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The New Pioneers Of Digital Music: Spotify and Pandora

It's the future. We are already here. People are using hand held computers that
make phone calls to stream music directly to their ears via the internet. They no longer
need to carry cd cases around with them or even keep a collection of downloaded
songs on their computers. The internet already has the songs, and the people can
listen to them without ever obtaining a copy of it themselves. They don't even have to
pay for it. But I am not talking about illegal downloading, I am talking about the newest
breakthrough in digital music listening by such websites like Pandora and more
recently, Spotify. They both have their differences but essentially what they have
created is a new way to profit from online music listening that skips over the need to
download anything, but allows you to access a massive song library that would
otherwise take a lifetime to obtain by streaming the songs online. Some music fans
may misunderstand how these sites operate, seeing them as another exploiter,
designed to capitalize on the failed control the music industry has had in the digital
world. But most artists, music professionals and many fans know that they are another
savior, here to help in the fight against free file sharing. Websites like Pandora and
Spotify are the future of music listening and are here to help not only themselves, but
the fans, the artists, and the industry.

From the days of old when record companies held all the power, the digital age
has created a paradigm shift putting the power into the hands of the fans and artists

like never before. Artists can now connect with fans instantly via the internet without any barriers of time or space, or any strong arming from a record company (Sen 1). It has always been a dream for artists to have direct connection to their fans, and now that the dream is closer than ever, we realize it comes with a price tag (or lack of one). File sharing has created a revolution that has changed the way consumers listen to music, and how much they value it. Over the last couple decades the music industry has had to learn the hard lesson that file sharing is not the best way to make money, and finding new, creative ways to sell music the only way to stay in business. This has inevitably lead to break throughs in which the tech savvy entrepreneurs have found ways to make money from the untamed new world of file sharing, and some of them did not all have the best intentions (Napster). To fully understand how music listening websites like Pandora and Spotify aid the music industry, artists, and fans, we need a brief history of what went wrong when the digitalization of music first began.

Brief History of Digital Music

The invention of the compact disc is one of many technological breakthroughs that affected the music industry and by the year 2000 it was the obvious leader in popularity. Cd's sales are still leading the way in the music industry. In 2008 Cd's accounted for around 84% of all album purchases but that number has been declining rapidly since the invention of the MP3 file (Pikas, Pikas, Lymburner 1). MP3 stands for Motion Picture Experts Group (MPEG), Audio Layer III, and is a system that compresses audio files to a smaller size without relatively losing any sound quality. The system was patented in 1989 in Germany and did not receive a patent in the United States until 1996. After it was tested for a few years it launched into the

American market in 1999 giving us the newest invention of the time: MP3 players (Pikas, Pikas, Lymburner 1) . But the MP3 file also gave us the ability to share songs with friends, which sounds fun until it ruins the entire economy of a music industry.

Since the invention of the MP3 file, sharing has become a huge problem for people trying to make money in music since purchasing a song is no longer necessary if it can be given away for free. Music piracy is the illegal downloading (which could also be called sharing) of audio files like MP3's. This is still an out of control problem and we have had MP3 flies for over a decade now. The International Federation of the Phonographic Industry calculated that piracy accounted for about $4.6 billion dollars world-wide (Pikas, Pikas, Lymburner 1). This number will continue to grow as music file sharing sites become more and more popular and accessible. However, Some proponents of file sharing argue that not all the songs that are illegally downloaded were going to be purchased by the consumer in the first place, meaning the free music is only being taken because its available, not wanted. Secondly, sampling music can stimulate interest in particular artists, raising consumer awareness which may lead to actual music purchases (Waldfogel 2). However even those who argue this understand that since file sharing began, music sales have plummeted. This began when the first download sites were introduced online by Napster and Limewire. During this time, in order to use these sites the only thing a user needed to do was sign-up, after that they could download all of the free music that was available (Pikas, Pikas, Lymburner 1).

Although the legal battles that followed between Napster and members of the Recording Industry Association of America (RIAA) were positive steps in the fight

against copyright infringement and illegal file sharing, even the shutting down of websites like Napster have not stopped it, or even slowed it down. In 2008, around 40 billion music downloads, 95% of the total worldwide, were infringing on copyright laws (in other words illegal), according to the International Federation of the Phonographic Industry (Seidenberg 1). Illegal file sharing has even wider economic implications according to the RIAA, which stated that in 2005 at least $25.6 billion in revenue was lost to piracy. It was also estimated that 373,000 jobs are lost annually in related fields and industries, and $2.6 billion is lost in tax revenue for local, state and federal governments every year (Seidenberg 2). As depressing as that is, it turns out that website companies can be just as creative as musicians when it comes to finding solutions.

One of the first advancements came from Apple, which wanted to provide its own music library service called iTunes. After meetings between Apple and the RIAA, Digital Rights Management Software (known as DRM) was introduced in Apple's iTune Store in 2003. DRM software was made to put a lock on downloaded music, which would limit how you could share a purchased song. DRM encoded songs would only be allowed to play on certain approved music players as well as a limited number of computers, which is quite a technological invention. To prevent illegal file sharing, the top four music companies in the world (Universal, Sony BMG, Warner and EMI) provided Apple with the license to distribute their songs, which account for 70% of the worlds music (Pikas, Pikas, Lymburner 4). Apple used DRM software for their online music store iTunes for a few years, and even with the restrictions placed on the songs, at the end of 2006 Apple announced that the sales from its online store reached just

under 2 billion songs (Pikas, Pikas, Lymburner 4). Unfortunately the industry was still seeing extremely high amounts of illegal file sharing, and the problem was their own C.D. sales. Since C.D. sales still accounted for about 90% of total music sold, it was still extremely easy to share the music obtained from the C.D, which had no DRM software encoded on it (Pikas, Pikas, Lymburner 5).

The need to have software encoding on downloaded songs became a lot less necessary after files were still obviously being shared once the C.D. version was purchased. That is why in 2009, Apple changed the rules of its iTunes store, making all song downloads DRM free. This was already being done by sites like Amazon and Limewire for over a year by that time, but music labels were reluctant to give over the same power to Apple since they commanded such a large market for legally purchased music (Pikas, Pikas, Lymburner 5). However at least profits were still being made on purchased songs through the iTunes store, although they could now be shared without a problem. Songs prices ranged from $.69 cents to $1.20 and albums were generally $9.99 at the time. The songs also have better sound quality than DRM encoded songs, so paying for the download became more appealing (Pikas, Pikas, Lymburner 5). Although Apples iTunes store is a huge success for redirecting illegal file sharing into actual music purchases, there is still lots of room for file sharing to happen, and therefore it still does, all the time.

But other advancements in technology have once again redirected file sharers away from downloading illegally, by providing them with a free option for listening to music. This has been done through the invention of internet radio and subscription based music listening sites like Pandora and Spotify.

Internet radio was introduced in the early 2000's right around the same time as satellite radio. For various reasons, satellite radio saw most of its subscribers coming from an older age group (around 35 and above), and internet radio was making its steady growth through the younger age groups who were more familiar with the internet in the first place. Currently, internet radio has become much more prominent than satellite radio, with internet radio subscriptions in the 200 million range, and satellite radio subscriptions are around 30 million (Mooney 5). Along side social network sites like myspace, various internet subscription services like napster, Last.fm, rhapsody, slacker, Live365, and many more have jumped into the spotlight hoping to cash in on the new music listener, which wants the massive music libraries these sites can offer. Essentially, internet radio websites allow a listener to create a "radio station," based off of personal preferences in music such as artists or music genres they like. The site will then play music that is similar to the preferences they specified, such as similar artists and songs. Websites like these have provided the newest answer to the file sharing problem, and Pandora is currently leading the pack.

Pandora

As of 2012, Pandora claims to have reached 175 million users, which far surpasses any of its contemporaries. The main reason why Pandora has taken such a strong hold in the internet radio world, is because of the Music Genome Project. Tim Westergren, a co-founder of pandora, created the music genome project in 2000 as a way to classify music similar to a taxonomy (Shelley 1). In Anne Shelley's article "Pandora," she describes how Westergren went about doing this.

"Starting with an initially meager list of variables, Westergren hired a team of analyst-musicians to listen to music and populate a database   with descriptions

related to a song's melody, harmony, rhythm, basic instrumentation, and hundreds of other attributes. He describes these   elements as "genes" that compose a sort of musical DNA for each song. Certain parts of each DNA string can link to other songs with similar   qualities. The Project's analysts also identified several broad "Genomes" that Pandora appears to treat as genres. Some examples of these genomes are Rock, Classical, Blues, and Holiday, with subcategories of British Invasion, Choral (Baroque Period), Chicago Blues, and   Swingin' Christmas, respectively."

With Collaboration from Nolan Gasser, professor of musicology at Stanford

University and chief musicologist for Pandora Media, they expanded the genome list

from around 400 to 600 by the time they launched Pandora in 2005. Now, Over

500,000 songs have been analyzed in the Music Genome Project which are available

through Pandora, and over 15,000 songs are added on a monthly basis (Shelley 3).

The Music Genome Project is clearly an essential factor in Pandora's reigning

success, and Shelley's article explains how this works well for

the music listener.

"Powered by the massive Music Genome Project, Pandora facilitates exploration of hundreds of composers, singer–songwriters, and   musical artists that cover the spectrum from renowned to very obscure. Users are able to create customized radio stations that become more   tailored to their musical tastes based on user feedback and on data provided by the Music Genome Project. Beginning with a single song, or   "seed," Pandora uses a complex algorithm—in tandem with a user's "thumbs up" or "thumbs down" rating—to match that song's assigned musical attributes with other songs that share all or some of those attributes. The more feedback a user provides and the more a station is   played, the more accurate Pandora is in determining what songs should be played on that station."

Essentially Pandora is customized by the listener, and will continually work for you to

deliver a much more personalized and desirable radio experience . This is not only

great news for fans, but also for advertisers looking to market to certain types of

audiences.

Pandora has another advantage for the music listener, it's free. Because

internet radio must compete with local radio stations that have always had free music listening, this has been beneficial for the listener. But like local radio stations, it also requires advertisements to support itself. So a listener may still be hearing ads, but the idea is that the ads will be more relevant because the music is being chosen personally by the listener (Shelley 2). This is beneficial for the advertiser because they can market to a more specific fan base. It is also beneficial for Pandora since they can use that to drive more advertising to the site. However, there is still a lot of pressure on Pandora to continue finding ad revenue, and traditional local radio is their current target since online radio was projected to secure about $800 million in ad dollars in 2011, while local radio was receiving around $15.7 billion (Griffith 3). Currently about a third of the page is advertisements, and the rest is functional content. This free subscription allows users to create up to 100 free stations, which can be based around an artist or a genre (Shelley 2). So a user could create a station based on their favorite band, "The Beatles," or a particular music genre such as "alternative." However if you prefer to never hear ads again, you can pay an annual subscription fee of $36.

Those who do not understand the financial design of these websites may assume they are exploiting the availability of digital music on the internet, however that is just the opposite. Pandora pays a small amount in licensing fees for every song played (Shelley 2). Because of this, Pandora is designed to time out after one hour of music listening for the free service, and after 5 hours for the paid service, just incase the user stopped listening. If this is not the case though, you can just press "I'm still listening," when it asks you. Pandora hopes that each tiny licensing payment made can be balanced out with each tiny profit made in advertising from each user (Shelley

2). In March 2007, this became even harder for Pandora to pull off however. The U.S. Copyright Office's Copyright Royalty Board decided to increase royalty rates for performance rights from 300 to 1,200 percent. After legal battles and concern from other online radio websites, an agreement was reached, but it essentially it meant more advertising on the free service in order to stay a-float (Shelley 2).

Although Pandora has experienced its own set of troubles, it offers a viable, money making solution that allows music listeners to not only play the music they like to hear, but also expand their palate to new artists that may suit their musical tastes. However it does have its drawbacks. Internet radio has the inherent quality that it is unable to play the exact song you may want to hear in the moment (Shelley 4). You can not choose to play a particular song you want to hear, only create a station based off of what you like. This can be frustrating perhaps for the illegal downloader, who is used to getting what they want instantly. But the downloader would never be introduced to anything new in a way Pandora could provide. Also when defining your tastes on Pandora, it is not possible to give reasons as to why you have given a song a 'thumbs up,' or a 'thumbs down.' If a thumbs down is given to a song, it will never play on that station again, even though a listener may like the song but not the particular version of it being played. Other limitations include: a user cannot skip more than six songs in an hour on a single station, no replay button is available, and a maximum of four songs can be played by one particular artist within a three hour time span (Shelley 4).

These limitations may give illegal file sharers reasons for continuing their bad habits. However, based on my own experience and the acknowledgement of others,

using illegal downloading or file sharing sites do not always deliver what you want. Since they can be very unregulated, viruses could be placed in certain downloads, which I have not only experienced myself but heard of from others. Also, you may have trouble finding what you want since it must be downloaded from someone else. You are also limited in the sense that you tend to download what you already know, which does not help in discovering new music. Many people find it morally wrong as well and would prefer to support an artist if the price is reasonable for what they are interested in. This is represented in a survey conducted by the International Data Corporation which looked at digital music habits of listeners in 2008 and concluded that 35% of music listeners preferred paid online music services and 28% preferred person to person download services (illegal sites) (Sen 11). The remaining percentages were for streaming audio from social networks, online sites of local radio stations and artists own music websites. Although this survey does not correspond with what listeners actually end up doing, I believe it does show that music listeners would prefer to do things differently if the price is right, and Pandora offers this to them on a silver platter. Free music listening with the opportunity to discover new music as well.

Spotify

Recently, the new internet based subscription service Spotify, has quickly gained popularity in Europe and is now gaining fast popularity in the U.S. as well. According to Daniel Ek and Martin Lorentzon who founded Spotify in 2006, it is designed to be a "legal and superior quality alternative to music piracy," with the stated goal "to help people listen to whatever music they want, whenever they want, wherever they want" (Haupt 1). Jon Haupt's journal article titled "Spotify," states that

"Like its peers in the streaming audio service industry, Spotify offers a free ad-supported version and a premium monthly subscription service. Its name is derived from "spot" and "identify." Although the service has been highly successful in its European hubs, it is relatively new to the United States, having entered the market in July 2011." Already, Spotify is the second largest online music listening site in the U.S. (second to Pandora), surpassing Rhapsody, Mog, Last.fm and more, and it has only been around for less than two years. Clearly they are doing something right.

Spotify looks like a mix between an audio player and the iTunes store, and is similar to iTunes in the sense that it is an application that is downloaded and runs on a persons computer, differentiating it from Pandora which runs through a web client 9 (Haupt 2). Once it is downloaded it is easy to start listening -- as long as you have Facebook. You must sign in through Facebook in order to use Spotify, and that is most likely the #1 reason why it has gained such fast popularity, other than it being free. Once you sign in via Facebook, any song you listen to, playlists you stream, or downloads you make, will be shown on your Facebook page. However, Spotify does allow you to make some adjustments as to how much presence you want your account to have on Facebook. After the download takes place and you launch the application on your computer, the page that will immediately be displayed is the "What's New" page, as well as recently made "Spotify apps." You can choose to listen to new music from the "What's New" home page, or you can search for music with a simple search box (Haupt 2).

Like a music player, Spotify allows you to pause tracks, skips tracks, skip parts of a track, shuffle and repeat tracks and more (Haupt 2). This is quite a difference from

its "rival" Pandora, which essentially only lets you pause and skip tracks. Another impressive quality is Spotify's ability to play a song faster than any other internet listening site (in other words least amount of lag time). This is because Spotify uses a unique system for retrieving tracks through a mixture of 'caching,' peer to peer networking and direct server download, which can be even faster than playing music files that are already saved on your computer, depending on the speed of your hard rive (Haupt 2). Perhaps the biggest aspect that sets Spotify apart from its competitors, is the fact that it is NOT primarily a radio service (although some radio-like functionality is available). Instead listeners can listen to any song or artist at any time, that is allowed within their subscription limits. This is a huge advantage for some and definitely a huge part of Spotify's success. Lastly, anyone can create a playlist which can be used by anyone else and modified as much as you want. This is another great tool for discovering new music (Haupt 2).

Going along with Spotify's motto "to help people listen to whatever music they want, whenever they want, wherever they want,"
Spotify boasts that it has "millions and millions of tracks and albums," and how it would take "more than 80 years of nonstop listening just to get through it." (Haupt 3). They also claim to be adding around 10,000 songs a day, estimating there catalog to be around 13 million to as high as 20 million individual tracks. However they are continually under pressure to explain why some very notable artists are still missing from their catalog, including The Beatles, Led Zeppelin, Metallica, Pink Floyd and ACDC, for various reasons (Haupt 3). More common reasons are that some artists have no interest in online streaming music or have a fear of copyright violation. But

others believe that their share for the royalties and advertising money is simply too low. Spotify pays its royalties based on the number of times the music is played, and since this is based primarily on popularity, not everyone would favor it (Haupt 3) .

With all of the advantages Spotify offers listeners, it is surprising that it is also completely free. This is a vital aspect when having to compete with illegal downloading, and that is why Spotify is so essential to the music industry, artists and fans. But like Pandora, there are some significant restrictions that are designed to capture more paid subscribers, and generate more ad venue. Haupt's article explains how Spotify's free and paid subscription services work,

"Spotify's free account (supported by audio and graphic advertising) offers six months of unlimited streaming, after which usage becomes more restrictive. Free account holders are then allotted two and a half hours per week of listening, which can accumulate to a maximum of   ten hours, and individual tracks have an upper limit of five total listens. Free account holders also have the ability to use the Spotify application on their computer, providing a unified interface for all of their music. Local music can be played at any time, but tracks from   Spotify's database are always streamed so listening to them requires a network connection. The "unlimited" subscription service allows a   user to continue unlimited streaming and also offers ad-free listening. At a higher cost, the "premium" service allows the listener to stream   music at the highest quality available, sync playlists offline, and use Spotify from mobile devices, Sonos home audio systems, and other   devices external to a computer."

Similar to Pandora, the free subscription service is paid for through advertising, so the royalty payments to artists and the industry are made possible. The Unlimited plan currently costs $5 a month, while the premium plan is $10.

Conclusion

What Pandora and Spotify have created is an alternative to illegal music

downloading and file sharing, and the more options a listener has to navigate them away from that, the better. Through the use of advertisements on the subscription service, these sites are able to pay music labels, which in turn pay artists, who may not have received any payment if their music was being downloaded illegally. Although some artists and labels may not be completely satisfied with the royalty payments these sites offer, undoubtedly it is better than not being paid at all. Increasing fan awareness and discovery through these sites is another powerful benefit they can provide. Ted Cohen, a former music company executive, is quoted in Seidenberg's article about the solution to file sharing, "If we were getting $2 or $3 monthly for each family with a broadband connection, and music royalties were distributed based on what people were listening to or downloading, that becomes significant money… That ultimately is the solution to file-sharing." This solution may not be ideal compared to the golden era when everything had to be bought, but it is an essential progression for the survival of music listening, and websites like Pandora and Spotify aid this process.

File sharing should not be considered a terrible force of destruction either, in Nancy Baym's article titled "Rethinking the Music Industry," she states some of the advantages to file sharing and how it is used positively for the consumer,

"though the focus has been on filesharing, the real story is how the internet has empowered audiences, allowing them to transcend distance   and reach large audiences themselves, providing infrastructures for group communication, supporting archiving, enabling new forms of creative engagement, and lessening the social distance between them and media producers. Music audiences use online tools to pool   affect, create social identities, collect intelligence, share interpretations, and create for each other. From their point of view, filesharing is part   of a complex and rewarding social exchange system among themselves, not part of the industry's economic exchange system."

She then mentions that the challenge for the industry should be to find ways in order to

work with this process, rather than fight it. Secondly, this rapidly changing new industry has created new opportunities and jobs that have never existed previously. Pandora and Spotify are part of these opportunities, but sites like ReverbNation which manages fan interest in artists, as well as many other social media networks have also emerged, providing jobs that have only existed since the digitalization of music (Baym 3).

More advancements and innovations are taking place from Apple to continue providing consumers with new avenues to use music. Their newest invention is called "iTunes match." iTunes Match can scan a user's hard drive and identify any songs that correspond with Apple's massive iTunes library. Matched songs can then be used on any other Apple device the customer owns. "Rather than limiting users to only 'legitimate' songs, Apple disregards whether or not a user's songs are pirated. Charging each customer a $25 annual service fee, Apple turns over 70% of iTunes Match revenues to the music industry" (Sudler 7). There has also been talks that Apple will soon have an online radio service similar to Pandora that will work with all of Apple's many platforms. Unlike Pandora, Apple plans to sidestep licensing fees by negotiating directly with music producers (Sudler 7). Finally, these advancements including Pandora and Spotify are only some of the many innovative, new avenues that are available to consumers in the digitalized music era, and by working with music fans, rather than fight them, we can assure that more music will be made for everyone to enjoy.

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