

How Have Recent Music Streaming Platforms Influenced Music Piracy?

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Jack McManus
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Introduction

Do you stream music? Streaming has become the dominant music media delivery platform, and only appears to be growing. In much of the same ways compact disks (CD) offered new forms of accessibility, portability, and new consumption habits over record players, streaming has ushered in new consumer tendencies over CD's and music downloads. How does the market respond to these changes? At music streaming's current height, events seem to have played out as a battle for market share dominance among the top streaming giants of Spotify, Apple Music, and the Tidals and YouTubes of the world.

We must also look to the illicit side of music consumption – how has piracy changed as the world transitions into this streaming oriented domain? This paper seeks to answer this question and shed light onto the way technology influences our decision-making up to the point of breaking the law. As such, this paper uses the Science, Technology, and Society (STS) framework of Technological Determinism to frame the analysis. Technological Determinism states that “autonomous technology (in both its development and use) shapes social relations” (Kline, 2015). This paper establishes the relationship between the advent of music streaming and prevalence of music streaming piracy using the tools granted by the Technological Determinism framework.

Research Question and Methods

How have recent music streaming platforms influenced music piracy? This research question is important because music streaming already plays a large portion in the average American's life. Moreover, identifying ways in which streaming affects our decision-making impacts the way society will continue to interact with streaming in film, sports, school lessons,

etc. in the future. The question of music streaming influencing piracy is evaluated using documentary research and surveys.

Documentary analysis gives the ability to gain a contextual understanding of the background of the problem as well as the ability to understand facts and figures of the situation for the purpose of drawing correlations. Such facts and figures include statistics about sales and downloads (Aguilar, 2015) and legal music and illegal music consumption numbers (Music Consumer Insight Report, 2018) & (Snapes & Beaumont-Thomas, 2018). Documentary analysis also aids in deducing motives to draw a potential causation from any established correlations observed from the figures. Documentary research establishes why digital piracy still exists and what the greatest demand for it is (Nugent), motives for pirating versus purchasing music (Meireles, 2019), and current deterrents of piracy (Lee, 2019) for further analysis.

As an additional method, surveys allow for more pointed and tailored questions than those found in documentary research. A survey of 36 college students was conducted for this research. Surveys questions are both opinion-based (such as, “*how does Spotify’s accessibility influence your decision to pirate content or not?*”) as well as statistically motivated. The results of the survey aid in deriving additional figures as well as establishing a causation (or not) between music streaming and music piracy rates.

A Brief History of Digital Music Piracy

Forms of music consumption have changed in recent decades from records to cassettes to CD’s to digital forms. Each form of music media has had its own levels of consumer choice, accessibility, and price. Music piracy has been prevalent since the advent of recorded music and persisted throughout the industry’s transitions from form to form (Berlatsky, 2013). If music piracy has persisted among such changes, how has music piracy itself changed? How has music

piracy changed as we have entered the most recent chapter of music with streaming technologies? Indeed, the music medium form is related to people's tendency to break the law in order to acquire what they want.

The first music streaming technologies were introduced 15 years or so ago in the United States and been prevalent as a music consumption form for much less. However, digital music piracy began long before. Digital music piracy began with peer to peer (P2P) file sharing such as LimeWire and torrents (Berlatsky, 2013). As a technological society, we have yet to understand how specific technologies influence us through their features, usability, and accessibility to ultimately break the law pirating music or not. Legality and punishment severity are merely two pieces of the puzzle that establishes piracy trends.

Many P2P services such as Napster and LimeWire have discontinued and, in their wake, many other music download and streaming sites have spring up (McIntyre). In 2005, Pandora became the first major service able to offer lossless quality music streaming content over the internet (Grannell, 2018). Since then, the public has come to enjoy myriad other internet streaming services such as Spotify, Apple Music, Tidal, YouTube Music, SoundCloud, and more. Music streaming has driven the evolution of music standards, production, and copyright and anti-piracy measures (Doctorow, 2014).

The ease of which anyone can stream and receive streamed content has led to development of new piracy techniques. Free to use content streaming platforms such as Twitch and Periscope are used by some to stream paid copyrighted content for free (Li, 2015). This is an example of a shift from pirating actual downloads or physical CD's to solely the illegal distribution of copyrighted music. This shift from possession to strictly distribution is a development that will likely have ramifications in terms of policy and future legislation.

Music piracy has evolved in tandem with music delivery media and delivered the music industry mixed results. For example, music piracy has been observed at times to produce a net neutral effect on music sales due to falling record sales but increased concert sales (Sanchez, 2018). SoundCloud is another interesting example of a music streaming service bringing something new to the table. SoundCloud has become essentially the modern-day equivalent of mixtape distribution – it is a delivery network for intentionally free music. Could traditional piracy channels such as modern P2P and illegal streaming sites be used to intentionally spread free legal music in the way SoundCloud does? The tumultuous history of music piracy and its relationship with music media opens many questions for the future of streaming and more for the present such as how streaming has affected music piracy thus far.

Technological Determinism and Piracy

This paper explores the question of how music piracy has changed with the advent of music streaming from the framework of Technological Determinism. Different aspects of music streaming such as accessibility, affordability, and ubiquity may have impacts on piracy prevalence. Rather than buying 4-5 songs for five dollars, one can access unlimited music for a month. Perhaps this discourages the public from pirating individual songs at a time.

Proponents of Technological Determinism claim that the “development of technological artifacts and systems determines broad social changes” (Kline, 2015). A decline, increase, or net no change in piracy habits may be a social change instigated by change in mainstream music delivery platform.

Current debates surrounding Technological Determinism have moved from absolutism to “soft” determinism (3). Soft Determinism suggests that “technology is the guiding force in our evolution but we have a chance to make decisions regarding the outcomes of a situation”

(Goguen, 2004). This places limits on the idea that Technological Determinism is an autonomous social force. This notion is particularly applicable to the question of music piracy because while music streaming could influence the tendency of consumers to pirate or not, the free market ultimately chooses what services have to most influence.

Opponents of the Technological Determinism range from criticism of the theory in its totality to suggesting limits such as exist with Soft Determinism. One criticism is that Technological Determinism does not specifically address how technological innovation works, despite that process explains how various technologies are constructed (Ganiu, 2014). This criticism further argues that if “technologies are invented, created, and deployed by man, there is a control factor that determines to a degree their use and potential effect” (Ganiu, 2014). Another harsher criticism claims that technological progress is not inevitable. Rather, while technology continuously evolves it does not always progress and sometimes has negative outcomes. As such, technological progress is not inevitable, and technological progress leading to social progress is not either (Goguen, 2004).

There are, however, rebuttals to these criticisms. The historian Rosalind Williams urges opponents to “taste the forbidden fruit of Technological Determinism” by looking at social and cultural shifts resulting from using technology (Kline, 2015). Moreover, Sally Wyatt argues that STS scholars “must take Technological Determinism more seriously, disentangle the different types, and clarify the purposes for which it is used by social actors in specific circumstances” (Kline, 2015).

Technological Determinism provides a framework for directly answering the proposed research question – while technological development might not be a unilateral driver of social

change, it can indeed impact society's behaviors and decision-making. This ties in strongly to music media influencing society or not to break the law and pirate.

Analyzing the Relationship Between Piracy and Streaming

This paper offers an overview of the topics involved with and an answer to the question of how music streaming platforms have influenced digital music piracy. The affordability and accessibility of music streaming primarily have contributed to a decline in digital music piracy. This paper arrives at this answer by first exploring the current state of music piracy and the current state of music streaming. The exploration then delves into trends identified in recent years and outlines potential correlations. Following this, the paper then examines piracy deterrents through the lens of Technological Determinism before analyzing the affordability, social interaction, and accessibility of music streaming. Finally, the analysis looks into where piracy and music streaming may be going in the future.

In order to understand a relationship between music streaming and digital music piracy, it is imperative to identify the current state of music piracy. Various studies report significantly different rates of piracy around the world and this makes it difficult to pinpoint the exact state of piracy prevalence. The 2018 Music Consumer Insight report surveyed 19,000 individuals across 18 countries (India, China, Japan, Korea, France, Poland, Mexico, Brazil, South Africa, Germany, USA, Russia, Sweden, Spain, UK, Australia, Italy, Netherlands) and found that 38% globally consume music illegally (IFPI, 2018). It found that by far (84% of the illegally consumed music) this illicit consumption comes through the form of stream-ripping, which today is dominated by YouTube video to mp3 sites (IFPI, 2018). This is further evident in interviews with non-streaming consumers of which 35% state everything they want to listen to is on

YouTube (stream-ripping from Apple Music and Spotify is still rare) (Snapes & Beaumont-Thomas, 2018).

While this may appear high, looking to the 2019 Music Consumer Insider Report a drop off is already apparent – the 2018 report found that 32% of all music consumers engage in stream ripping (IFPI, 2018) while that was just 23% in the 2019 edition of the report (IFPI, 2019). This drop off in recent years is fairly consistent with primary research findings derived by means of survey. The first two questions of the survey issued to 36 college-aged respondents were “Have you ever downloaded or streamed music illegally?” and “Have you downloaded or streamed music illegally in the last 2 years?”. 52.8% answered yes to the first question while just 19.4% answered yes to the second question. Together these sources begin the case for a trend in the drop off digital music piracy.

Other large surveys such as YouGov’s Music Report have reported very different overall percentages, but have also identified a decline. “YouGov’s Music Report found that one in ten Britons (10%) download music illegally, down from 18% in 2013” (Sanchez, 2018). Moreover, YouGov survey respondents reported 22% that they will likely stop pirating soon and 36% that pirating has become more difficult (Sanchez, 2018). This is significant because while the survey clearly uses different outreach methods than the Music Consumer Insight Report, their different outreach demographics and sample size have results in the same overall trend.

The other side of this trend still acknowledges that a sizable portion of the population obtains music through some form of copyright infringement. MUSO in 2017 tracked 300 billion visits to piracy sites which was a 1.6% increase from the previous year (Sanchez, 2018). During primary research for this analysis, some surveyed college students that admitted to pirating gave their rationale. Rationales varied from “sticking it to the music industry” to several responses

that framed pirating music as a necessity due to some prohibitive factor. The most frequently reported result was that paying \$5 - \$10 a month for a streaming service was simply too expensive for an alternative that may be less convenient but at least free. This is in direct contrast to many theories that posit the affordability of modern music streaming discourages piracy. It is worth noting, however, that this is a small band of the overall surveyed population as over 80% stated they had not pirated in the last two years. Another barrier reported was that music piracy is the only way to access certain content, for example songs that were CD exclusives and not listed in Spotify or Apple Music's catalogue. This also includes professionally mixed but unofficially released leaks and many mixtapes which tend to not be on popular streaming platforms yet popular. This gap in coverage is fairly small for the music streaming services of today in comparison to how many shows and movies are not on Hulu or Netflix for example, but worth noting for the consideration of where music piracy may head in the future.

Technological Determinism describes the autonomous force of technological development and progress that drives and shapes changes in society (Guguen, 2004). Whether this guiding force is considered dominant and sufficient on its own or the guiding force merely influences or presents opportunity for change is the distinction between hard and soft determinism (Guguen, 2004). The lens of Soft Determinism is most useful in analyzing the relationships between music streaming and piracy while factoring in deterrents. Deterrents are means or factors meant to discourage that someone considers before deciding. Examining the issue and trend of digital music piracy through the lens of Hard Determinism or absolutism neglects the aspect of deterrents to piracy which tend to be severe, widespread, and oft-considered. As such, examining deterrents is imperative.

Deterrents of digital music piracy most often include internet service provider strikes, legal charges, downloading computer viruses, being fined, and moral reservations. The premise of using deterrents to influence behavior hinges on the notion that “human beings are rational decision makers who carefully weigh risks against benefits prior to the commission of a law-violating act. If the threat of punishment is imposed, individuals are likely to refrain from criminal acts” (Lee et al., 2019). To what extent this is effective can be analyzed ad infinitum. A study performed by Ruben Meireles and Pedro Campos suggests that the three most effective deterrents to music piracy are punishment severity, punishment certainty, and moral obligation (Meireles & Campos, 2019). Deterrents present an example of *policy* influencing decision-making toward not breaking the law while music streaming may present an example of *technology* influencing decision-making at times.

Deterrents quickly reach their limits, however. The punishment can only be so severe, the viruses can only be so prevalent, and the moral reservations can only hold strong for so long. Gavin Nugent writes about how despite attempts to stop music piracy, it has continued to grow: “The problem here is obvious. The legal system moves slowly, while the internet moves incredibly quickly. As soon as a website is taken down, a new one sprouts up in its place, and if a court blocks access to a website, as has happened previously in Ireland, the measures are easily circumvented by using a proxy server, rendering the whole process a bit pointless” (Nugent, 2017). Indeed, the borderless nature of the internet has hamstrung the effectiveness of legal deterrents and, as such, policy may not be enough to discourage digital music piracy. Perhaps technology must influence society in the same direction as policy away from music piracy in order to achieve this means. As is evident, deterrents only go so far, so what outpaces these

deterrents? What about music streaming appears to drive the apparent dropping off of music piracy?

Perhaps certain aspects of music streaming unique to the technology serve as their own drivers. Does the affordability of music streaming play into this? The answer appears to be in part yes. Being non-physical, requiring no manufacturing, and being comparatively cheaper to maintain and distribute than say CD sales, music streaming pricing has the flexibility and arbitration of deciding thin profit margins and being affordable to the masses. Craig Grannell of Dynaudio puts the appeal bluntly when he says “After all, even if you own a room full of vinyl, you’re going to be tempted by instant access to the vast majority of all recorded commercial music for a tenner a month” (Grannell, 2018). Respondents to the study put out for this research responded to the question “How does Apple Music or Spotify’s accessibility influence your decision to pirate content or not?” 50% that streaming was cheap so there was no need to pirate. On the other hand, IFPI found that those who still pirate via stream-ripping do so to avoid paying premium subscriptions to listen to music online (Snapes & Beaumont-Thomas, 2018). Free will always be cheaper than cheap. Maybe affordability alone cannot explain this drop off.

Another feature services such as Spotify and Apple Music provide is that of the social interaction. Community playlists, sharing songs with friends, viewing music videos, reading lyric annotations and commentary, and commenting and rating music all play into a social experience not offered by simply downloading an MP3. Grannell also writes that “Apple and Spotify doubled down on discoverability, with playlists to expand your listening tastes” (Grannell, 2018) in order to capture and keep their audiences. The music services appear to firmly believe that this plays at least some factor in keeping their customers happy as they have chosen to look more into “content generation, exclusives, and video” (Grannell, 2018) in the future. Further, 30.6% of

respondents to this paper's survey noted that the ease of sharing music and playlists factored into their decision to pirate or not.

Likely the most important facet of music streaming that accompanies affordability is accessibility. YouGov found that six in ten (63%) of users who stopped downloading pirated content switched to streaming (Sanchez, 2018). This seems to at least suggest that people are jumping ship and that those who are tend to prefer music streaming as the primary choice. Looking to parallels in the movie and TV space is helpful because while that sector is plagued with the same digital piracy issues, the accessibility and breadth of catalogues of music streaming services far exceeds that of TV streaming companies. Research seems to suggest that the primary reason people pirate TV shows and movies still is not due to a problem with paying for content but with having access to the content when and how they want (Nugent, 2017). This is a significant point for why music piracy may be declining – TV piracy is affordable yet not as accessible and so does not see a drop-off while music streaming enjoys both. Moreover, the survey performed for this research yielded 55.6% of participants stating that music streaming was easier to do than pirating as well as more accessible than pirating. This hints to a combination of factors being leading to streaming's preference over pirating.

This also plays into a “means of distribution” argument which states that “the means of distribution of record labels, movie studios, and TV networks are outdated, and illegal downloading is a reaction to the protection of the hugely lucrative “windowed release” business model and geographical preferences that certain markets get over others” (Sanchez, 2018). This is another serious point of accessibility of music streaming over movie streaming. Movies come out in theaters and make it to Netflix or other streaming platforms months later. When new albums are released they appear on Apple Music the instant they are released. While pirating

may be more accessible than movie streaming due to releases and limited catalogues, music streaming tends to offer complete catalogues and instantaneous release that reaches the masses before pirated content rather than after. Gavin Nugent speaks about how this practice of immediate release that music streaming services enjoy might be beneficial to TV: “The sooner they realise this, the sooner they can modernise and adopt practices like universal release, where films or TV shows are available everywhere – in cinemas, on-demand TV, Netflix, DVD, digital download all at the same time, and the sooner they can stop their decline” (Nugent, 2017).

One example of pirating due to a lack of accessibility in the TV space is that the second highest illegally downloaded show in Ireland is Game of Thrones which is only available in 46% of Irish homes (Sanchez, 2018). The country restrictions on shows found on Netflix and Hulu do not exist in Apple Music and Spotify. Author Brian Feldman seems to believe accessibility is the key piece to the puzzle of music streaming’s apparent dominance over piracy that TV does not enjoy. He writes “For a while there, it seemed like piracy was over. The major media conglomerates had figured it out. Thanks to broadband internet and adequate streaming technology, it was easier to access movies and TV and music legally than to turn to peer-to-peer file-sharing” (Feldman, 2019). This is a powerful statement that may suggest that accessibility, affordability, and interactivity are the keys to music streaming’s impact on piracy specifically in that order of importance with accessibility dominating.

Where does this leave the music industry for the future? The music industry very well may follow suit with the and movie industry or see its next evolution. Brenton Malin, a professor of communication at the University of Pittsburgh notes that video and audio streaming is beginning to be used also to stream pirated content – “They let users livestream, not upload content after it’s been recorded. And that complicates these matters even a bit more in that the

streaming content need not be stored on the computer of a streaming user—making it still harder to track down assumed copyright violations” (Li, 2015). Piracy may use streaming as a means to free content in the future as well. GrooveShark was essentially an ad-free Spotify before it was taken down. What is to stop a new GrooveShark from reemerging perhaps even with Spotify premium features such as offline download?

Brian Feldman sees a potential future where all streaming services return to a cable-bundling like state with many services each covering a select portion of the catalogue (Feldman, 2019). Having to spread across multiple platforms to enjoy content hurts accessibility and paying separately for multiple platforms hurts affordability. He rather bluntly states “These services generally cost between \$5 and \$15 a month, and if you were going to pay for all of them, you’d end up paying about as much as a monthly cable-TV subscription. You know what’s free? Illegal downloads. Piracy is back” (Feldman, 2019). He notes that the number of films available on Netflix dropped 40 percent from 2010 to 2018 (Feldman, 2019). If such a decline happened to Apple Music or Spotify there would almost certainly be a resurgence of piracy. It is, however, impossible to say whether this will ever happen. iTunes enjoyed a lack of competition for over a decade and so never saw a loss in its catalogue coverage. Tidal presented the first and only real example of a service attempting to fracture the catalogue and market by being the only service to host Beyonce and Jay-Z music. It was, ultimately, unsuccessful in this effort, but if two or three streaming services successfully fracture the catalogue market, cable-bundling style consumption may come back and kill the accessibility and affordability phenomenon we see today.

There are some final loose ends worth considering that may also shape music streaming and piracy’s relationship in the future. The first is that peer-to-peer file sharing has never seriously existed on mobile platforms which dominate media consumption across younger

generations (Feldman, 2019). If a modern-day streaming form of Limewire were to emerge on mobile it would match the accessibility of Spotify while outpacing the affordability and likely be adopted far and wide. This is Technological Determinism shaping society's decisions through characteristics of the technology once again – if streaming can capture the market through affordability and accessibility, pirating technology may too.

Another serious question to consider is whether there are redeemable qualities to piracy that may be worth keeping to some degree. University of Amsterdam's Institute for Information Law studied digital piracy trends and found "every ten music albums pirated leads to three extra concert/festival visits" (Sanchez, 2018). If pirating leads to decreased digital sales but increased concert sales, which is more valuable? Do they offset each other? Additionally, a 2015 European Commission report found that "new revenue generated through streaming payments (coming from formerly pirate consumers, buyers, or individuals that used to forgo consumption) is roughly offset by revenue reductions from the sale of permanent downloads" (Institute for Prospective Technological Studies, 2015). Given these two final points, the future may bring back pirating if the technology reshapes or if policy becomes more permissive of it for some redeeming quality.

This research is not without limitations both in scope and research constraints. The research was limited primarily to identifying the current state of affairs and trends in recent years. A more thorough look into how trends have evolved over time and due to what technological influences may shed more light onto what might happen after our current state. The scope was also limited to mainly focusing on music streaming media with some comparisons to the TV streaming industry as a frame of reference. Further research into the differences between the TV streaming industry and music streaming industries would have

allowed for more salient realizations about why music streaming may or may not go down the same path as TV. In addition, this research was limited due to time constraints limiting the documentary research to a few months as well as the outreach of the survey conducted being limited to 36 participants all college students.

Future research should be directed toward identifying where music streaming and piracy is headed in the future. This includes efforts that authorities are undertaking to deter piracy, efforts being made by music streaming companies to innovate and further maintain their bases, what innovations piracy technologies are seeing, and what kind of music catalogue fragmentation might occur. Further research should attempt to answer the question of whether music piracy is a bad thing for the industry or consumers at all in its current state and at what threshold it does become harmful to parties. This may involve cost-benefit analysis of profits and consumer freedom and using Actor Network Theory to study potentially harmful effects on different parties as a result of music piracy.

Conclusion

This research finds that certain technological facets of music streaming do in fact contribute to the current dropping off of digital music piracy. Policy measures such as deterrents have had less impact than is being seen now with the increased affordability, sharing/social interactions, and accessibility offered by streaming services. As such, these aspects of current streaming technology have influenced a shift in societal tendency to break the law pirating copyrighted music. This is a case of soft Technological Determinism that has wide-ranging impact for the future of media consumption as streaming begins to dominate other areas of media. Both documentary research and a survey put out for the purpose of this research have agreed on these conclusions and established accessibility and affordability as the two most

important factors in consumers decision-making and keeping music streaming growth ahead of that of piracy. It is important to recognize this state of music consumption as further changes in music consumption and distribution influence society's tendency to pirate in the future.

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