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How Streaming Services Changed the Way We Listen to and Pay for Music

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How Streaming Services Changed the Way We Listen to and Pay for Music

by

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ABSTRACT

This thesis seeks to explain how streaming services have changed the way we listen to and pay for music. Furthermore, this analysis examines the perspective of consumers and artists on streaming services. Most data is obtained from various academic journals and organizations involved in the music industry. The result of this research indicates that after the financial peak of the music industry in 1999, a decline in revenues was due to emerging technology, the illegal file sharing website Napster and piracy, the industry's response to piracy, and digital downloads. As streaming services started to emerge the shift in revenues from physical sales and digital downloads to streaming subscription revenue reversed the decline and has provided financial strength. The strength is attributed to streaming generating more money per individual than the traditional physical sales and even digital downloads. Streaming has favored both sellers and buyers, arguably growing the music industry bigger than ever before.

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LIST OF ABREVIATIONS

US	United States
CD	Compact Disc
MPEG	Moving Pictures Experts Group
MP3	ISO-MPEG-1 Audio Layer 3
IRC	Internet Relay Channels
P2P	peer-to-peer
RIAA	The Recording Artist Association of America
iTunes	iTunes Music Store
Sony	Sony Music Entertainment
Universal	Universal Music Group
Warner	Warner Music Group

CHAPTER ONE

I. Introduction

For centuries the United States (US) music industry has been generating revenue from the sale of physical items. Whether it be cassettes, records, compact discs (CDs) or merchandise, the industry depended upon the revenues from physical sales and knew how to allocate them correctly to the artist and his/her team. (Passman, 2019, p.1) The emergence of and growing popularity of the internet, however, revolutionized the music industry. After its major financial peak in 1999, the music industry realized a devastating financial loss due to the increasing levels of illegally downloaded music attainable via the internet, but the industry was specifically crippled by Napster, a file sharing website. This section seeks to examine how Napster, and other file sharing websites attributed to the decline in revenue for the music industry. Furthermore, this section and the ones to follow will demonstrate how the internet forever impacted the music industry.

II. Where Did it All Go Wrong?

Although the financial decline in the music industry did not happen until the early 2000s, the root of the problem can be traced back as early as the 1970s when a group of audio engineers began working on their PhD thesis. Knopper (2017) explains that Karlheinz Brandenburg was a PhD student at the University of Erlangen-Nuremberg

specializing in audio engineering. His professors work delved into the transmission of speech through phone lines on the Integrated Services Digital Network. His professor became interested in sharing music files through this same channel, evolving the accessibility to both communication and music, eventually assigning the concept of audio compression as Brandenburg's doctoral thesis topic (Knopper). After almost a decade of work, Brandenburg, alongside dozens of scientists, finished the software code of audio compression. The creation of the MP3 is attributed to group's code. No one, including Brandenburg knew what would come of this project, Brandenburg believed, "[i]t could just end up in libraries like so many other PHD theses," (Knopper, 2017, p. 125). After the code of audio compression was complete, the team extended their contributions to the International Organization for Standardization, a standard-setting body that aids in technology innovation. The team proposed their technology to the subgroup of the International Organization for Standardization called Moving Pictures Experts Group, or MPEG. The MPEG combined the technology of Brandenburg's team with three other proposals and created a standard for audio compression naming it ISO-MPEG-1 Audio Layer 3, or MP3 (Knopper). MP3s compress audio into a file, which is then transferrable over the internet to another user. It was with this software, in the hands of a teenage hacker, that the world of music file sharing came about- forever impacting the music industry.

Shawn Flanning was the young mastermind behind the first major file sharing database. Flanning was gifted his first computer when he was 16, from his uncle, John Flanning, a tech startup entrepreneur (Knopper, 2017). Shawn quickly became enthralled by the internet and all of its vast possibilities, spending a majority of his time on the

computer. John noticed Flanning's increasing interest in the internet and included him in one of his endeavors at Chess.net, giving Flanning an internship and the access to dive deeper into the web (Knopper). During this time, Shawn discovered Internet Relay Channels (IRCs), specifically hacker IRCs. These hacker IRCs served as chat rooms for individuals to communicate with one another and gain knowledge about the cheats of the internet (Knopper). One hack of the internet that Shawn became passionate about was online MP3 sharing, a way to store songs found for free on the internet to one's personal hard drive.

In 1998, Flanning started college at Northeastern University (Knopper, 2017). His intellect was above the computer courses he was taking, and he quickly became bored-spending most of his time on IRCs and building his digital MP3 library. He became intensely curious of a faster and more efficient way to share these MP3 files online, eventually creating a file sharing website he named Napster.com. Napster took the format of an IRC with a, "…central server, where the users would connect, see their log-on names and view the titles of the MP3s they were storing in folders on their hard drives," (Knopper, 2017, p. 132). Individual shared files with one another, making it a peer-to-peer (P2P) network. Flanning spent countless hours working on Napster and eventually dropped out of college in his second semester to finish perfecting the code. After seeing the potential of his creation, he recruited members he had previously connected with on the IRCs, and his uncle, John, to help him better the business side of Napster. The website's beginnings began with 30 of Shawn's most trusted chat room friends and within two years of being online, grew to nearly 80 million users who were sharing music on Napster (Knopper).

Napster did not charge its users, thus enticing many music listeners around the world. If a listener had a computer and internet access, he/she were free to download as much music as pleased. One could even burn the songs to a CD, download the CD to a computer or transfer to devices like an MP3 player. This exciting innovation of file sharing was an obvious choice to listeners who were previously buying expensive physical items like records or CDs. Napster was the free alternative of which listeners had dreamed. However, most of the music that was downloaded on Napster was pirated, or illegal (Knopper, 2017). This no cost way of listening to music, enjoyed by users, infuriated those working in the music industry. Napster created a large divergence from the traditional industry money maker - physical sales. Before Napster, "an average CD buyer spent about $40 to $50 per year on CDs," (Passman, 2019, p. 2). This $40 to $50 dollars for some users became $0 for those who chose to obtain music illegally through websites like Napster. Figure 1-1 shows the US music revenues from 1973 to 2005, displaying the decline in revenues after Napster emerged.

Figure 1-1: US Music Revenues from 1973 to 2005
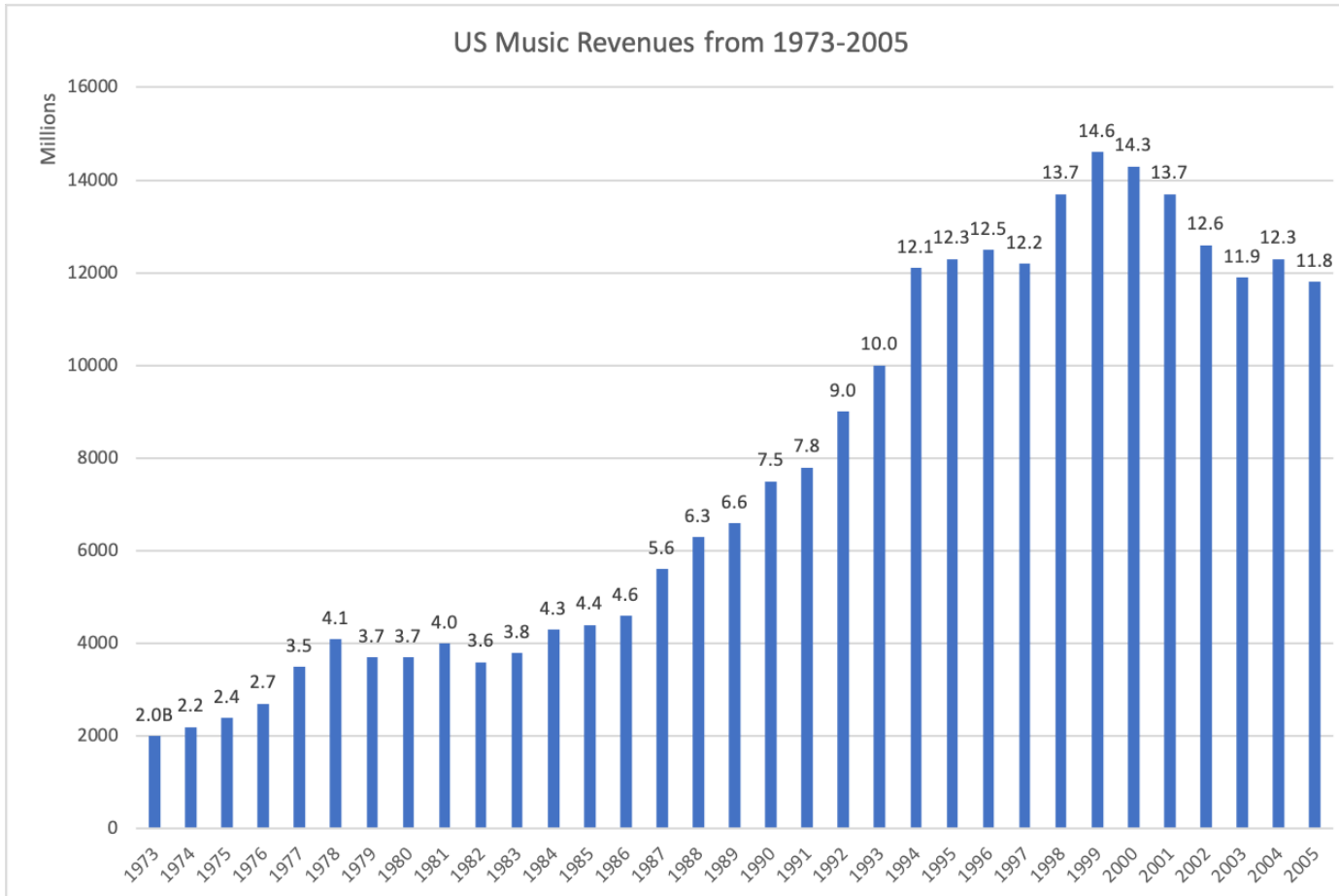
Adapted from: RIAA (2019). US Sales Database.

After a steady increase in revenues for decades, the industry hit a peak of $14.6 billion in 1999, just before file sharing became a prominent way to listen to music. By 2001, Napster had built its online empire, leaving the music industry with a $900 million loss of revenue (RIAA, 2019).

The rapid decline in sales can be attributed to the rapid increase of illegal MP3 file downloads in the early 2000s. A report released in September 2000 by the Pew Research Center, an independent research company that specializes in observing internet and technology trends, stated that, "21% of Internet users, or about 21 million Americans, have downloaded music online," and, " 79% of music downloaders did not pay online for the music they retrieved" and "54% of music downloaders… have used Napster" (Lenhart & Fox, 2000). That means, within the first year of Napster, almost 17 million people were pirating music in turn taking away profits from the music industry.

At this time, there were five major record companies, or labels: EMI, Sony Music Entertainment (Sony), Universal Music Group (Universal), Warner Music Group (Warner), and Bertelsmann Music Group. In response to the high number of people pirating music and the major decline in music industry revenue, many major music executives from the five labels teamed up to eliminate Napster from the internet. The Recording Artist Association of America (RIAA), a trade association of major record labels, took legal action in 1999. The RIAA sued Napster in federal court seeking to remove all songs from Napster that they copyrighted and owned, which composed over 70% of Napster's catalog (Knopper, 2017). However, Flanning, unphased by the RIAA, had no intentions of changing his business plan of providing music for free. An investor

recalls Flanning saying, "[w]e will take down the music industry and give away free stuff" (Knopper, 2017, p. 158). However, the court ruled in the RIAAs favor, making Napster liable for copyright infringements (Kravets, 2009). Flanning, along with his colleagues at Napster, sought to fight back and appealed the court's decision.

Despite the questionable legality of Napster, users did not stop sharing music. A follow up to the report released in 2000 by Pew Research Center stated that by February 2001, the number of Americans downloading pirated music online reached a staggering 30 million people (Garziano & Rainie, 2001). Between August 2000 and February 2001, while the trial was being held, six million users were downloading music on any given day. Six million online users is, "...twice the number of Internet users buying retail products online…and equal to the number seeking health information on the Web or looking at travel information" (Garziano & Rainie). This data supports the success of Flanning's Napster, and the almost irreversible damage that Napster had on the decline of physical sales of the music industry. The 2001 report by Pew Research Center includes a survey of a limited number of Internet users across the United States; Table 1-1 shows the percentage of Internet users who download music divided into various groups.

Table 1-1: The Percentage of Internet Users who Download Music (2000-2001).

The Percentage of Internet Users who Download Music		
	July – August 2000	February 2001
All Adults	22%	29%
Men	24%	36%
Women	20%	23%
Whites	21%	26%
Blacks	29%	30%
Hispanics	35%	46%
Age Cohorts		
18-29	37%	51%
30-49	19%	23%
50+	9%	15%

Adapted from: Graziano, M., & Rainie, L. (2001). The music downloading deluge. *Pew Internet and American Life Project*, *24*.
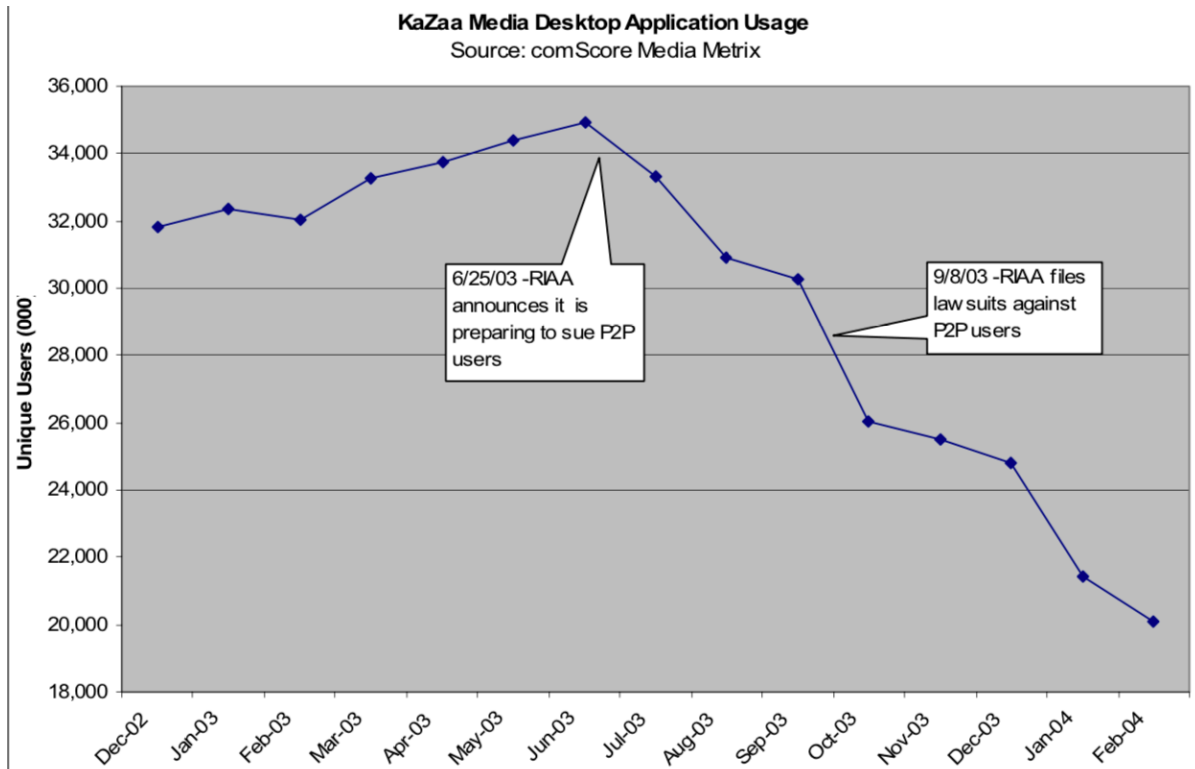
There was a growth in music downloading across every category. Although dominated by the 18 to 29-year-old category, Table 1-1 shows that every type of individual, or music listener, was taking advantage of the new way to obtain the work of their favorite artists for free. The people that were downloading music spanned across almost every demographic, further demonstrating Flanning's success in supplying free music accessible to all. After much deliberation, the court of appeals ruled in the RIAA's favor, and Napster had to block more than 1.7 billion copyrighted songs from its website (Garziano & Rainie, 2001). This decision began the demise of Napster. With over a billion songs removed from the website's music library, Napster inevitably failed and filed for bankruptcy in May 2002 (Kravets, 2009). Flanning's "charitable" music website no longer existed, leaving millions of music listeners in search of another online platform.

III. Piracy is Still a Problem

     Although Napster, the pioneer of music file sharing was no longer operating, file sharing continued to become increasingly popular amongst music listeners. By 2003, music revenues fell to $11.9 billion, an almost 15% decline from its peak (RIAA). Websites such as KaZaa, BearShare, Morpheous and Limewire developed P2P software, much like Napster, that promoted file sharing (Knopper, 2017). As these websites continued to emerge, more and more individuals were engaging in the illegal activity, driving piracy to its peak. In other attempts to end the piracy epidemic, the RIAA sued more than 30,000 individuals who had downloaded music illegally (Tyler, 2012). The cases were built on the precedent of the 1998 Digital Millennium Copyright Act, an act

protecting recordings from illegal use and distribution. This legal action directed towards

individuals instead of the website owners shocked music listeners globally. Figure 1-2

shows the KaZaa desktop application usage declining after the RIAA lawsuits.

Figure 1-2: KaZaa Media Desktop Application Usage

KaZaa Media Desktop Application Usage
Source: comScore Media Metrix

6/25/03 - RIAA announces it is preparing to sue P2P users

9/8/03 - RIAA files law suits against P2P users

Source: Rainie, L., Madden, M., Hess, D., & Mudd, G. (2004). *Pew Internet Project and
comScore Media Metrix Data Memo*. The Pew Internet & American Life Project.

Figure 1-2 shows these lawsuits caused the levels of illegal downloads to take a small hit.

Due to the increase in legal action against individuals pirating music, the P2P websites

started to see a decline in users. KaZaa realized over a 40% decline in its application

usage from July 2003 to February 2004 (Rainie, Madden, Hess, & Mudd, 2004). This

drastic decline seemingly devastating to a platform, did not entirely ruin the site. In

February 2004 there were still around 20 million users with active accounts continuing

their use of pirated music, according to Figure 1-2. KaZaa was not the only platform that

took a hit on their user base, Individuals started to steer clear of the illegal file sharing

system in fear of legal complications. Table 1-2 shows an expansion of Table 1-1 to

account for the years during the RIAA lawsuits.

Table 1-2: The Percentage of Internet users Who Download Music (2000-2003)

The Percentage of Internet Users who Download Music				
	July – August 2000	February 2000	March- May 2003	November- December 2003
All Adults	22%	29%	29%	14%
Men	24%	36%	32%	18%
Women	20%	23%	26%	11%
Whites	21%	26%	28%	13%
Blacks	29%	30%	37%	25%
Hispanics	35%	46%	35%	20%
Age Cohorts				
18-29	37%	51%	52%	28%
30-49	19%	23%	27%	13%
50+	9%	15%	12%	6%

Adapted from: Madden, M., & Lenhart, A. (2004). Sharp decline in music file

swappers. *Data Memo from PIP and comScore Media Metrix. January*, *4*.

Table 1-2 reveals that every demographic of music downloader started to decline. Young

adults, the most prolific of online downloaders, declined by nearly 50 percent. This

staggering statistic demonstrates the true demise of pirated music websites. The RIAA

and major music label executives were hopeful that this could be the start of entirely

ending piracy (Knopper, 2017). Unfortunately for them, piracy continued to be a

problem.

    According to The International Federation of the Phonographic Industry's (IFPI)

data, over 20 billion songs were illegally downloaded in 2005 alone (Siwek, 2007). In

that same year, an Australian supreme court case ruled in the record industry's favor; the

decision stated that the Australian based sites KaZaa and Morpheous were violating

copyright laws. These sites were instructed to modify their file sharing software to

comply with copyright laws or shut down (Arnold, 2005). But similar to the prior

relentless efforts of the music industry's executives, this legal action did not stop people

from partaking in the illegal sharing of pirated music. Immediately after the Australian

decision, "5.2 to 5.4 million people continued to trade illegal music over networks,"

(Knopper, 2017, p. 220). Even with the court on their side, the industry struggled to be at

the winning end of this battle of piracy.

    The continuous litigation strategy became increasingly costly for the music

industry executives, even though most cases ruled in their favor. Some consumers even

started to revolt- seeing the big corporations as greedy- further engaging in piracy activity

(Tyler, 2012). More than ever, the industry needed an alternative for individuals to

legally listen and invest in music. Consumers wanted a legal "Napster-esque site," where

they could listen to their favorite music at the click of a button or a tap of a screen, without feeling taken advantage of by the greed of the industry's executives.

IV. Conclusion

The decline of music industry revenues and the emergence of file sharing have a noticeable correlation. The emergence of the MP3 software enabled the creation of file sharing websites. Napster set the precedent for the future of other file sharing networks, places where music could be both easily accessible and free. Napster's root ideas inspired those sites that would be able to offer an unlimited catalog of songs, legally, for little to no cost. Pirating music continued to be a common way to listen to music for nearly every demographic in the United States, causing a major disruption in music industry profits. Although they valiantly tried, the major music labels failed in their efforts of entirely eliminating piracy. Instead of collaborating with companies like Napster, the labels spent too much money and effort trying to enforce copyright laws. The consumers had already gotten a taste of free unlimited music consumption and digital music ownership, making it nearly impossible to come up with an alternative that would compare. The music industry needed a new strategy if they wanted to regain trust in music listeners, doom illegal pirating, and start profiting as they once had before, but this time electronically.

CHAPTER TWO

I. Introduction

The Napster era left the music industry in a deep, unprofitable hole. Profits continued to decline, and individuals were not partaking in the physical purchases of music related paraphernalia, as they once had. However, the MP3 and P2P technology that aided to the decline, provided the industry with tools to create online music services that could too generate a source of revenue. This chapter seeks to explain how the industry was able to increase profits by finally embracing the digitalization of music.

II. Failed attempts

The five major record companies realized the detrimental effects of file sharing and needed to find a solution quickly. They saw the potential in the unlimited catalog that P2P websites offered, but they also needed to produce revenue. Universal and Sony worked together and released PressPlay; meanwhile, EMI, Bertelsmann Music Group and Warner collaborated with RealNetworks to create MusicNet. (Richardson, 2014). Both PressPlay and MusicNet took the form of an online music subscription service with streaming content accessible only if users purchased and maintained a subscription. The two companies were unwilling to work with one another, "[the] two services refused to cross-license to one another, forcing potential users to choose between two mutually exclusive music catalogs" (Richardson). Richardson's quote illustrates the underlying greed and mistrust that music consumers felt. Consumers had unlimited access to every

song imaginable, although illegal, but had to choose between two subscription services, and pay to access legally. Ultimately, PressPlay and MusicNet inevitably failed. The labels were finding it difficult to produce relevant revenues for the music industry while pleasing music consumers, until Apple took over the market.

III. Digital Downloads

When the RIAA sued thousands of individuals for pirating music, they basically created a potential market for digital downloads (Seabrook, 2014). If individuals were not able to illegally download music anymore, they would have to start buying it again. The record companies knew that they had to create a digital market for music but after many failed attempts realized they did not have the resources to do so- until Steve Jobs intervened (Seabrook).

Jobs, the CEO of Apple, released the first iPod in 2001, Apple's version of the MP3 player. (Knopper, 2017). Apple also had the software capable of selling downloads online but did not have the rights to any of the music. Knowing the industry was failing, Jobs reached out to the record companies in hopes of collaboration. After many negotiations, all five major labels agreed to license the rights to their music to Apple, entirely revolutionizing the way we know music today. The iTunes Music Store (iTunes) was created in 2003. (Knopper). iTunes aimed to make music downloading as easy as file sharing, but with a price. Apple de-bundled albums, letting users buy single songs instead of the whole thing (Seabrook, 2014). This possibility transformed the way that consumers consumed music. The pricing structure of the music store was pretty simple, they would charge 99 cents per song, "Apple would take a 22 cent retailer cut out of every 99 cent

song, leaving just 67 cents for the labels" (Knopper, 2017, p. 193). The labels also had to

distribute the 67 cents between artists and publishers. This pricing structure was heavily

debated by record labels; the labels believed that this low cost of singles would not be

enough to regain economic strength. However, they knew they had no choice-

collaborating with Apple was the only way to enter the digital distribution market.

Over time, Apple became the most popular online retailer of music (Knopper,

2017). The rise of the iTunes store caused a dramatic shift in the format of sales. Figure

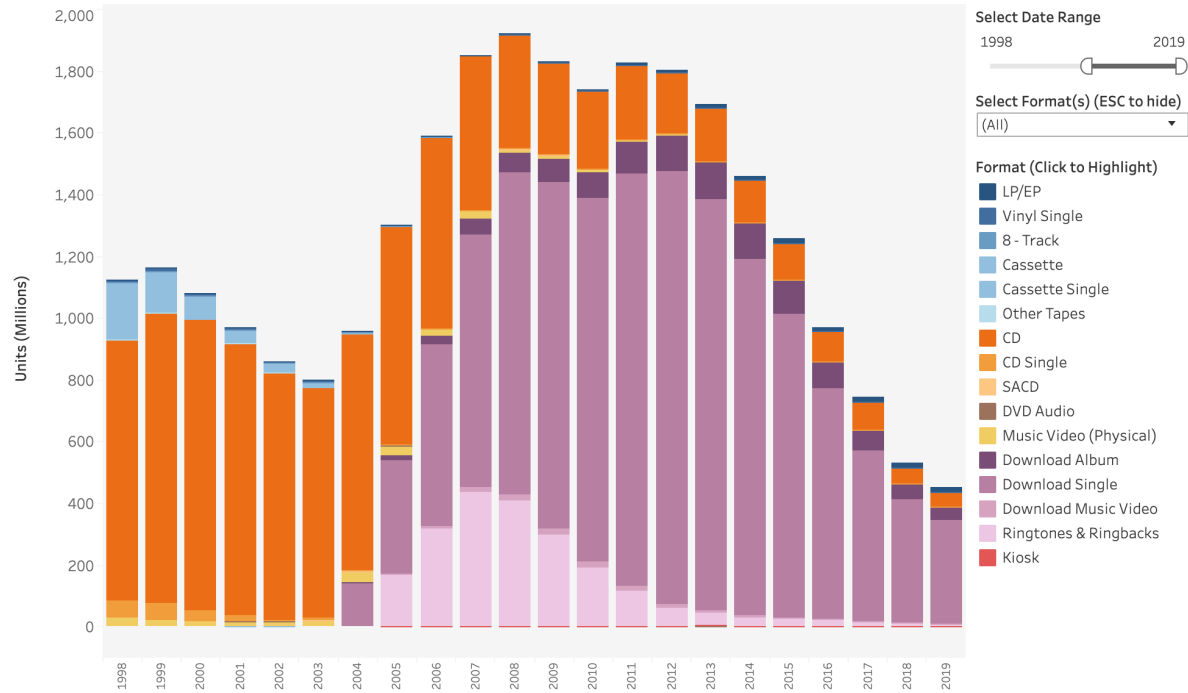2-1 displays the US recorded music sales volume by format.

Figure 2-1: US Recorded Sales Volumes by Format from 1999 to 2019

Source: RIAA (2019). US Sales Database.

Figure 2-1, reproduced from RIAA (2019), shows that by 2007, music downloads of a single made up 44.3% of the total sales volume. In the same year, Apple had digital single sales of $844.2 million (Knopper). Although iTunes' business was soaring, it wasn't enough to cover the losses that the industry had already taken. Figure 2-2 shows the US music revenue from its peak in 1999 to 2019.

Figure 2-2: US Music Revenue from 1999 to 2019
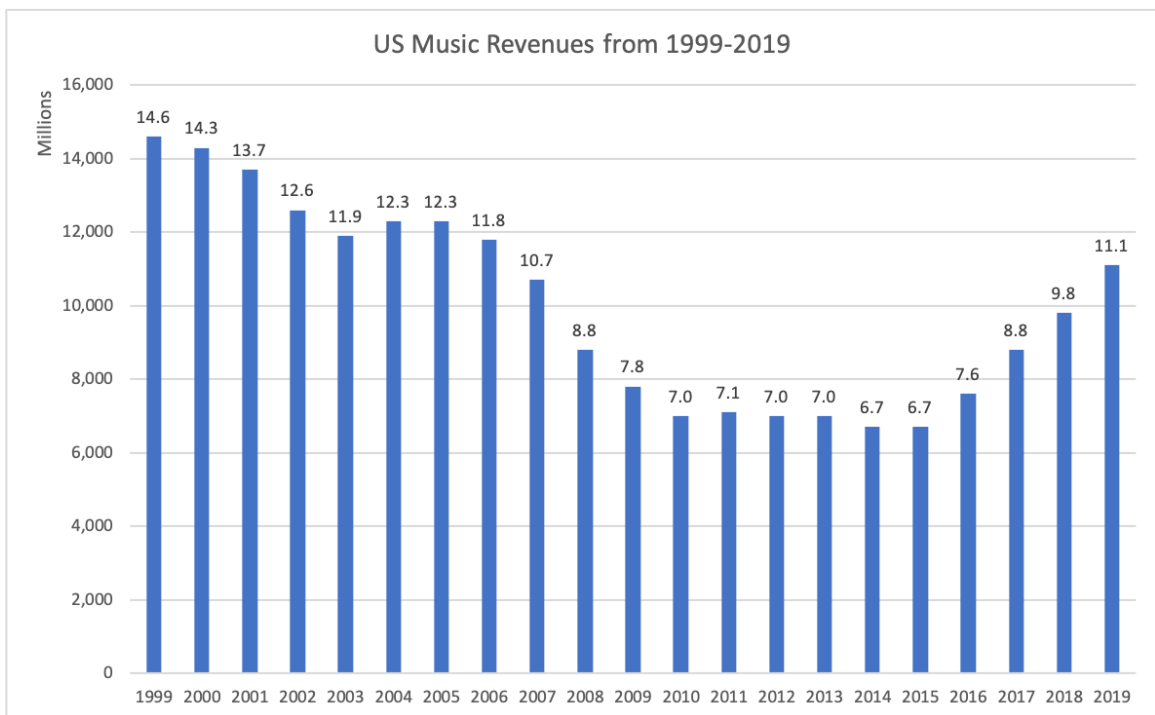
Adapted from: RIAA (2019). US Sales Database.

As displayed in Figure 2-2, by 2007, the revenues of music sales had already fallen from the peak by $4 billion. The average iTunes listener was spending around $48 per year, a number too low to regain all of the industry's profits lost. Pirated music was still a major problem in the US (Pakman, 2014). Normally, an individual had to buy an entire album in order to access the few songs that they actually wanted to hear from that album. iTunes de-bundled albums, driving down the average price that the consumer spent and giving the consumer a wider array of choices. What appeared to be a saving grace for the industry, unfortunately continued to contribute to the decline in revenue.

However, Apple had a positive impact on the digital market. By making songs easily purchasable, more consumers were buying music. David Pakman, former CEO of eMusic (another digital music distributor) believed that the price of music is elastic, "[o]ur experience at eMusic taught us that music is in fact elastic and that lower prices lead to increased sales," (Pakman, 2014). Although the revenues of these increased sales weren't able to match the downturn, more people than ever were listening to music, turning around the destruction that pirated music caused. The rise in electronic music consumption sparked the increase of digital music retailers, like Amazon Music, and subscription services, like Spotify.

IV. Streaming Services

Streaming services offer users a wide catalog of songs legally and in some cases, free of charge. Most streaming services however require users to pay a monthly fee to gain access to the wide variety of music offered. Unlike digital downloads, the music available on streaming sites are not downloaded directly to a computer, the songs are

accessible via a web-connected device. With Wifi, a consumer can search a catalog of songs, add these songs to their personal libraries, or playlists, which they can access at any time. Streaming services include a variety of formats: premium subscription services, such as Apple Music and Tidal, streaming radio services, like Pandora and SiriusXM, and ad-supported on-demand streaming services, such as YouTube and Spotify (Friedlander, 2019).

The first of these steaming services, Rhapsody, emerged in 2002 (Catalano, 2018). Although Rhapsody did not gain a major market share, it set a precedent and expanded the future of services of the same kind. In 2005, the streaming radio service Pandora was launched. The popular internet radio service was designed to be completely customizable, based on the type of music or artist the user wanted to hear. Pandora, free for music consumers, was able to profit from internet advertisements. By offering music for free, Pandora also restored a sense of trust between music moguls and music listeners. Between 2005 and 2016, many other streaming services emerged driving the popularity away from digital downloads. However, no other on-demand streaming service was able to rise to the top as quickly as Spotify (Knopper, 2017).

In October 2008, Spotify launched in Europe. The young, Swedish founder, Daniel Ek, built Spotify on the foundation of eliminating piracy. In an interview with Steve Knopper, Ek stated "[t]he only thing that is going to win against piracy, in the long term, is you create a better service" (Knopper, 2017, p. 292). Ek believed that in order to gain popularity, Spotify would have to offer something for free while still compensating the major labels and artists. He came up with a "freemium" business model; offering a free portion of the service so that users get hooked and eventually pay to get the superior

version (Knopper). It did not take long for Spotify to grow in Europe. In less than a year the service expanded from its original seven countries to 58, and eventually held the title of the second largest digital revenue service in Europe (Swanson, 2013). Spotify, while eliminating pirating and pleasing listeners, was able to both profit and retain users.

In the US, overall revenues continued to fall, and the five existing major record labels had diminished to three- Sony, Warner and Universal. The labels were hesitant to make a deal with Spotify because of the freemium business model; they believed that free streaming was not net positive for the industry (Knopper, 2017). This belief stemmed from the Napster era from which they were still overcoming, financially. However, the overwhelming popularity of Spotify in Europe was too much to ignore. Eventually, all of the labels agreed to license their music to Spotify, and it successfully launched in the US in July 2011 (Knopper).

Spotify's freemium model allows Spotify listeners a choice between registering for a free account supported by advertisements or for a paid subscription. The paid subscription model offers users a high quality, ad-free experience. In the US, there are two different subscription options: Spotify Free and Spotify Premium. Premium accounts provide users with unlimited access to over 50 million songs and provides offline access to playlists. Premium users can also listen on a desktop computer or on their mobile device; free users have restrictions on mobile access (Spotify). The premium accounts are divided into three different categories: Premium Individual for $9.99 a month, Premium Student offered only to individuals enrolled in college for a discounted price of $4.99 a month, and Premium Family which allows up to six accounts for $14.99 a month (Spotify). Contrary to major record labels' doubts, the freemium model has proven

immensely successful. The ratio of free users to paying users has only decreased over time;

> "while in 2010 the number of free users was 15 times higher than the number of paying users, the ratio steadily decreased to seven in 2011, to five in 2012, and to three in 2014. At the beginning of 2016, Spotify had 30 million paying users, and over 70 million free users". (Voigt, Buliga, & Michl, 2017)

In Spotify's 2019 filing with the SEC, they reported 124 million and 147 million paying and free users respectively, reducing the ratio to a little over one.

Since the time of its launch, Spotify has become the most popular streaming subscription service in the world (Levenson & Kennemer, 2020). Its popularity has caused competitors to release similar paid subscription services; like rap artist JZs launch of TIDAL in 2014, and Apple release of Apple Music in 2015. An increase in streaming services caused yet another major shift in US music industry revenue. Figures 2-2, 2-3 and 2-4, adapted from Friedlander (2014, 2016, 2019) show the breakdown of the music industry revenue in years 2014, 2016 and 2019 respectively.

Figure 2-3: US Music Industry Revenues 2014
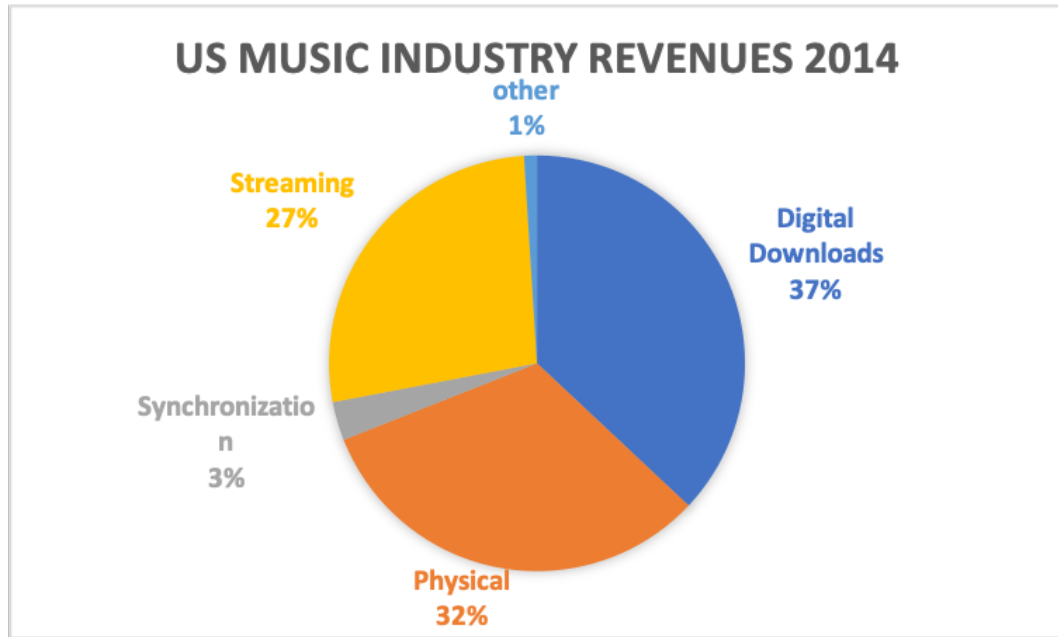
US MUSIC INDUSTRY REVENUES 2014

other
1%

Streaming
27%

Digital
Downloads
37%

Synchronizatio
n
3%

Physical
32%

Adapted from: Friedlander, J. (2014). News and Notes on 2014 Mid-Year RIAA Music

Shipment and Revenue Statistics. *RIAA*.

Figure 2-4: US Music Industry Revenues 2016
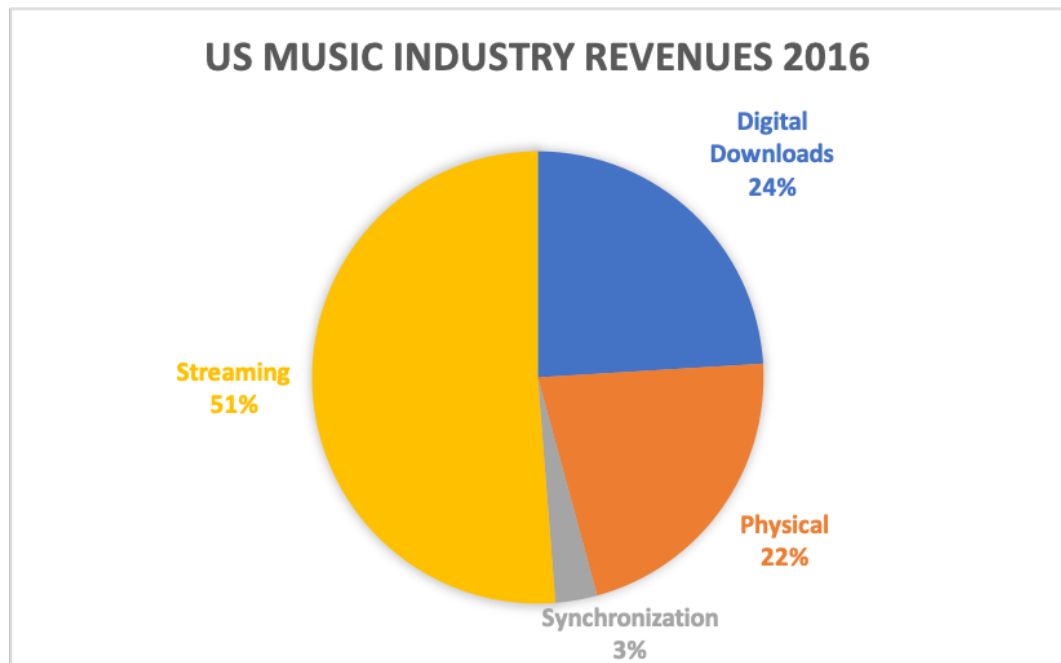
US MUSIC INDUSTRY REVENUES 2016

Digital
Downloads
24%

Streaming
51%

Physical
22%

Synchronization
3%

Adapted from: Friedlander, J. (2016). News and Notes on 2016 Mid-Year RIAA Music

Shipment and Revenue Statistics. *RIAA*.

Figure 2-5: US Music Industry Revenues 2019

Adapted from: Friedlander, J. (2019). Year End 2019 RIAA Music Revenue Report. *RIAA*.

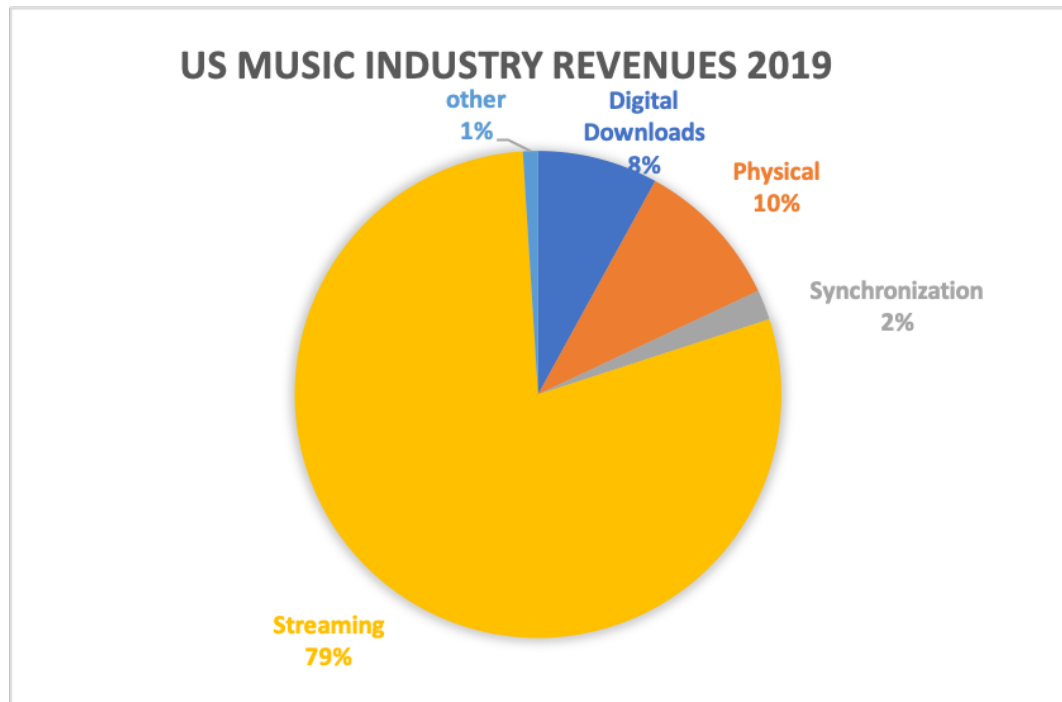A comparison of Figures 2-3 and 2-4, shows the dramatic shift in revenue segments. From 2014 to 2016, streaming revenue increased by 89%, from 24% to 51%, generating the majority of the industry's revenue. According to Friedlander (2016), the growth contributed to the overwhelming number of new user adoptions- more and more people were consuming music via paid subscription services. The shift from downloads to streams had a great impact in the total revenue of the industry. Instead of paying 99 cents for a single song from an online retailer like iTunes, music listeners could now pay a monthly fee for unlimited access to a larger catalog of music. The cost structure of most subscription services is relatively similar to that of Spotify. Subscriptions range from $4.99 to $14.99 per month, totaling $60 to $180 per year, almost double the amount spent by the average iTunes listener ($48) or the average CD buyer ($40-$50) in the pre-Napster era (Passman, 2019). In other words, streaming was generating more revenue than ever before, entirely changing the way how music was consumed. In 2016, the music industry saw its first increase in earnings, totaling nearly a billion dollars; "[t]he primary driver of that growth was a doubling of paid streaming music subscriptions which helped the American music business experience its biggest gain since 1998" (Friedlander). Such data supports the popularity of streaming services and the positive effect they had on the music industry.

As streaming becomes more popular, the upward trend in revenues continues to hold. As noted in Figure 2-5, streaming revenue now (2019) generates 79% of the total industry revenue. According Friedlander (2019), total revenues in 2019 totaled $11.1 billion dollars, a $4.4 billion increase since 2016. Although earnings still fell 60% below

the historical peak in 1999, streaming revenue provided the industry the hope it needed to regain strength.

V. Conclusion

By embracing the digitalization of music, the industry was able to increase and maintain profits. Digital downloads impacted the music market by providing individuals with a simple and instant way to access and purchase music. However, the average digital downloader wasn't spending enough to reverse the lost profit from years of pirating. Streaming services then emerged, providing users with unlimited access to the same catalog of music for a monthly fee, pleasing both the industry and listeners. As the number of subscribers continued to increase due to the increasing amount of streaming services available, streaming revenue became the main driver of music industry revenue. The recent growth in total revenue can be attributed to the fact that streaming generates more money per individual while catering to the largest number of consumers that the industry has ever seen before (Friedlander, 2019). For the first time in 20 years, the music industry was able to regain financial strength. Streaming has favored both sellers and buyers, arguably growing the music industry bigger than ever before.

CHAPTER THREE

I. Introduction

      The previous chapter discussed how streaming services affected the music industry as a whole. This chapter looks at several of the positives and negatives of today's top streaming services from both the consumer and artist's perspective. The services discussed include: Spotify, Apple Music, Tidal, Amazon Music Unlimited, Pandora and YouTube Music.

II. A Consumer Perspective

      In order to understand the consumer perspective of streaming services, this section will analyze the service based on cost structure, music catalog, ease of use, music discovery, and social sharing. Table 3-1 displays characteristics of six different streaming services.

Table 3-1: Streaming Service Characteristics

	Spotify	Apple Music	YouTube Music	Amazon Music Unlimited	Pandora	TIDAL	
Monthly fee	$9.99 or $12.99 with Hulu	$9.99	$9.99	$9.99 or $7.99 with prime	Plus: $4.99; Premium: $9.99	Premium: $9.99; Hifi: $19.99	
Free option?	Yes, with ads	no	no	Yes, with ads	Yes, with ads,	no	
Free trial period	30 days	3 months	30 days	30 days	60 days	3 months	
Family Sharing?	Yes, $14.99 for up to 6 people	Yes, $14.99 for up to 6 people	Yes, $14.99 for up to 6 people	Yes, $14.99 for up to 6 people	Yes, $14.99 for up to 6 people	Yes, 50% off each additional account up to 4	
Student Discount?	Yes, $4.99	Yes, $4.99	Yes, $4.99	Yes, $4.99 or $0.99 with prime	Yes, $4.99	Yes, Premium: $4.99; Hifi:$9.99	
Music Library size	50 million	60 million	Over 40 million	60 million	Tens of millions	60 million	
Radio stations	yes	yes	yes	yes	yes	no	
Offline listening	Mobile and desktop	Mobile only	Mobile only	Mobile only	Mobile and desktop	Mobile only	
Exclusives	yes	yes	no	no	no	yes	
Music videos	yes	yes	yes	no	no	yes	
Pre-made playlists	yes	yes	yes	yes	yes	yes	

Adapted from: Pendlebury, T. (2020, April 6). Spotify, Apple Music and 4 more: What's the best music app for you?

A. Cost Structure

As shown in Table 3-1, all streaming services are priced relatively the same, with paid subscriptions spanning from $4.99 to $14.99 a month. However, as previously discussed, Spotify operates as a freemium service, offering a free ad-based subscription and a paid subscription option. Pandora and Amazon Music Unlimited also offer a free tier, including ads, giving variation and choice to the consumer (Pendlebury, 2020). Not all streaming services offer a free tier, which some music listeners rely on. Giving access to services for free increases popularity with consumers, and potentially takes business away from their competitors. However, all streaming services shown in Table 3-1 offer a free trial period to gain customers. Apple Music, which does not offer a free subscription option, offers a three-month free trial, much longer than the 30 days that Spotify and Amazon Music Unlimited offer (Pendlebury). Another advantage streaming services offer to consumers are partnerships with video streaming services. Spotify gives Premium Student users the access to Hulu and SHOWTIME free of cost, creating strong bonds with other leisure time interests, and increasing their user base (Spotify). Although subscription fees are similar, offering a free tier, trial period and/or partnerships with other services creates competition amongst streaming services, giving music listeners the option to choose the best service for them by means other than costs.

B. Music Catalog

The wide array of music offered on streaming services allows consumers to listen to just about any song they can imagine. Quantitatively, the music catalog of streaming services are relatively similar, offering tens of millions of songs to choose from. However, Spotify, Pandora and YouTube Music fall short of the 60 million song catalog

of Apple Music, TIDAL and Amazon Music Unlimited (Pendlebury, 2020). The main differential in the music catalogs of streaming services is the type of music offered. For example, Tidal focuses on offering under-the-radar hip hop artists and Spotify includes many indie artists not available on other streaming services (Pendlebury). For users that are constantly looking for new artists, Spotify and Tidal offer the most choices. On the other hand, "users who are less ambitious about expanding their musical taste will be satisfied with the smaller catalogs Amazon Music Unlimited and Pandora offer" (Pendlebury).

Another aspect differentiating the catalog of streaming services is exclusivity. Apple Music has been able to sign exclusive deals and partnerships with major artists, like Taylor Swift, Drake and Frank Ocean, being the first to offer the artist songs on their service. (Hall & Kennemer, 2020). Tidal has also benefitted from artist exclusives, being the sole service to offer Beyoncé's *Lemonade* for three years before any other service (Hall & Kennemer,). On the other hand, Spotify has trouble securing exclusives. In the past, artists have chosen to abandon the service due to controversy over royalty payments. In order to increase the popularity of its service, Spotify offers specially recorded, exclusive "Spotify Sessions" with several artists, offering alternativs of previously recorded songs or interviews available only to Spotify subscribers (Porter & Langley, 2019). However, this approach is not unique. Apple Music offers similar pre recorded live content only available on its service. Pandora, with the smallest catalog of music offers no exclusives. CEO of Pandora, Tim Westergren, called the exclusive approach taken by other streaming services "a losing battle" (Porter & Langley). The

different number of songs and exclusive content offered by streaming services are other factors affecting the decision of what streaming service is best for the consumer.

C. Ease of Use

Across the board, streaming services provide users with a simple and easy to use interface. Services are easy to navigate; the main tabs (search, home, browse, radio) are clear, making it effortless for a subscribers to find songs, artists or albums. Figure 3-1 shows an example of a Spotify Premium home page.

Figure 3-1: Spotify Home Page
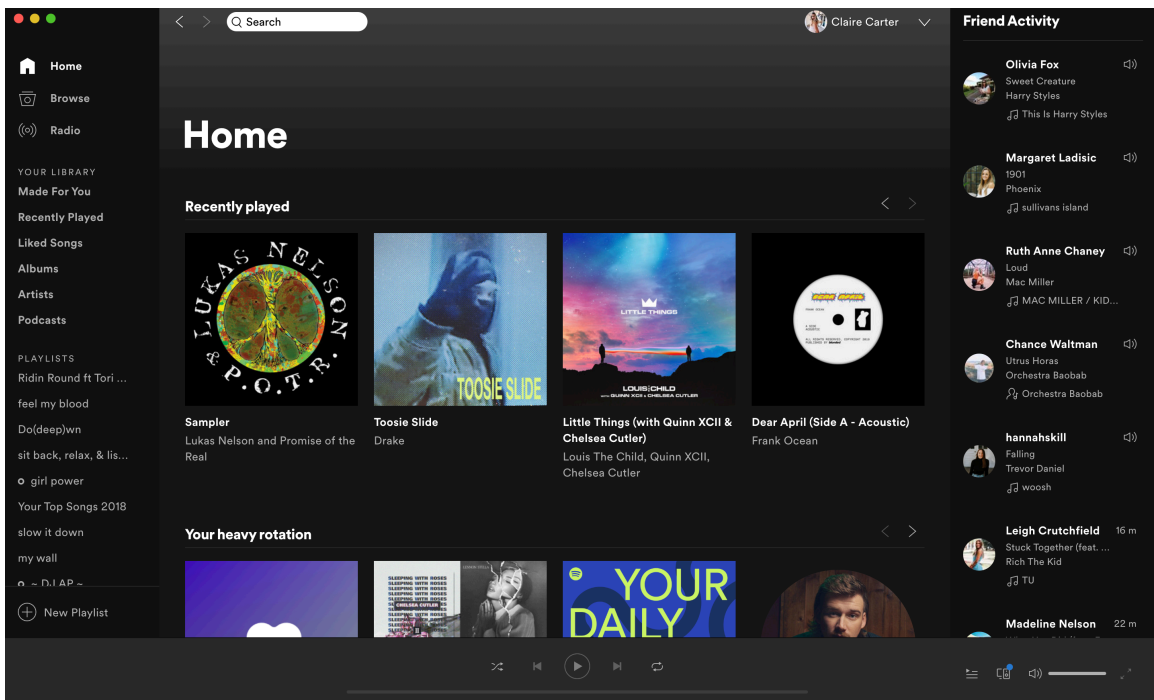
Source: Spotify. (n.d).

However, not all services are accessible on all devices. For mobile and desktop listeners, Spotify, Pandora, Amazon Music Unlimited, Tidal and YouTube Music are supported and consistent across all Android, iOS, and Windows devices, Apple Music is noticeably

different and more difficult to use on non-Apple devices (Levenson & Kennemer, 2020).

Such ease and simplicity seen throughout streaming services websites and apps, speak to

their accessibility to the widest of demographics. Spotify is also accessible on game

consoles, integrated into cars, and compatible with third-party hardware like Amazon's

Alexa and GoogleCast, making it the most accessible across the widest array of devices

(Hall & Kennemer, 2020). The ease of use of streaming service provides consumers with

a simple way to access and listen to music on a wide array of devices.

D. Music Discovery

Streaming services carry an extensive catalog of music, making it intimidating for

listeners to discover new music. However, music discovery is something that many

streaming services see as an important tool to offer listeners. Many streaming services

tools and a vast number of playlists to help subscribers find what they are looking for.

Spotify's software incorporates an algorithm that tracks what every user is listening,

creating a unique and personal experience for each subscriber (Cady, 2018). Figure 3-2

shows examples of personalized playlists made by Spotify.

Figure 3-2: Spotify Personalized Playlists
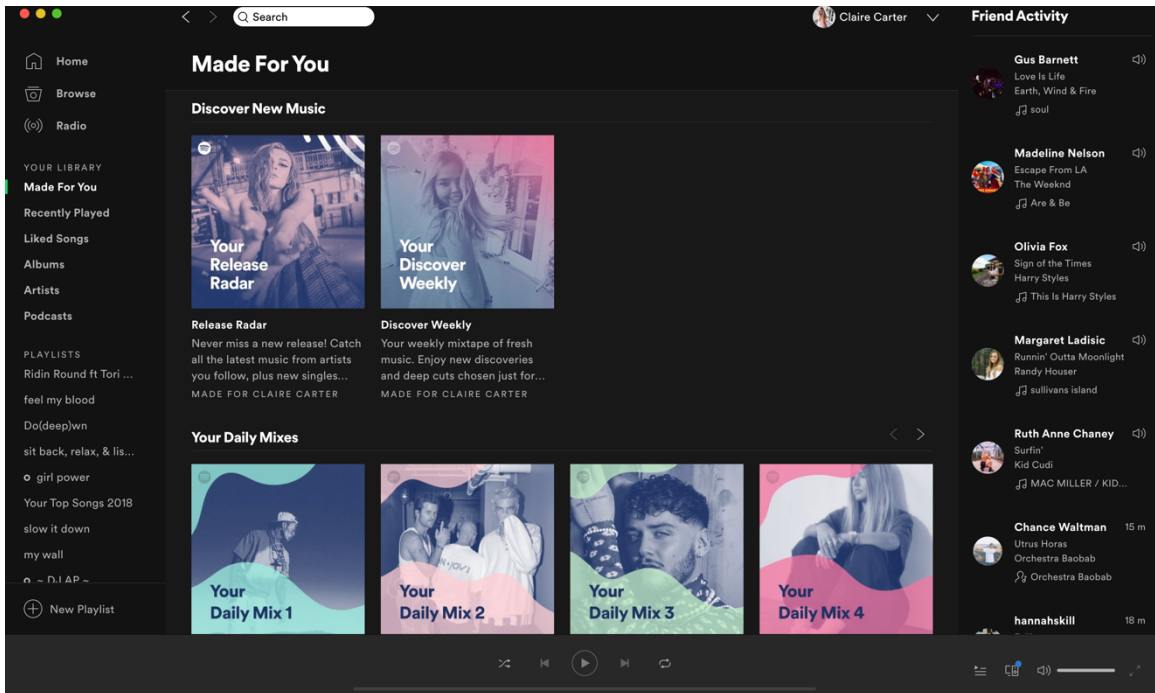
Source: Spotify. (n.d.).

One of the most renowned tools that Spotify offers to aid in new music consumption is the Discover Weekly playlist, shown in Figure 3-2. This personalized playlist is updated weekly featuring a, "two-hour playlist of personalized music recommendations based on your listening habits, as well as the habits of those who listen to similar artists," (Levenson & Kennemer, 2020). Discover Weekly consists of tracks by new artists and songs one might have missed by an artist they already love. Apple Music, Amazon Music Unlimited, Pandora, Tidal and YouTube Music also offer pre-made playlists available for users to listen to. Such personalized features add to the strong relationship between these services and it's users, strengthening the customer rapport.

Another tool that is offered by streaming services to aid in music discover is a radio feature. Pandora, one of the most popular radio services in the US, analyzes each track "according to 450 different attributes in order to give better suggestions" (Pendlebury, 2020). Spotify, Apple Music, YouTube Music, and Amazon Music Unlimited also offer a Radio tab that offers stations based on artists and songs they frequent. By offering new music found on personalized and pre-made playlists and on the radio of streaming services, consumers are able to discover music that they might not have ever encounter before.

E. Social Sharing

One of the biggest advantages of streaming services, is the ability to listen and share music with others. Many streaming services allow subscribers to listen and follow playlists created by other subscribers. However, Spotify goes beyond that. Spotify's P2P technology allows users to track what their friends are listening to in real time, shown in the Friend Activity tab in Figure 3-2. Spotify has the capability to integrate with Facebook, making it easy for users to find their friends that they are already connected (Levenson & Kennemer, 2020). Another exclusive aspect of social sharing unique to Spotify is collaborative playlists. Collaborative playlists give users the ability to make playlists with friends that they are connected with on the service. Spotify, Apple Music, Pandora, Amazon Music Unlimited, Tidal and YouTube Music also allow users to share their favorite songs and playlists to other social media outlets or via a link that can be sent over text message or email. This interconnection both grows the user base and connects others through a common interest, music.

III. An Artists Perspective

In order to understand an artist's perspective of streaming services, this section will analyze streaming services based on royalty payments and discoverability.

A. Royalty Payments

Music industry professionals, including artists, rely on royalty payments, as a primary source of income. Royalty payments are distributed to the owner of the music, whether it be the artist or, in most cases the record label or distributor with whom the artist has a contract (Swanson, 2013). During an interview, Sheryl Crow, a popular country music star in the 90s and early 2000s, explained that artists generally sign what is called a 360 deal with a record label. The label takes a percentage of the income from the music, writers publishing, merchandise, and touring with the promise that the label will compensate the artist in ways other than financial. The two main types of royalty payments that artists rely on are performance and mechanical royalties. Passman (2019) explains that performance royalties are paid every time someone performs an artist's song publicly and mechanical royalties are distributed for devices to mechanically produce sound. Performance royalties, historically, were paid based on TV and radio airplay. Furthermore, when a song was played on the radio, 100% of the performance royalties were paid to the songwriter/rights holder (Passman). Crow explained that in the beginning stages of her career, "when you toured and as your song grew on the radio, your albums sold and you had a direct indication of how you were doing and, of course, how you made money." However, as music became digitalized and streaming services emerged performance royalties became harder to allocate. Now, performance royalties

are paid by the performing rights societies that obtain the license of an artists' work from the publisher, distribute the license to those who want to use them, collect the money then distribute the money back to the artists and publisher. The preforming rights societies pay 50% of the earnings to song writers directly and the other 50% to the publisher (Passman). Since artists now have to split the payments with their publisher, they are making less money off of performance royalties.

Before streaming services emerged, physical sales dominated the income streams of the music industry and mechanical royalties were easily allocated based on how many albums an artist sold Royalty payments were distributed the same among all artists and the simple allocation process was rarely disputed. Pirated music and illegal downloading sites created a rift in this simple flow of revenue in the early 2000s. Now, payments to artists are now allocated based on popularity and the number of streams (Passman). The more a song gets streamed, the more an artist gets paid. The mechanical royalties from streaming services do not have a uniform formula and are often disputed amongst artists who believe they aren't being compensated enough. Table 3-2 shows the royalty rates paid by streaming services.

Table 3-2: Average Payout Per Stream

Streaming Service	Average payout per stream	Number of streams to earn one dollar
Tidal	$0.0125	80
Apple Music	$0.00735	136
Spotify	$0.00437	229
Amazon Music Unlimited	$0.00402	249
Pandora	$0.00133	752

Adapted from: Routley, N. (2019, September 13). How Many Music Streams Does it Take to Earn a Dollar?

Although its payout is higher than that of Amazon Music Unlimited and Pandora, Spotify has been in the forefront of streaming services criticized by artists. Spotify distributes only seventy percent of a song's earnings to rights holders for mechanical royalty payments, paying on average 0.4 cents ($0.00437) per stream (Routley, 2019). The right holder's income may be split between the record label, producer, songwriter and artist, driving down the payment an artist receives. This number is far less than Tidals's 1.25 cent ($0.0125) payout and Apple Music's average of 0.7 cents ($0.007) per stream (Routley). This gap in royalty payments has been attributed to Spotify's freemium model, "because advertising generates much less per subscriber than a subscription does" (Passman, 2019, p. 92). Due to the low royalty payment rates, big name artists like Taylor Swift and The Black Keys, have publicly criticized Spotify, even withholding their music from the service. Swift was reported saying, "I'm not willing to contribute my life's work

to an experiment that I don't feel fairly compensates the writers, producers, artists, and creators of this music" (Nusca, 2019). Crow had a similar opinion to Swift's. She explained that artists have to pay out of their own pocket to make a record, the very product on which the streaming service relies. In return, Spotify pays next to nothing for the products but makes a huge amount of money on the membership charges, Crow explained. Royalty payments to artists by streaming services offer no benefits over the traditional payments from physical sales. According to Swanson, some artists "worry that Spotify is more interested in building a strong, lasting business than supporting artist's careers and the industry." Other artists point to that fact that, without the music that they make, there would be nothing to stream anyway. Streaming services continue to make money from the work created by artists, and artists are left unsatisfied by what they receive in return.

B. Discoverability

Streaming services offer an almost unlimited catalog of music, giving music listeners the chance to explore music they would not have been able to before. In return, streaming services present artists with more platforms than ever before to get their music discovered. As previously discussed, Spotify, Apple Music, Amazon Music Unlimited, Pandora and YouTube Music offer playlists that encourage the discovery of new music and artists. The radio feature offered by all of these services, except YouTube Music, too generate songs based on a song or artist an individual already likes, expanding the possibility of a consumer being "matched" with a new artist or genre. This option offers an array of music that consumers might have overlooked otherwise, giving artists the chance to build new fanbases. As a consumer, Crow believes streaming services expand

her horizon of music, "I can have a Spotify playlist playing in the house and expose my kids to music they would not necessarily listen to." However, she believes that not all artists are able to benefit from the music discovery tools that streaming services offer. Crow explains that streaming services cater most to the dominant demographic, 13 to 26-year-old users. Since her music is more popular with older individuals, she believes that her popularity or lack thereof, reduces her play time on the radio and most playlists. Although streaming services contain tools that aid in artist discovery, not all artists are able to reap the benefits.

IV. Conclusion

Streaming services offer many benefits to the consumer and artist, but still have shortcomings. The ease of use, extensive catalog, accessibility, and compatibility with a wide number of devices increase the popularity of streaming services with consumers. A free subscription option, offered by Spotify, Pandora, and Amazon Music Unlimited make streaming services available to almost every music consumer across the globe, which in turn has increased overall legal music consumption. The free tier model promotes the popularity of streaming services among all demographics. Including all, excluding none. However, offering a service for free has its downfalls especially from an artist's viewpoint. The freemium model is not appreciated by all artists, as many music makers feel undercompensated. Spotify's royalty payments are lower than its competitors, stirring artist criticism about the service. Additionally, the pre-made playlists offered by streaming services are beneficial to both artists and listeners. These playlists, public and personalized, expand the possibility for consumers to find new

music, in turn creating an awareness of artists that was not possible through the brick-and-mortar sales of records and CDs. Being placed on a playlist is an advantage for artists, as it exponentially grows both their popularity and profit. As streaming services continue to drive music consumption, both artists and listeners are reaping the benefits that these large platforms have to offer.

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