For Better or For Worse: Spotify and the Music Industry

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Writer's Comment: As a Communications major who loves to write poetry, this computer science paper for ECS 015 (Intro to Computers) was especially challenging, yet rewarding to write. Writing has always been a way for me to express myself, and in many ways, this research paper gave me the chance to express myself through a new medium. Since this paper was written over the course of a quarter, I really learned to give myself to the writing process and enjoying my time writing, editing, and proofreading. The idea for this paper came from a conversation I had with my brother a couple years ago when some major artists began removing their work from Spotify, claiming it was hurting themselves and smaller musicians. Although I had been a loyal Spotify customer for years, I couldn't stop thinking about whether these claims were true, or if these artists were just money hungry. I hope that readers will leave with a better understanding of the music industry and the way that music streaming services operate.

Instructor's Comment: The prompt for the term paper in ECS 15 (Introduction to Computers) seems simple enough at first reading: "Write a research paper on the use of computers in some field of interest to you." However, choosing that "field of interest to you" makes all the difference. For example, choose a popular subject such as "computers in medicine" and you'll be overwhelmed by possibilities. On the other hand, a topic like "computers in yoga" will leave you with very little to write about. The challenge for an ECS 15 student is to find a subject that's constrained, but not too constrained, and that will motivate the student for the duration of the writing process. I mention this *because "Spotify and the Music Industry" wasn't Stephanie's original topic choice. As good writers often do, Stephanie threw away her first choice and followed a different path. The result is an exceptional paper on music streaming services and the challenges they pose to the music industry. Stephanie's paper is current, objective, insightful, and easily among the best pieces of undergraduate writing that I have had the pleasure to read.*

– Kurt Eiselt, Department of Computer Science

Spotify, an online streaming music service, has been the center of debate for years in America's multi-billion-dollar music industry. The company was founded in 2008 by Swedish entrepreneur Daniel Elk and was made available to American music listeners in 2011. Since then, Spotify's new interactive streaming model, which includes "freemium" and paid subscription services, has impacted the music industry's business model and created a new way for people to consume music. With over 40 million paying subscribers, Spotify currently ranks number one as the most popular music service in the world, with more users than Apple Music, Tidal, or Pandora. Of course, with popularity comes critical backlash. The company, and its CEO, have been on defense since Spotify's introduction into the US music marketplace, facing public opposition from recording artists, labels, and music industry executives. Piracy concerns, a decline in physical record sales, and Spotify's pay-per-stream model have been major points of discord between music industry professionals and streaming companies. Many in the industry agree that streaming services are the way of the future, but some are still concerned about the ethics of streaming companies and whether musicians, especially independent artists, are being treated fairly. Despite these constant criticisms, streaming services are likely here to stay—at least, until a new technology that is better, faster, or cheaper comes onto the marketplace. Ultimately, the music industry will continue challenging Spotify and other streaming companies, until they can convince enough of their users to switch from "freemium" to paid subscription plans.

To understand the debate over streaming, it's important to understand the progression of music technology throughout history. Dann Albright (2015), psycholinguist and journalist, discusses musical history in terms of technological inventions from the late 1800s until today in his article "The Evolution of Music Consumption: How We Got Here." The phonograph, created in 1877, was the first device capable of recording and playing music, using a recording stylus that created indentations on a phonograph cylinder (Albright, 2015). These indentations, or pits, were then played through a large horn using a separate playback stylus (Albright, 2015). During this time, music cylinders were made meticulously by crafters and only available to a small minority of the population with enough money to afford luxury goods. The second transition happened during the 1890's, when machine stamps were created that allowed companies to produce records in mass (Albright, 2015). The price of music steadily began to decline and more people had the opportunity to enjoy records that could be easily produced. But, it was the invention of the transistor that sent the music industry on a path away from analog towards all-digital platforms, as it helped bring advanced and convenient technology to the marketplace for cheaper prices. Moore's law, which states that the number of transistors in technology doubles every two years, explains why society has changed so quickly from 8-track tapes to CDs to MP3s. Per dates specified by Albright, it took almost 44 years to get from vinyl to tape, but only 15 years to get from CDs to MP3 files (2015). These technological advancements allowed for streaming services, like Spotify, to exist as digital music became the new norm.

The iconic website Napster was one of the first online sites to take advantage of digitization to spread music to the masses in a free and easily accessible way. Napster, created in 1999, was a peer-to-peer (P2P) service that let people share and receive free music files online or through email (Swanson, 2013). The site was shut down after intense legal battles with copyright holders who claimed infringement on their personal property, but Napster had already changed the face of the music industry (Swanson, 2013). Apple's iTunes store, Rhapsody, and Pandora all came shortly after Napster's rise and fall from grace, each helping to further the digital music sphere into a more legitimate form of music listening compared to Napster's illegal file sharing. The invention of Napster was the technological stepping stone to today's streaming services (Marshall, 2015).

Spotify is considered an "on demand" streaming service that operates on two plans for its consumers. The first level, Spotify Free ("Freemium"), lets users listen to music for free if they allow advertisements intermittently throughout their music listening experience. The user will have limited options if they choose not to pay for a plan. For example, the user can only listen to music on shuffle mode and cannot access a higher quality sound in the premium subscription. They also cannot listen to songs on demand and are limited to a certain number of skips in shuffle mode. For as low as $4.99 per month, users can upgrade to the second tier, Spotify Premium, which gives them consistent, high quality, on demand music on all platforms. The music is considered "on demand" because users can listen to their song of choice instead of having a more radio-like experience where music software chooses the next song based on a computer-generated formula. Streaming services can access millions of songs by making deals with labels and independent artists for a certain percentage of Spotify's profits. This income comes from advertisements in the Spotify Free tier or subscription payments from Spotify Premium. According to a 2015 article by *The Verge*, artists make approximately $.006 and $.0084 cents per Spotify stream depending on a range of factors, including the number of users with paid premium subscriptions and the popularity of the artist (Plaugic, 2015).

Streaming services are currently locked in a heated debate with music industry professionals over whether or not the pay-per-stream model is adversely affecting the industry and music artists. As the top streaming service in the world, Spotify takes up much of the spotlight, especially after popular artist Taylor Swift pulled all of her music from the service in 2014. Many artists and music industry professionals believe that the backlash is warranted, while other professionals argue that Spotify's ability to act as a legal alternative to pirating justifies its existence (Swanson, 2013).

The streaming service was originally started with good intentions. Combating music piracy was one of the main reasons Daniel Elk, Spotify's founder, began the company. With the appearance of Napster, piracy around the world began skyrocketing as people began to see peer-to-peer sharing as a way of owning free music. This was after the music industry hit a high in the late 1990s as people dealt out money for the popular music CDs of the day (Shaw, 2016). After the creation of the digital MP3 player, the industry began experiencing a decline as more people took to the internet to pirate their music, rather than spend money at physical or online music stores. Elk believed that streaming services simply monetized already existing consumer behavior, and that

Spotify was a legitimate alternative to the global issue of pirating.

Despite criticism against it, Spotify has lived up to much of its early promises. Streaming services are saving music sales, which have continually been declining for the past two years because of struggles with piracy and lack of interest (Shaw, 2016). Even Carl Sherman, the president of the Recording Industry Association of America, has spoken out on the subject. In a recent blog article entitled "The Modern Music Industry Midway Through 2016," Sherman admitted that much of the growth in the music industry in recent years has been brought about by music subscription services (Sherman, 2016b). 2016 is the first time that music professionals have seen consistent sales generated since 1999, when music record sales reached their peak (Singleton & Popper, 2016). Sherman also credited streaming services with a high contribution to these record-high sales numbers: "Streaming in all its forms accounted for almost half of all recorded music revenue in the first half of 2016" (Sherman, 2016b). Since Spotify is the most subscribed to streaming service, with more users than Tidal or Apple Music, many deem the company's impact on the music marketplace a considerable one, as well as the main contributor for the music industry's rise in sales. Approximately one billion dollars was spent on streaming services in the first half of 2016, with more people than ever opting for paid subscription plans. Music spending in total for the same year, including physical record sales and online music sales, reached over $3.4 billion dollars accordingto some industry statistics (Shaw, 2016). All three major record labels—Universal Music Group, Sony Music Entertainment, and Warner Music Group—have all seen improvement in sales, largely due to the popularity of streaming services in the United States (Shaw, 2016).

Many still believe that, despite picking up a falling industry, Spotify is not doing enough to help musicians earn a living wage; this seems especially the case with independent artists. In general, most contrary opinions state that the level of music-buying is decreasing. During the days of CDs and records, buying music was much more of a public endeavor. Record stores were popular and people frequently went to midnight releases of albums by their favorite artists. Now that music-buying takes place in the privacy of one's own home, it is easy to assume that fewer people are spending their hard-earned dollars on music. With big box stores reducing their CD sections, and far fewer music stores around, music culture has made its move online. In fact, statistics show that an individual who pays for streaming services over an entire year will spend more than individuals who bought physical CDs in the 1990s (Shaw, 2016). A typical CD buyer in 1990 spent only $50 per year on music spending, while a music streaming subscription could cost as much as $120 per year (Singleton & Popper, 2016). With Spotify holding a 25% conversion rate from "freemium" to paid subscriptions (Singleton & Popper, 2016), more people than ever before are investing money in their music.

Many of Spotify's defenders believe that critics are simply looking at streaming services from the wrong perspective. It is illogical, they say, to suggest that streaming services and store-bought albums are equal. Streaming services need to be taken seriously as a new form of technology and cannot be compared to previous technologies. Each had a dedicated phase in which they were the most in-demand technology, and each corresponded to customer needs at the time. This suggests that a major change is overdue concerning how people view the streaming model. When radio DJs play one song, they are sending music over airwaves to hundreds, or thousands, of people in one sitting. On the other hand, streaming occurs on a one-to-one basis with individual people accessing the song they want to hear at the moment. This explains why the cost per stream is so low, and why Spotify claims comparing streaming to airplay is inaccurate.

The same arguments leveraged against Spotify have also been used against the music industry for decades. Before Spotify was "starving" artists, many blamed industry giants, like Warner Brothers and Sony Music, for not giving artists a large enough cut of their album revenue. The living wage argument did not just recently start with the emergence of streaming companies. When a new CD is brought onto the market, it's common for labels to lose money with any given artist until their record reached gold status, or when an album or single has sold 500,000 units (Swanson, 2013). Labels were simply trying to recoup their losses from investing time and money into a new artist that might not become popular. For the majority of music history, most of an artist's income came from selling tickets to live performances and shows. Even when on tour, artists still needed to consistently play to crowds of 500 or more to make a steady income (Swanson, 2013). Spotify also states that complaints about small streaming incomes for artists is partly due to the contracts between the labels and artists themselves. Streaming companies do not pay artists directly; rather, they pay label companies, which in turn distribute streaming payments according to individual contracts with their artists, songwriters, and other music professionals (Marshall, 2015).

Labels have been a major part of the music industry since the beginning. Prior to the internet, record labels were essential for an artist to produce music and to get their music into the hands of the masses. With access to producers, songwriters, and PR experts, getting picked up by a label was any artist's dream and indeed the only way of making it big in an industry swamped with up-and-coming artists. Advancements in technology have radically changed the value of music labels, making many question their worth in today's society, especially as more people make their names online. Social media websites such as Facebook and YouTube let anyone showcase their talent and gain an audience of devoted followers. Spotify has recently been experimenting with the idea of signing up artists independently, instead of making contracts with major labels for access to music (Singleton & Popper, 2016). These attempts would essentially make Spotify into its own kind of music label, letting any musician get their content onto the streaming platform. With the middle-man no longer in the equation, many wonder if streaming services will make labels obsolete.

Although streaming services have brought some positive change upon the music industry, it would be unfair to discredit the criticism against them. For one, the music industry still has not reached a revival from its glory days of physical CDs in the late 1990s. Although streaming services have a strong market demand, they still have not helped the industry reach another high peak in terms of profit, despite the cult of celebrity suggesting otherwise. Glamorous award shows, such as the American Music Awards and the Grammys, make it seem as though all artists are raking in big money for their albums and appearances, but some music industry professionals suggest that this might be just a facade. Cary Sherman, the President of RIAA, paints a much different picture of artist and label relationships with Spotify, claiming that "many [streaming] services rake in billions of dollars for themselves but pay only relative pennies for artists and labels" (2016). To provide a glimpse into income difference between streaming services and track downloads, 500 track downloads on iTunes would net $3,487, while the same amount in streaming would only amount to $6.50 (Marshall, 2015). Overcrowding in the marketing place is not helping either. Apple and Pandora are both in competition with Spotify to have the best artist deals and featured content, resulting in more company-specific deals for select populations. Spotify currently has a plan for students with a college email address that costs 50% less than the original Spotify Premium. Spotify Family, a plan that includes up to six different users per account, costs only $14.99 per month. These discounts are one of the many factors that impact an artist's streaming paycheck.

Although these small amounts might seem insignificant to major artists, Spotify's hierarchy of payments adds insult to injury for up-and-coming musicians. Payment hierarchies are the way Spotify, and most other streaming services, decide how much they want to pay an artist for each individual stream. Price per stream varies based on whether the user streaming has Spotify Premium or Spotify Free, with less money going to the artist for users on advertiser-friendly plans (Seabrook, 2016). How much an artist gets paid via Spotify can also be a direct result of their core audience demographic. College-aged music fans, with less disposable income, will give less to their favorite musicians compared to older fans with more disposable income. Spotify's payment system also inherently favors more popular artists when it comes to determining the specific amount for each song streamed. Despite popular knowledge, payment is not allocated to only the music the user has listened to; rather, most of the user's subscription goes to the highest streamed artists on the platform (Marshall, 2015). Popular artists who receive a higher number of streams will receive a higher percentage of the overall income that Spotify brings in from subscription plans and advertising efforts (Marshall, 2015). Changing the payment system might help smaller artists, but it is highly unlikely that Spotify will ever change their core business model.

Spotify's Daniel Elk has a response for all the criticism that his company has been faced with since its inception. Most industry professionals see music sales on a per-unit basis, similar to buying an individual song on an online music store. Statements from Elk suggest that the music industry needs to turn away from the unit-based business model and towards a more dynamic view of streaming services. People do not buy music from streaming services—instead, the user pays for *access* to the music for a designated period. Over an extended period, these small payments for music access will result in larger payments and more cash in the pockets of artists and industry professionals (Marshall, 2015).

While music labels may criticize streaming services for lowering music sales, Spotify's biggest opponent is not artists or industry bigwigs. Indeed, it is piracy (in the form of illegal music downloading) that seems to be giving Spotify its bad name. The switch to streaming services has many researchers debating whether there has been a correspondingly positive or negative effect on the worldwide amount of music pirating. After all, one of the main reasons Elk started Spotify was to make streaming a viable alternative to piracy in the digital age. If piracy has decreased, then one could say that streaming services have fulfilled a valuable goal for the music industry; if piracy has risen, then streaming services are only adding to the global firestorm of digital piracy.

When it comes to discussing online music piracy, the Digital Millennium Copyright Act (DMCA) has been a major source of frustration and debate for the music industry. DMCA was created in 1998 to help protect copyright holders, and although it worked well with late 90's technology, it has done very little to help combat copyright following the creation of the internet and online file sharing sites (Sherman, 2016b). Although websites that directly host illegal content can be found under violation and removed from the internet, DMCA allows for sites that function as Internet Service Providers to not be legally accountable for their users if they agree to terms set by copyright holders. This is why Napster was taken down for illegal file sharing, but a copyrighted song uploaded to YouTube is allowed to stay on the site until a DMCA notice is filed. As of July 2016, both BPI and IFPI music trade associations have sent over 280 million DMCA notices to Google, flagging various copyrighted songs on Internet Service Provider websites (Sherman, 2016a). The flaws in DMCA have resulted in almost 57 million people still getting some, or all, of their music from pirated sources, which includes "stream ripping, [downloading] from storage locks, mobile apps, and drive systems" (Crupnick, 2016).

DCMA shouldn't carry all of the burden for the music industry's decrease in revenue. Part of the blame for the 20 million Americans currently estimated by the Federation of the Phonographic Industry to be pirating on a regular basis (Carman, 2016) can be placed upon the competitive marketing strategies between streaming services. Artist and album exclusives by streaming companies may be a way to bring in subscribers, but this may also be exacerbating the pirating problem already at hand. With streaming exclusives becoming more popular, users are less able to get all their music available on one service, unless they are willing to pay for multiple services at once. The result has been widespread pirating of artists that have made deals with specific streaming companies, or users only buying a subscription to access a specific album for a short period of time (Singleton & Popper, 2016). For example, Kanye West's latest album *Life of Pablo* was only available on Tidal, a popular streaming platform owned by Jay-Z, for the first few months after it was released. During that time, it is estimated that 500,000 people illegally downloaded the album from various file sharing websites (Carman, 2016). Each of the illegal downloads resulted in loss of income for the artist, the streaming services, and the industry professionals behind the production and creation of the album. Although exclusive content may help to bring more business to a specific streaming service, ultimately, they may be doing more harm than good to the industry and inflicting damage on Spotify's mission to eradicate pirating.

Academic research offers conflicting viewpoints about music streaming services and their influence on worldwide pirating. In their paper "Streaming Reaches Flood Stage: Does Spotify Stimulate or Depress Music Sales?" Luis Aguilar and Joel Waldfogel conclude that Spotify has been revenue-neutral for the music industry, stating that "losses from displaced sales are roughly outweighed by the gains in streaming revenue" (2015). Their research also shows that Spotify has helped to decrease the amount of music piracy in the United States and across the globe, but does not do much to help the music industry in terms of net profit (Aguilar & Waldfogel, 2015). Karla Borja and Suzanna Dieringer, however, conclude that streaming services like Spotify increase instances of pirating by 11%, with more streaming directly correlated with higher rates of music pirating (Borja & Dieringer, 2016). This might have to do with the fact that most people "do not view streaming as a low-price substitute for pirating," as many complain that streaming services are still too expensive (2016). In fact, Borja and Dieringer found that the two most predictive factors for pirating were peer pressure and a high tendency towards risk-taking (2016). College students seem to be the population where this suggestion holds most firmly, as students have little income and many expenses. With higher levels of risk-taking, students from high school and college are more likely to pirate from illegal file-sharing websites because they have less money to buy music and are more susceptible to the considerations of others.

While peer pressure surely plays a significant role in piracy behavior, internet users may have more complex reasons behind why they resort to pirating even when low-cost alternatives like streaming are available. Russ Crupnick, a writer for MusicWatch.com, conducted a survey with 1000 respondents between the ages of 13-50 and found that the reasons for music pirating are varied between different age categories (2016). Some people surveyed simply state that they want to own the music, rather than only have access to it for a brief period, while others only pirate music if they do not like the track enough to purchase it on a digital music site (Crupnick, 2016). Many of the respondents stated that they wanted to have "on demand" music on their smartphones, a feature that Spotify Free does not include for advertiser-friendly users. More surprisingly, a large proportion of people surveyed who pirated music claimed that they spent a reasonable portion of their income on buying music from legal sources, even though the average amount for people illegally downloading music was slightly smaller than the average music buyer (Crupnick, 2016).

Although criticism of streaming is high, and research gives conflicting information concerning piracy, streaming services have made their mark on the music industry. Users on these sites, premium or "freemium," have grown accustomed to accessing large quantities of music for free, or for incredibly cheap prices. Music labels must adjust to these changes and work accordingly with streaming services in order to stay relevant into the 21st century, especially with the potential for streaming services to independently contract with musicians in the near future. Whether the debate will subside depends on how quickly streaming services can sign up new paid subscription members. As more subscribers join, the more money artists will see in their pockets and the less agitated music executives will be with Spotify's cut of the profits. This not only applies to big name artists receiving millions of streams, but also indie artists starting out in the entertainment world. Allowing for longer free trials, discounts for special demographics, and family memberships are all ways that streaming services can help increase paid subscribers on their service. Although prices will be reduced, any amount of money that can be paid towards the music industry is still better than having musicians' work be pirated. Marketing towards older generations on the benefits of streaming services may also prove to be useful in increasing the number of paid subscription members. With Spotify holding a high conversion rate of users from free to paid plans, it is likely that streaming services will become more normalized in music history and will begin to secure a stronger reputation in the eyes of industry professionals.

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