchange, “Pureplay/Small Pureplay”
maximum of 40 listener hours per month. Pandora is required to supply census recording in accordance with these terms.

The per-performance option of the Pureplay Settlement requires that Pandora pay the following rates:

**Pureplay Settlement Rates for Free Station**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate Per Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>$0.00093</td>
</tr>
<tr>
<td>2010</td>
<td>$0.00097</td>
</tr>
<tr>
<td>2011</td>
<td>$0.00102</td>
</tr>
<tr>
<td>2012</td>
<td>$0.00110</td>
</tr>
<tr>
<td>2013</td>
<td>$0.00120</td>
</tr>
<tr>
<td>2014</td>
<td>$0.00130</td>
</tr>
<tr>
<td>2015</td>
<td>$0.00140</td>
</tr>
</tbody>
</table>

*Figure 5-1* [111] Source: SoundExchange.com

The royalty rates paid for the $30 per year subscription Pandora service are higher than those of the free station, because the subscription station allows for unlimited listener hours. The rates under Pureplay Settlement for streams of sound recordings via Pandora’s subscription service are the following:

[111] SoundExchange, “Pureplay/Small Pureplay”
Pandora Radio is clearly a pureplay station, because its “primary business is to transmit sound recordings under the statutory license, and not to sell or promote any other service or product.” However, it has not always been obvious whether Pandora radio is “interactive.” According to Section 114 of the Digital Millennium Copyright Act (DMCA), a station is considered interactive if it plays a particular song by request or if it receives a transmission of a program “specially created” for the user. The law was structured to financially penalize those streaming stations that were seen as potential substitutes for the purchase of records. It is assumed that the more control a listener has over his song choice, the less incentive the listener has to purchase the song. Similarly, if an Internet radio station publishes its playlist in advance, listeners will be more likely to “rip and burn” (illegally record) the streaming songs, adversely affecting record sales.

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**Figure 5-2** Source: *PANDORA MEDIA, INC. registration statement*

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate Per Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>$0.0017</td>
</tr>
<tr>
<td>2012</td>
<td>$0.0020</td>
</tr>
<tr>
<td>2013</td>
<td>$0.0022</td>
</tr>
<tr>
<td>2014</td>
<td>$0.0023</td>
</tr>
<tr>
<td>2015</td>
<td>$0.0025</td>
</tr>
</tbody>
</table>

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112 PANDORA MEDIA, INC., p.76  
113 SoundExchange, “Pureplay/Small Pureplay”  
114 17 U.S.C.S. § 114
Pandora is highly customizable, but if deemed “interactive” under copyright law, it would not qualify for discounted royalty payments. The vague wording of the copyright act makes it unclear whether Pandora Radio should pay the higher royalty rates of an interactive station (as opposed to a non-interactive one).

Pandora sort of plays songs by request. The site streams songs similar to the song or artist the user selects as his or her Pandora station. However, Pandora does not play a specific song or artist on demand.

Pandora sort of has programs that are specially created for the user. The user customizes his or her Pandora station by giving “thumbs-up” or “thumbs-down” to the music that is played. This feedback makes the station stream songs with musical traits similar to the songs that the listener likes.

To determine whether Pandora should be considered interactive, it is instructive to look at a recent court case that involved a similar Internet radio service. In 2001, Arista Records sued LaunchMedia for copyright infringement, arguing that Launch fit the copyright law definition for interactive service and was therefore ineligible for the established royalty rate.\(^\text{115}\)

LAUNCHcast was an Internet radio website comparable to Pandora in a number of ways (see Figure 5-3). Like Pandora, LAUNCHcast allowed users to create their own “stations” of a particular genre or of a style similar to a certain song or artist selected by the user. Also, LAUNCHcast had a system, like Pandora’s thumbs-up and -down system,

\(^{115}\) Arista Records v. Launch Media 578 F.3d 148; 2009 U.S. (2d Cir. 2009), **1
which allowed users to rate the songs streamed on the station and guaranteed that a song
given a thumbs-down would not be replayed.

<table>
<thead>
<tr>
<th>Webcaster Trait</th>
<th>LAUNCHcast</th>
<th>Pandora</th>
</tr>
</thead>
<tbody>
<tr>
<td>User creates “stations”</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>User rates songs</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Playlists unique to each user</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Negative rating ensures</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>song won’t be played again</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5-3: Comparison of the sites LAUNCHcast and Pandora**

BMG, an international group of music companies, claimed that LAUNCHcast
was an interactive service. If LAUNCHcast were to be deemed interactive under the
DMCA, LAUNCHcast would be required to obtain individual licenses from BMG to play
music from BMG’s sound recordings between November 1999 and May 2001, rather
than being eligible to pay the established non-interactive rates to SoundExchange.
LAUNCHcast would be considered interactive if it "enables a member of the public to
receive a transmission of a program specially created for the recipient, or on request, a
transmission of a particular sound recording … which is selected by or on behalf of the
recipient."\(^{116}\)

The appeals court held that LAUNCHcast was not interactive under the “on
request” part of the interactive definition, but that the wording “specially created” was
unclear. The Court of Appeals for the Second Circuit determined that although each
playlist generated on LAUNCHcast is unique to that user at a particular time, that does

\(^{116}\) 17 U.S.C. § 114d
not mean that the site had a playlist “specially created” for the user. The court reasoned that LAUNCHcast playlists were not specially created for a few reasons. One, the site selects some songs at random from a hashtable to start a playlist (the court based their reasoning on a playlist of fifty songs). Two, LAUNCHcast does not play the same song twice on a playlist. Three, LAUNCHcast excludes a song from a playlist if three songs from that artist have already been selected for that playlist. Four, LAUNCHcast excludes a song from a playlist if two songs from the same album have already been played. Five, if a song being reviewed for selection is from an artist or album that is already on the playlist, that song is excluded from the list. The only thing that a LAUNCHcast user could fully control was the rating system. If the user gave a song rating of zero, then the song would definitely not be played again.

To be considered non-interactive under Section 114 of copyright law, an Internet radio station cannot play a specific song or artist right away, cannot play more than four songs credited to the same artist in one three-hour period, cannot have a playlist of only certain songs or artists, and cannot allow for an unlimited number of song skips. These rules are meant to distinguish a non-interactive station from one that could serve as a substitute for the purchase of music.

In the court’s opinion, LAUNCHcast was not seen as a replacement for records and, therefore, not as an interactive site:

It is clear that LAUNCHcast does not provide a specially created program within the meaning of section 114 because the webcasting service does not provide sufficient control to users such that playlists are so predictable that users will

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117 Arista v. Launch Media, Inc. 578 F.3d 148; 2009 U.S. (2d Cir. 2009), **33
118 Pandora, “Why can’t my Pandora station do certain things?”
choose to listen to the webcast in lieu of purchasing music, thereby- in the aggregate- diminishing record sales.\textsuperscript{119}

Though BMG pointed out that LAUNCHcast was marketed as “interactive” to the public, that fact was irrelevant to the webcaster’s compliance with Section 114 of the copyright law. The court ruled that Launch Media, Inc.’s LAUNCHcast Internet radio was not interactive, saying In short, to the degree that LAUNCHcast’s playlists are uniquely created for each user, that feature does not ensure predictability… Therefore, we cannot say LAUNCHcast falls within the scope of the DMCA’s definition of an interactive service created for individual users.\textsuperscript{120}

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\textsuperscript{119} Arista Records v. Launch Media, Inc., 578 F.3d 148, (2d Cir. 2009), **40
\textsuperscript{120} Arista Records v. Launch Media, Inc., 578 F.3d 148, (2d Cir. 2009), **46
\end{flushleft}
Pandora Radio also appears to comply with the conditions for a non-interactive site by Section 114 of the U.S. Copyright Act. Pandora does not stream a particular song right away, or “on-demand,” and does not play four songs by the same artist in one three-hour period. In addition, the station does not allow for any rewinding or immediate replay, and only allows six skips per hour and twelve skips per day.\textsuperscript{121}

To skip a song on Pandora’s free, ad-supported site, a user can give a song a thumbs-down, press the skip button, or click “I’m tired of this song.” Users can skip the same way on Pandora One, the company’s subscription service, but there the daily skip limit is removed. Infinite skips are allowed on Pandora One because paying for the Pandora subscription covers the cost of additional royalty fees the webcaster needs to pay for allowing any number of skips.\textsuperscript{122}

If Pandora were considered an interactive service under the Copyright Act, then it would need to negotiate separate license agreements with each copyright owner of every piece of music it played. Under the court’s analysis in the LAUNCHcast case, Pandora appears to qualify as a non-interactive streaming website, and so Pandora has followed the laws for that type of site. It is unclear, however, whether new Internet radio sites like Grooveshark and Musicover completely comply with the law.

Under RIAA’s list of popular online music sources, Pandora is named, but neither Grooveshark nor Musicover are listed.\textsuperscript{123} Though Grooveshark streams a random playlist like Pandora does and allows users to give feedback (it has happy and sad faces instead of Pandora’s thumbs), the site has a few traits that seem characteristic of an

\textsuperscript{121} Pandora, “Why can’t my Pandora station do certain things?”
\textsuperscript{122} Pandora, “Why can’t my Pandora station do certain things?”
\textsuperscript{123} RIAA, “Legal Music Sites.”
interactive station. Grooveshark allows for songs to be played “on demand” and it also lets users change the order of their playlists. Musicover is like Pandora in that it plays an unpredictable stream of songs and has room for feedback (full and broken hearts instead of thumbs this time). However, the station differs from Pandora because its users can make a playlist based on a number of different factors including mood (how dark/positive, energetic/calm the user is feeling), eras, popularity, and genre. Since this method of song selection is so different from Pandora’s and LAUNCHcast’s, it is difficult to determine whether Musicover playlists are “specially created” for their users. However, it is likely that Musicover would not be deemed interactive since the songs it streams for its listeners are unpredictable.
Impact of Pandora on Music Industry

Pandora has seen rapid growth as an Internet radio station. The site began partnering with manufacturers of home entertainment systems and other consumer electronics products in 2006 to integrate the Internet radio service with their products. Pandora is available on several televisions, Blu-Ray Players, table-top devices, digital media players, and home theatre systems. In 2009, Pandora worked with major automobile manufacturers to introduce the Internet radio station to cars. Now, Pandora is available in several cars, including select models of Ford Motor Company, Mercedes Benz, and MINI (BMW Group) vehicles.\footnote{Woodyard, “Now Pandora audio will stream in your Mercedes-Benz”} The automobiles are equipped with special dashboard controls and voice-activated sync systems that allow the driver to request specific Pandora stations. The Apple iPad also provides a free, downloadable Pandora app that provides extensive info on artists and has space for advertising.

With more than a 50% share of all Internet radio listening time among the top 20 stations and networks in the US\footnote{PANDORA MEDIA, INC., p.1} and approximately a 2% share of total US radio listening hours, Pandora Media, Inc. is today’s most popular webcaster.\footnote{The Infinite Dial 2010: Digital Platforms and the Future of Radio.} The site has more than 80 million registered users in the United States, over 800,000 songs in its music collection, and, as of January 31, has streamed approximately 3.9 billion hours of radio listening.\footnote{PANDORA MEDIA, INC., p.3} Pandora is changing the face of music listening by granting unknown music artists the platform to broadcast their songs to a captive audience. The webcaster...
has popularized artists such as musician Matt Nathanson, who said this in a Senate hearing about Internet radio.\footnote{\textit{Full Committee Hearing Assessing the Impact of the CRB Decision to Increase Rates on Recording Artists and Webcasters, 110\textsuperscript{th} Cong. p.19} (statement of Nathanson, musician).}

“The Internet has changed the way I run my business. It has changed the way my music is heard. It has changed the discovery process for the music listener. And it has leveled the playing field for the artists. All of this change is good, including the birth of iTunes, YouTube, Pandora, MySpace, Rhapsody… Today, if a person makes a record, he or she does not have to struggle and fight as much to find their audience… With the Internet, there is no audition process for a label contract. There is no shelf space to compete for … Internet radio is such a crucial part of this new business. I cannot tell you how many times people have come up to me at shows and said, ‘The first time I heard you was on Pandora… now I am a fan.’”
Recommendations

The rates Pandora will have to pay to SoundExchange in music royalty fees will continue to rise in the next few years. The Pureplay Settlement, though a step in the right direction, charges increasingly high royalty fees to large webcasters like Pandora. By 2015, Pandora will be required to pay about 25% more than it does this year, and the site has yet to earn turn a profit. Under the Webcaster Settlement Agreement, Pandora is required to pay substantially larger royalty fees to SoundExchange and PROs, because it is assumed that the site will be “more established” by then, and therefore able to withstand the financial hit caused by royalty rates.

Regardless of Pandora’s level of establishment, the royalty rates for the site should not increase. Already Internet radio stations are required to pay for one more music license than terrestrial stations are. Increasing the rates that streaming music services pay in royalties would likely prevent any new streaming music sites from being created, thereby silencing avenues for possible music discovery. Though increasing royalty rates might give artists marginally more royalty payments, that does not mean that doing so is beneficial.

As Figure 2-4 shows, CD sales have dropped in recent years. However, digital purchases and performance rates have steadily increased as the Internet radio has gained popularity. Though it is impossible to determine whether streaming stations are the cause of the decline in CD sales, the rise in digital sales, or neither, Internet radio stations have definitely helped popularize many recording artists.

Stations like Pandora actively encourage online music buying by providing hyperlinks to iTunes and Amazon, where users can immediately purchase the song they
are listening to. Though, that does not mean people who stream music will purchase the music they are enjoying on Internet radio, exposure on streaming music sites does help an artist gain popularity. If an artist who gains popularity decides to go on tour, then he or she will likely sell more tickets with Pandora’s help.

True, the economic recession has caused a decrease in American spending on sources of entertainment, like concerts. One study shows that attendance at North American concerts dropped 24.4% in 2010 and the total number of concerts dropped by 16%.129 However, music festivals like Bonnaroo have not seemed to have suffered this same fate as one-act tours have.

In 2007, when CD sales had a huge drop in prices, Bonnaroo sold all of its 80,000 tickets.130 Since then, the four-day music festival in Tennessee has remained popular with over 75,000 tickets sold last year at more than $200 per ticket.131 This year, a number of new artists will be performing at Bonnaroo. Most of the musicians performing don’t play mainstream, popular music. Instead many artists on the Bonnaroo 2011 roster play a multitude of genres including indie rock (Deas Vail), neo-soul (Fine Peduncl), and noise pop (Sleigh Bells).132 It seems that many of these performers garnered much of their fan base via the Web and streaming music stations, since many of the artists featured do not have a strong terrestrial radio or TV presence.

Attending a giant music festival is something that can’t be downloaded illegally. This concert-going experience can’t be pirated or replicated. Instead, music fans need to

129 Knopper, “Rock & roll: Concert biz collapses as fans flee”
130 Billboard.com, “Bonnaroo Box Office Numbers Go Through the Roof”
131 Sundermann, “Bonnaroo By the Numbers”
132 Bonnaroo, “Artists.”
buy a ticket in order to cheer on the live band, dance on the lawn, and meet fellow music fans. Internet radio stations are important for developing fan bases for these irreplaceable music shows.

However, some artists may already have enough followers to sell out concerts, and may feel cheated by Internet radio royalty rates that are stagnant. Other artists may not want to tour or be able to tour because of family circumstances. Therefore, I propose this amendment to copyright law regarding streaming music services: an opt-out system. If some musicians do not agree to continue accepting the royalty rates where they are now (as opposed to the 25% increase in rates), then these artists could choose to opt-out of agreements with SoundExchange or Pandora—they could decide to not let Pandora stream their music. This system would require amending Section 114 of the copyright statute to give recording artists the option of whether or not to continue to receive the same royalty payments they have been receiving. Those artists who wish to opt-out of the system would register their intent with SoundExchange. The artists that agree to keeping the royalty rates where they currently are would continue to be streamed on Internet radio stations.

My proposed amendment does, however, have the potential to complicate the issue for webcasters. Since some musicians would opt-out of deals with streaming sites, these artists would be part of a no-play list. Streaming stations would need to keep track of which artists’ songs are not allowed to be played. However, I do not foresee many bands opting out of an opportunity that allows them more exposure, and ultimately I see the opt-out amendment as a step in the right direction.
The opt-out amendment would give more unknown acts airtime, since those new artists are the ones who would likely want the Pandora-made publicity. The already-famous groups might choose to opt-out, because they do not need the extra fans. Therefore, there would be more room on Pandora playlists for real music discovery, instead of the replaying of songs that are already popular.

Musicians like Matt Nathanson would certainly choose to collect the same royalty payments for the next several years, since (as seen earlier in this chapter) he credits Pandora with much of his success. However, other artists might decide that they are being unfairly compensated and, in turn, choose to opt-out. For example, John Ondrasik of Five For Fighting could decide to opt-out of the webcasts. In the same Senate hearing that Nathanson testified in about royalty rates, Ondrasik also spoke, saying that keeping a lower royalty rate for streaming stations would be “essentially turning radio into iTunes without the proper compensation.”

In my proposed system, artists like Ondrasik could choose to not be a part of pureplay webcasts altogether.

Internet radio stations have helped launch many artists like Nathanson by creating more platforms for music to be played, heard, and shared. Webcasters, unlike terrestrial broadcasters, are not limited by number of stations, local competition, or the need to appeal to an entire market. Instead, Internet radio stations like Pandora allow for all varieties of music from all around the world to be streamed. Internet radio provides a positive step for musicians, music fans, and the music industry. But if musicians choose to, they should be able to opt-out of it.

133 Full Committee Hearing Assessing the Impact of the CRB Decision to Increase Rates on Recording Artists and Webcasters, 110th Cong. p.18 (statement of Ondrasik, musician).
Conclusion

Music is an important form of artistic expression that enriches culture. New technologies have made music available over the air, on the computer, on the iPod, on the phone, and in the car. Music can be heard anytime, anywhere, by anyone. Millions of listeners can hear the same song at once and millions of people can stream unique songs from the same streaming site simultaneously. Music has come a long way since the beginnings of terrestrial radio when only a limited number of stations could transmit, thereby limiting the amount and variety of music that listeners could discover. Today, Internet radio offers a limitless variety of music because broadcasters are neither bound by a government licensing scheme nor forced to play only the most popular songs to compete with other stations. Yet, Internet radio struggles under the weight of performance royalties for the songs and sound recordings that are played.

As technology has changed, so have the revenue streams for songwriters and musicians. Songwriters initially earned revenues from just live performances and sheet music sales, but then went on to make money off of the sales of records, radio play, and the sales of MP3s. But the development of digital technology has had a significant adverse effect on record sales. Congress has responded by granting a limited public performance right for Internet and satellite radio. While this new revenue stream is important for the recording industry, attempting to obtain too much revenue from it will harm Internet radio and, in turn, likely harm the music industry as a whole. Policymakers should be cautious about raising rates when doing so may stifle the currently flourishing online music scene.
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