

Streaming Technology's Impact on the Radio Industry

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### Abstract

The radio industry changes regularly to keep up with new technologies. Over the past 20 years, the digital age has introduced new technology at fast rate, creating a need for change in a 100-year-old market. Pandora was established under the name of “Savage Beast” in 2000, with other well-known streaming services originating a few years later. With the emergence of streaming technologies, the question of “what is radio?” is brought to the forefront of terrestrial radio’s attention. One explanation to the “what is radio” question suggests that streaming and online music services do not fall under the traditional definition of radio broadcasting, but do, however, help comprise the larger auditory competitive market that people fear will kill radio. Online streaming services have altered traditional ideas on advertising, royalties, and piracy, but have yet to make a large profit. Terrestrial radio has faced competition ever since the creation of the phonograph, but has survived the threats established by the competition. Successful streaming companies, however, provide the biggest potential threats to terrestrial radio because they are readily accessible. Terrestrial radio is in the process of adding online streaming services to their repertoire, in an attempt to match up-and-coming streaming services.

### Streaming Technology's Impact on the Radio Industry

The radio industry changes constantly to keep up with new technologies. Some technology changes that are introduced are small, and at other points in history, the technology changes are significant. The 1930s and 1940s were the golden age of radio, beginning with FDR's fireside chats and the invention of FM radio. However, by the 1950s the invention of the television disrupted the radio industry and almost brought it to its demise. Over the past 20 years, the digital age has introduced new technology at fast rate, creating a need for change in a 100-year-old market.

### History

The internet was invented in 1969, but it was not until 1985 that people used the internet both commercially and personally (Leiner, et al., n.d.). However, after 1985, it did not take long for radio and the internet to merge. Amateur radio operators only took five years to broadcast the first digital transmissions. In 1994, WXYC became the first radio station to broadcast its signal online. In 1995, Progressive Networks released RealAudio, providing AM-quality sound in current time. Ten years after the internet became widely used among the public, the first internet radio station, Sonicwave.com, was established. U.S. Congress soon realized that internet radio needed regulations and in 1998 legalized the Digital Millennium Copyright Act (History, n.d.).

In 1999, Sirius Satellite Radio was established and one year later, Pandora was established under the name of "Savage Beast." Although other well-known streaming services would not be founded until 2007, by 2003, "online internet radio is valued at \$49 million" (History, n.d.).

Podcasting became popular in 2004, offering a clearer alternative to low-frequency AM

terrestrial radio with downloadable talk shows. This new form of streaming technology caused broadcasting businesses to “reconsider established preconceptions about audiences, production, and distribution” (History, n.d.).

Slacker radio launched in 2007, providing traditional and on-demand stations pre-programmed by professional DJs. By 2008, streaming radio’s revenue passed \$500 million with only 13 percent of Americans listening to online radio (History, n.d.).

### **The Digital Millennium Copyright Act of 1998**

As with any new industry, rules and regulations must be created to ensure equality and prevent monopolies. The Executive Summary of the Digital Millennium Copyright Act explains the reasoning behind the Act:

In order to facilitate the development of electronic commerce in the digital age, Congress implemented the WIPO treaties by enacting legislation to address those treaty obligations that were not adequately addressed under existing U.S. law. Legal prohibitions against circumvention of technological protection measures employed by copyright owners to protect their works, and against the removal or alteration of copyright management information, were required (Executive, n.d., para. 4)

The DMCA outlined piracy definitions in an attempt to insure copywrite owners have a sense of security in the new digital age and added royalties specified for performance of songs. The digital age refers to the current age of new technological inventions and discoveries. The DMCA continues to regulate websites, making sure the proper steps are taken to enforce legality in the digital age.

### **Defining Radio Industry**

With the emergence of streaming technologies, the question of “what is radio?” creeps

into the minds of songwriters, artists, broadcast companies, and more. There is no definitive answer as to what category podcasts, streaming radio, and online radio fit into, although the fact that “radio” is attached to streaming and online technologies suggests that they belong with the radio industry. Despite the add-on of “radio,” many scholars point out that internet streaming services do not fall under the category of radio broadcasting, which consists “of broadcast stations, networks, and syndicates that transmit audio programming through AM, FM, and satellite radio channels... [and] excludes operators that function solely online” according to a 2013 report (Crompton, 2013).

### **MLE**

The “media listening experience (MLE)” market is comprised of radio, which Jonathan P. Pluskota defines as “the evolving terrestrial-based broadcast model,” combined with “satellite radio and Internet-based applications” (Pluskota, 2015, 327). Pluskota’s thesis provides a reasonable explanation to the “what is radio” question, suggesting that streaming and online music services do not fall under the traditional definition of radio broadcasting, but do, however, help comprise the larger auditory competitive market that people fear will kill radio. For the purposes of this paper, the radio industry refers to satellite and terrestrial, mainly FM, radio, because streaming radio does not fall under the traditional definition. Streaming services such as Pandora and Spotify share more similarities with programs like iTunes, which is not considered “radio.” iTunes has always been considered a music download site where customers pay for their music. Any mention of “streaming radio” comes from sources that categorize internet services as radio. Some streaming technologies, however, can and have produced material that could be considered “radio,” which will be examined later in the paper.

### **Changes Brought Upon by Streaming Technologies**

Online streaming services have altered traditional ideas on advertising, royalties, and piracy, so much so that artists filed a petition in June of 2016 against the Digital Millennium Copyright Act for being outdated and incapable of protecting artists' intellectual property. As streaming listenership increases, it is reasonable to expect that more regulating laws will be established that will, in turn, further reduce profit.

#### **Advertising**

Before the public recognition of online streaming services, the majority of radio's revenues came from on-air advertising (Radio Advertising Bureau, 2016). With the introduction of services like Pandora and Spotify, the terrestrial radio industry experienced a decrease in revenue. The decline in revenue is not detrimental to broadcast radio yet. Digital revenue reached \$1 billion for the first time in 2015 (Radio Advertising Bureau, 2016). With the growing recognition of online streaming services, visual aspects are now available for advertisers. Advertisers on Spotify can promote through "audio ads, display ads, overlays, branded playlists, sponsored sessions, video takeovers, [and] homepage takeovers" (Spotify Advertising, n.d.). Each type of advertisement has a separate price. These specifics allow Spotify to increase the price of advertisements because they can assure the advertisers that the ads reach the right audience, an asset that terrestrial and satellite radio cannot match. According to Rebecca Stickler, the minimum budget allowed for advertising campaigns on Spotify is \$25,000 (Stickler, 2017). Spotify can guarantee advertisers specific numbers. Advertisers pay between \$5 to \$30 CPM, which "refers to the amount you pay per thousand views of your ad" (Stickler, 2017). Despite its advanced advertising techniques, Spotify has yet to turn a profit, which is a problem for other streaming services, due in part to royalties.

**Royalties**

A big concern for Spotify and other streaming services is keeping the artists happy. Spotify pays artists less than \$0.01 per stream (Plausic, 2015). Some artists may not like the low payout and choose to only allow their music on better paying sites. Artists such as Taylor Swift have boycotted certain streaming services due to a lack of revenue generated. The Digital Millennium Copyright Act requires streaming services to pay performance royalties, which terrestrial stations do not pay. This clause was an attempt to assure artists payment for the use of their intellectual property but has not been sufficient enough for some artists.

**Piracy**

Founded in 1999, Napster “jumpstarted a golden age of piracy,” threatening the music industry more so than the radio industry (Wolff-Mann, 2015, para. 1). Threatened and agitated by their loss of revenue, artists fought back against Napster, which was shut down in 2001. Despite artists’ victory against Napster, the decade of piracy had begun. Hundreds of websites started where Napster left off. Sites such as Limewire and YouTube to mp3 converter sites led to a decline of artists’ revenue.

The invention of streaming technologies led to the extinction of piracy and replaced illegal sites with streaming services like Pandora and Spotify. One article credits Spotify for “almost single-handedly [stopping] piracy’s raid on the music business” (Wolff-Mann, 2015, para. 5). Now that the music industry is recovering from the age of piracy, listeners are going online to listen to music at an increasing rate. For the first time in 2015, Edison Research recorded that among adults aged 18-24, streaming audio listenership exceeded broadcast radio listenership (Rosin, 2016). But what does this mean for radio?

### **Terrestrial Radio's Competition**

Terrestrial radio has faced competition ever since the creation of the phonograph, but has survived the threats established by the competition. As technology advances, radio faces even tougher competition. Satellite radio poses a small threat, but it is less likely to succeed in the long run compared to terrestrial radio due in part to accessibility and cost deterrents for most consumers. Successful streaming companies, because they are readily accessible, provide the biggest potential threats to terrestrial radio.

#### **Pandora**

Established in 2000, Pandora was the first internet streaming service that would have a lasting impact on traditional radio. Using a technology daubed "the Music Genome Project," Pandora is capable of delivering music "based on individuals' tastes and interests. Pandora reached its peak number of listeners, 81.5 million, in December of 2014 and is slowly losing members as the years continue (Pandora, n.d.). Pandora is most likely losing members due to streaming services that offer users the choice of choosing the exact songs they want to listen to such as Spotify and Apple Music.

#### **Spotify**

As of right now, Spotify contends to be the most dangerous competitor in FM radio's future. Spotify is dangerous because it resembles iTunes but is less expensive. When iTunes was released, it changed the music industry. Spotify provides "on-demand music," allowing people to specify the exact songs they wish to listen to. Spotify also has Pandora-like features. Users can choose stations based on artists or songs. With this feature, algorithms pick up what the user likes to listen to and compiles a set of favorite and new songs in the "Discover" station. Along with the 20 million songs already on Spotify, users can upload songs from their music library,



giving even iTunes a run for its money (Titlow, 2013).

Spotify's mobile app has the same functions as the website, allowing users to easily play their favorite music in cars, on walks, and in the shower. Although there are apps that play FM radio, Spotify is better known.

### **Success**

Successful streaming services provide the biggest threat to terrestrial radio, but what qualifies as success? The average person will look at Spotify, Apple Music, or Pandora and confidently assume that each company makes billions of dollars in profits yearly. The fact of the matter is the companies struggle to make a profit. Pandora struggled 10 years before turning a profit, due to "onerous licensing agreements requiring it to pay a fee each time a song is streamed" (Griffith, 2012, para. 7). The increasing fees spell trouble for streaming services, who will "never outgrow their costs, an unfortunate arrangement commentators have daubed a 'suicide pact'" (Griffith, 2012, para. 7).

### **How Terrestrial Radio Can Overcome the Shift to Streaming Radio**

Although there are undoubtedly more people who listen to FM radio, three factors need to be considered when it comes to streaming's viability (Edison Research, 2016). First, society is deep in a digital age. With improvements and gadgets released daily, music streaming is not going anywhere anytime soon. Second, people are becoming less patient. Listeners want instant gratification, which is rare in FM radio. The deejay never plays a song that the entire audience wants to hear, and listeners have to turn the dial until they find a station that is not on commercial break and is playing the music they want to hear. Spotify and similar services allow users to play any song they chose instantly. Third, streaming services make it easy to play music in the car. Even without an app installed in the car, users can use an aux cord or Bluetooth to

hook up their phone to the car's stereo. If terrestrial radio cannot find a way to compete in the digital age, companies will soon be overpowered by online radio. However, as it was mentioned before, streaming companies' success comes at an increasing price. The question lies in when streaming companies will be overpowered by the "suicide pact" (Griffith, 2012, para. 7). Will it be before or after terrestrial radio becomes obsolete?

Terrestrial radio is taking a step in the right direction with the introduction of XAPPmedia. In collaboration with the Amazon's Alexa software, XAPPmedia strives to bring radio back to the home. XAPPmedia provides the first service that personalizes terrestrial radio, or more accurately, terrestrial radio stations' live streams. Along with Amazon, the company partnered with Federated Media, bringing XAPPmedia's idea to life through the terrestrial radio station B100 (The NAB Podcast, 2017). Through technology called "Amazon skills," each radio station that pays XAPPmedia for their station to be available can allow listeners the option to listen live, on demand, and search podcasts (The NAB Podcast, 2017). "Amazon skills" is defined as an "interactive voice experience that adds to Alexa's knowledge" after every interaction, allowing users to customize not only their radio preferences, but also the way in which it is presented (The NAB Podcast, 2017). Pat Higbie, Co-founder and CEO of XAPPmedia explained that skills "serve listeners who want more than listening live" (The NAB Podcast, 2017). "Web hooks," a companion to Amazon skills, allows the skills to "live in the cloud, which means you don't have to download them like you have to do on mobile" (The NAB Podcast, 2017). Higbie believes that "this technology will affect in car and on the go listening" (The NAB Podcast, 2017). Doug Amacker, General Manager of Star 93.5 agrees. Star was recently sold by the college that owned it due to the station's increasing cost to the university. Amacker mentioned that if the station still belonged to the college, he planned on investing in

Amazon skills provided by XAPPmedia, positive that the investment would be a catalyst in the improvement of Star 93.5's future (Amacker, 2017).

With the emergence of game-changers like XAPPmedia, the radio industry must adjust according to the times. Radio has no chance of survival unless it adapts to compete with streaming services. After adapting digitally, terrestrial radio will have a leg up on digital radio. The goal of digital conversion is to lead online listeners to on air listeners and vice versa (The NAB Podcast, 2017).

After entering the streaming market, stations need to focus on advertising and PR. Good advertising reduces cost and increases revenue. When advertising, it is important to consider reach, frequency, selectivity, and efficiency. Advertising can be achieved through billboards, sponsoring events, sweepstakes, community involvement, branding, and reputation. It would be best if stations took advantage of local presence, especially at sporting events. Terrestrial stations have the advantage of locality and should use it to their advantage. Remote broadcasts involve the community and increases listenership. It is up to radio stations to remain personal. On-air personalities provide listeners with a sense of involvement and connection with the station. To keep terrestrial radio alive, stations need to keep the connections strong.

### **Conclusion**

Traditional radio is in the early stages of transition into the digital media market. With a larger listener base, terrestrial has enough time to converge online streaming with on-air listening. The definition of radio is changing. Traditional radio can no longer rely on its 100-year-old model. Terrestrial radio still plays an important part in the daily lives of Americans and will be a valuable asset in the future if it continues to mold with the changing definition of radio. Americans must continue to support the mass media market of radio and play an active part in

local stations because there is no point in broadcasting if there is no one to listen.

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