

THE TRANSFORMATION OF THE MUSIC INDUSTRY DUE TO TECHNOLOGY


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On my honor as a University Student, I have neither given nor received  
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## **Introduction**

Today, whether listening on the radio or opening up a streaming app, the music people listen to is being produced and created not only by musicians but by technology. In the 19th century, music was listened to by attending live performances (Pinch 2004) but now applications, such as YouTube and Spotify, allow for easy access to any song within an enormous ever-expanding library. Technology has not only affected how we listen to music, but it is also affecting how music is created. Today, the recording booths and special effects consoles that are available for musicians allow music to be created without ever having to play an instrument. The technology currently available helps drive the music industry forward but, to have access to such technology, is very expensive.

Because some technologies can be expensive for musicians to obtain, it can be hard for a solo artist to rival the musical production of a large corporation. The objective of the technical project that was chosen was to combat this problem at least in terms of guitar pedals. High-level multi-effects pedals go for \$1000 or more (MusicRadar 2020) so creating a cost-efficient multi-effects guitar pedal could provide guitarists the ability to produce necessary effects without breaking the bank. Drawing from electrical engineering, computer science, and digital signal processing coursework a programmable multi-effects guitar pedal was constructed to accomplish the same core features that an industry-standard multi-effects pedal.

Technology has continued to play a big part in the growth of the music industry and has changed almost every aspect that goes into how music is created, distributed, and shared. Whether it is a music label picking more sellable musicians over those more musically gifted or DJ's mixing tracks instead of instrumentalists playing a track, music has forever changed

because of the ever-advancing technological world and I plan to see if it has been for the better or worse.

## **Literature Review**

There are many music labels that populate the music industry but it is still seen as an oligopoly since there are four main labels that dominate the production and distribution of music (University of Minnesota 2016). The big four music labels are Sony Music Entertainment, EMI, Universal Music Group, and Warner Music Group (Giglue 2017) and they control over 85% of the U.S. recording music industry (University of Minnesota 2016). The music industry revenue in 2019 was approximately 7.3 billion (Statista 2021) and has continued to see a steady increase every year. The four main labels get a large share of the music industry revenue and thus can continue to fund and improve upon the production of their music and technology that goes along with it. Because of this, there is a gap in production quality so it is hard for a new artist or an Indie band to compete. This will deter new artists from pursuing a career in music since they will need to invest in themselves and buy the necessary production equipment in the hopes of being successful or signed to a label. New artists are the ones most affected by the music industry oligopoly and the improving production technology. With the music industry set up the way it is, the improving music technology will continue to create a bigger wall for entry into the music industry.

## **Methodology**

The research for this paper was conducted by analyzing literature and data from relevant and reliable sources found online. These sources helped provide a better understanding of the music industry and how technology plays a part in the quality of music production. Given that the music industry had existed for decades, technology's effects on how music is produced,

distributed, and shared can be studied. Recent and old publications have been compared to see how music has changed due to technology. I was able to find information and data about the music industry's yearly revenue and how technology helped improve recording efficiency. Also, information about how growing technology introduced music piracy is an important topic to look at since it has greatly affected music distribution. Furthermore, research about the role of social media applications and how those platforms promote certain songs over others was also included. This technical project was tested to validate its functionality. The testing determined if multiple effects could be played on the constructed pedal. The technical project and this STS research paper are loosely connected so the technical project results will not substantiate any claims made in the STS research paper. This combined research will help construct whether or not the growth of technology in the music industry has been beneficial.

## **Body of the Paper**

### **Production**

The production of music has changed vastly over time with the continual advancement of technology. When comparing how music legend Frank Sinatra would record to now, a vast difference is prominent. Sinatra's recording sessions were done with a whole orchestra or group of instrumentalists where the musicians had to play the song in sync if they wanted to produce the perfect song. Now, some tracks are made solely with technology since they are able to replicate the sounds of instruments (Shannon Jackson) without human error. Sinatra was known as "one take Frank" because of his propensity to go into the recording booth, and on the first take, finish the song (Linderman 2009). This is because Sinatra possessed great vocal skills and attention to detail that helped him have fewer more quality recording sessions. Today, vocalists

do not have to be perfect in the recording booth since autotune can help touch up and fix the imperfections on the track.

The technological advancements definitely help the musicians today by providing them some leeway for mistakes, but this can cause other adverse results. For one, record labels will look for artists who are multi-faceted and more sellable over more musically gifted artists since technology can fix those imperfections. Consequently, if the artist can dance or has a good image they are more marketable and more profitable to the record labels. Another group affected by production technology is instrumentalists. Now with the mixing technology available, anyone can create music and their own tracks without the need for instruments. Because of this, it isn't necessary to have all these different experts to make a song anymore. The mixing engineer, instrumentalists, producers, and so on can now be consolidated into one person (Admin 2017). In order for an instrumentalist to survive, they need new technical skills in producing music rather than just the ability to play an instrument. Lastly, small production musicians are affected by advancements in technology since they will not always be able to afford the newest equipment as multibillion-dollar music labels can. This can create a noticeable gap in music production between the professional and the novice which can force some new musicians to buy new equipment with funds they don't have in order to compete. This can be seen as a greater cost of entry into the music industry because improving technology

With how the industry has evolved more towards technology, the disc jockey, or the DJ, has gained more recognition. Now, instead of being known for party or club music, DJ's are creating tracks and being featured with singers on a regular basis. They are starting to take the place of instruments in providing the background music and tracks for singers (Heath 2020).

Furthermore, the industry favors them since they consolidate the work that people do collectively so it's cheaper to pay for their travel and services rather than a band (Studarus 2013).

## **Distribution**

Technology has innovated and changed the distribution of music drastically. Music distribution first changed from listening to live performances and sharing sheet music to having vinyl records and record players. Music distribution was further developed as it was listened to on the radio and physical hardware creation started leading to the cassette tapes, CDs, and music players like the Sony Walkman. With these advancements, music grew to become something more distributable as the hardware became smaller and cheaper to make (Mn2s 2020). With the introduction of the internet, music distribution took a major turn.

Today we have music streaming platforms like Spotify, Apple Music, YouTube, and Amazon music. These cloud-based services eliminated the need to purchase physical copies of songs and were monumental in changing the music industry's distribution. Before those services, and even now, the internet fostered a wave of illegal downloading and streaming of copyrighted music that was difficult to regulate (Wikström 2013). Record labels suffered greatly from this as these illegal torrent sites made music free to download which resulted in fewer people buying physical copies. Copyright laws were made to combat this but physical copies of music were slowly becoming obsolete because of the digital wave. Due to this, subscription-based music services have become prominent now. Subscribers pay monthly fees to listen to a massive library of music on their phones. Music labels make money off these applications by signing contracts with them which allow them to use their copyrighted music. This is very different from selling physical copies but, with the evolving technological world, the music industry had to adapt.

## **Sharing**

Sharing music is an integral part of the music industry given that the more people that share a song, the more people will be listening to it. Initially, songs were shared by word of mouth, if someone liked a song they will tell someone else about it and hopefully they will listen to it too. Gradually, there were new things that enabled the sharing of songs and music to a wider audience like the Billboard top 100 or award shows like the Grammy's. Now, with the internet and social media, music is being shared in a much different way.

New music and even new artists can gain a lot of traction on social media if they go viral. This can help artists by getting them exposed to a larger audience thus creating a larger fanbase. Although it can be helpful to the aspiring artist, there are some faults in the social media sharing method. First, the way that social media is set up is that it shares the most liked posts (and music) to everyone. This is known as an "also liked" algorithm where popular posts are shared with everyone which causes them to be even more watched and liked (Sumpter 2018). With this setup, whenever a popular artist releases a new song it will be pushed into everyone's recommendations since a lot of other people are listening to it. This is prominent when analyzing the YouTube trending videos since whenever a popular artist releases a new song, it gets placed onto the trending page causing even more people to watch it (Beichner 2019).

Next, because social media is set up this way, it makes it more important for the aspiring artist to make a song that can go viral whether it is a song that people can dance to or the music video is entertaining. In recent years, songs have gained popularity on the social media app "TikTok" because of viral dances that go along with it. This leads to some artists writing a song and creating a dance or dance move that coincides with it so that it gains more traction. The problems that arise from this are that it may help artists gain some immediate gratification and a record

label contract but they may end up making content that isn't what they envisioned. For example, there were a handful of rappers who became synonymous with dances like "the Nae Nae" and "the Dougie" and were signed onto record labels. After signing, the label expected to create the same type of music and similar performances and guided them towards that direction instead of letting them create the music they wanted to (Peirson-Hagger 2020). Some of these artists accused the labels of not caring about them and just using their peak in popularity to make a quick buck (Williams 2015). The rise of the internet and social media can help propel some artists into the limelight but whether or not they are able to give up their musical integrity to sustain stardom was up to them.

### **Conclusion**

Technology has advanced the music industry in many facets whether it is music production, distribution, or sharing. This has brought significant changes in how artists and record labels conduct business in the music industry. The changes presented some advantages and some disadvantages to both indie artists and record labels alike. It has changed the way that music creation is approached and affected the need for musicians. Music tracks began to be produced entirely by technology lessening the need for instrumentalists while improving recording efficiency. Also, the distribution of music had to be improved as the internet made physical copies obsolete as copyrighted music was illegally torrented online. This gave birth to subscription cloud-based streaming services that signed big contracts to have copyrighted songs on their platform. With the music industry's revenue growth each year, it becomes more lucrative and seemingly makes the benefits outweigh the drawbacks. Overall, the improving technology in music has allowed music production to become more efficient and enables it to reach a broader audience than without it.



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