

NEW TECHNOLOGY IN MUSIC AND CREATIVE ENTERTAINMENT

Name: Grettel Killing

Student Number: 2015539

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Introduction

The music industry is an ever-changing and ever-growing dynamic entity, the evolution of which is determined by the advancement of new technologies. Over the last few decades, technology has shifted the consumption of music from being product focused (vinyl, cassette, CD, physical distribution) to service focused (Spotify subscription, YouTube, digital aggregators). This essay introduces and evaluates the way in which new technologies have impacted on the production of music and consumer behaviours and discusses potential future developments.

History of the Music Industry

The first phonograph, which could both record and reproduce sound, was invented in 1877 by Thomas Edison. The device used a stylus to cut grooves into tinfoil to record and replay the sound. In 1867, the first vinyl record player was invented by Emilie Berliner. The device played seven-inch rubber discs, but the sound quality was poor. Ten-inch vinyl records only became available in 1901, which enabled the records to play for more than 3 or 4 minutes and have better sound quality. As the popularity of phonograph records increased and prices decreased, the number of people listening to music on a regular basis grew (Independent Plastic, 2018).

When radio first became available, the main purpose of it was to communicate through the war. It was only in the 1920s when radio became the medium to reach mass audiences and to broadcast entertainment. In the early years, music was being played through radio by hanging a microphone above a phonograph. Later on, live concerts were being broadcast, which gave a unique access to have millions of people to tune in at the same time and listen to something live that they did not have access to in real life.

Another major advancement in technology was the arrival of television in the 1950s. This created a new dimension for the music industry with the visual aspect becoming increasingly important. The making of music videos, TV appearances and live performances became a huge part of the industry and it was now possible to visually reach out to masses without the fans even having to leave their homes. Television also opened up a range of new opportunities for marketing and promotion.

In the early 1980s, Sony, in collaboration with Philips, developed the compact disc – CD. This was a fundamental shift from analogue to digital and subsequently created a spike in revenue in the industry. From the record companies' side, CDs worked well – for them it was faster and cheaper to manufacture and transport CDs than vinyls, and the higher quality of the sound meant they could justify the increase in price. For many consumers, the 1990s and engagement with the compact disc was a time of excitement, with the mass production of portable CD players making possible to listen to music outside of the home (Daniel, 2018). However, the digital format made it easy to make copies of the CD, without the quality of the sound being affected, which made piracy a major problem for the record companies.

The 1990s represents a time in history where digital technology and the capacity of the internet to support file sharing revolutionised the music industry. By the mid-1990s, more homes had access to personal computers and the Internet, which meant file sharing became prevalent. The introduction of compressed audio files – MP3s – that were easily transferable and that could fit on personal computers, encouraged peer-to-peer (P2P) file sharing. In June of 1999, Shawn Fanning launched Napster – a peer-to-peer file sharing Internet

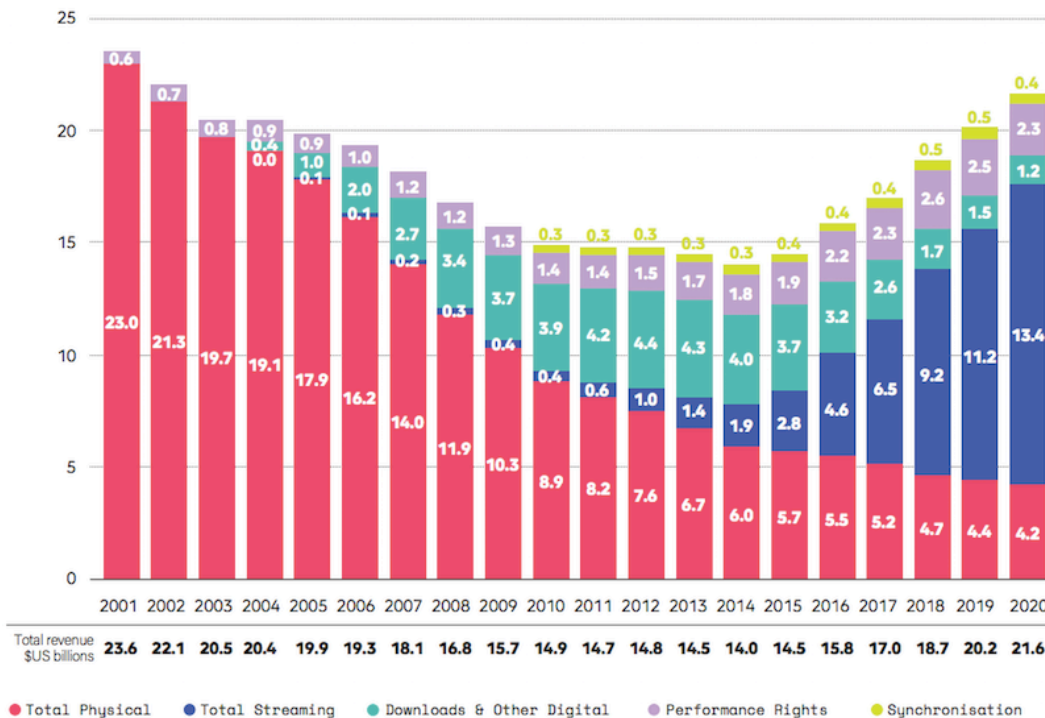
software that emphasised sharing digital audio files, typically audio songs encoded in MP3 format (Dowling, 2019). The initial model provided access to millions of files that individuals could download and share with each other. Instead of holding all the files, Napster only listed the file names which then individuals could choose and download. This meant for a while that Napster had a legal advantage when it came to copyright infringement. However, after several court cases and lawsuits, Napster was ordered to close in early 2000s.

Meanwhile, record companies were still struggling with P2P file sharing piracy, as even more people had access to the technology and physical record sales were at an all-time low. Whilst there were many attempts from various companies to find a better way to distribute digital music, the record labels were still hesitant and did not trust the safety of the Internet. Steve Jobs, the head of Apple at the time, decided to pitch the approach of purchase, not subscription model to record companies, which meant that consumers would still have to pay for every song/album they want to listen to. At first, only Warner and Universal agreed to join, whilst the other companies remained sceptical, given that Apple only owned 5% of the US computer market and that iTunes Store was only available to Mac users (Gamal, 2012). Still, iTunes launched in 2003, with the price of a single song being 99¢ each and albums costing \$9.99 and within a week, it managed to sell over one million songs. The deal with the labels meant that consumers were able to listen to purchased music from five different Apple computers as well as burn unlimited amount of CDs.

As iTunes expanded to non-Apple PC users, the next big change was Apple's new product - the iPod. This user-friendly MP3 player already had iTunes built in it, which, in conjunction with the unique design, created an instant demand, and subsequently revolutionised the market. iTunes still exists on the iPhone in the form of subscription-based Apple Music, which is one of the main competitors for Spotify.

Current state

Figure 1. Global Recorded Music Industry Revenues 2001-2020



(IFPI, 2021)

Compared to the start of the new millennium, the music industry in 2021 is almost unrecognisable. In 2001, there were only 2 sources of income - the revenue from the physical records and the revenue from performance rights. In 2020, when the revenue from physical sales was the lowest it has ever been, other sources of income including streaming, digital downloads and synchronisation have risen substantially. As the music consumption moves towards an access model from an ownership model, companies are investing into new ways of generating revenue through streaming and subscription-based services. Consumers realised that it is more affordable and accessible to instantly have access to million songs, rather than 'own' the music by downloading and paying for it.

The demand for music and music consumption in general has never been higher. As of the first quarter of 2021, Spotify had 158 million premium subscribers worldwide, up from 130 million in the corresponding quarter of 2020 (Statista 2021). According to Statista (2021), as of January 2021, almost 60% of the global population are active internet users (4.66 billion). It is expected that thanks to 5G, in five years' time, almost the entire world population of 8 billion people would have access to the Internet (Csathy, 2020). It is also important to recognise that as music consumption rises, the production of music also increases as indicated by the major labels expanding their operations in new territories around the world including Africa, Asia and India.

The most significant distinction between now and previous periods of industry change is that technology is fundamentally altering market dynamics and the way the business of music is conducted (Music Business Worldwide, 2021). From various platforms to apps, tools and services - new technology has been developed and established to support musicians in finding their success. It is not just about the music itself anymore, when people bought vinyl records or CDs to consume music; it is about how creatives can create extra value to their

brand through social media or merchandise - it is not enough anymore to *only* be able to write good songs, it is about the brand. According to Spotify (2021), 60,000 new tracks in 80 markets are uploaded to the service every day. In order to stand out in this highly oversaturated market, it is vital to understand the new trends and technologies that are still changing on a daily basis to reach global success.

Justin Kalifowitz, the CEO of Downtown Music Holdings, explains in his article (2021) that due to the concurrence of technology and a high demand for a service mentality, the lines between major and independent, executive and creator, or label and artist are increasingly blurred. In 2021, every aspect from recording music to distributing and promoting it can be done through services and platforms that are accessible for everyone, therefore the exclusive aspect of releasing music is constantly decreasing. Will Page, the former Spotify economist has noted in his byline (2021) for The Financial Times that out of all the songs released in 2020, the ratio of artists releasing music independently surpassed the releases under three major labels by a ratio of 8 to 1. This data shows that the DIY-approach is becoming increasingly popular, because whilst still being able to access the data about their reach and fan base through Spotify, SoundCloud and YouTube analytics, creators can retain all the rights to their work and all revenues.

Although the amount of people consuming music has never been higher, musicians have never made less money from it. One of the significant issues in the music supply chain today is the lack of consistent, complete and authoritative information or metadata regarding the creation of a given musical work. For instance, although Spotify does not pay the artist on a pay-by-stream basis, the estimated value for a single stream is approximately \$0.0032 (Antal, et al. 2021). Many industry professionals agree that the issue is the complexity of the system and often royalties go missing due to human errors, confusion and the lack of a universal structure. To me, it seems that the way we consume music and new technologies have changed so quickly over recent years that the infrastructure and legal implications around copyright, licensing and royalties have not been able to keep up with it and therefore currently do not work in conjunction with each other. Different parts of the industry have had to figure it out their own way, which has caused even more uncertainty.

Introducing new technologies such as Blockchain could start a transparent, joint system where royalty pay-outs and music licensing become visible to all parties. Blockchain is a new digital record of transactions. Introduced in October 2008 as the technology behind Bitcoin, blockchain has continuously been appointed as the biggest foundational technology since the internet, with the potential to transform our operational economic systems (Iansiti and Lakhani 2017). It could also 'cut out the middlemen' and give artists the freedom to directly engage with the consumers to sell their music/merchandise and have a structured and transparent system to receive royalties. However, this would leave the publishers, labels and collecting societies without their share and would subsequently potentially shift the power of the music industry as we know it.

Another factor that can affect the market is, of course, politics. New technologies have made it possible to intervene in any event globally, even elections, and it is also relevant in the creative industry. When Donald Trump wanted to ban TikTok because it was owned by a Chinese company, it would have put creators and musicians who make an income through the app, either as content creators, or through royalty payments, in a tough position. In Europe, Brexit's impact has yet to be seen on the music market but it has started to pose many questions with regards to Intellectual Property laws and whether the UK should follow Europe's Directive on Copyright in the Digital Single Market - Article 17. Under Article 17, content-sharing platforms (such as YouTube and Vimeo) can be taken to court for making copyright-infringing content available to the public, even where it has been uploaded by their users (Robert, 2020). On the other hand, human rights movements, such as Black Lives

Matter which celebrates black culture and talent worldwide, have created some positive trends and new initiatives in the music industry.

As well as advancements in software, new gadgets and gear have also changed the consumer experience when listening to music. Over 200 million smart speakers – such as Alexa – have been sold in the last two years. Another success story has been wearables: the sale of earbuds alone has been a massive success. Apple (Spangler, 2020) reported revenues of over \$10 billion, with the sale of AirPods leading the market.

COVID 19

During Covid-19, the way in which people consumed, and in some ways still continue to consume, music changed drastically. Britons alone spent £2.5bn on live music in 2019. Whilst the whole world had to stay at home and people had more spare time, people turned to music and arts via streaming platforms to seek escape and comfort from the uncertainty of life. Of course, due to the public venues being closed throughout the year, the revenues from ticket and merchandise sales, and from performance rights declined significantly. Covid-19 has also affected the 9.4% decline in synchronisation revenues - production delays affected the use of music in games, TV and adverts (IFPI, 2021). Now that the world has started to open up again, live music is slowly returning and venues are opening, which will definitely affect the market again.

Conclusion

New technologies always have and always will affect our behaviour and consumption habits. People instinctively like everything that is more affordable and accessible for them, which is how a lot of people have ended up preferring the subscription-based model. As the world is getting more familiar with Blockchain and looking into how it can affect the music industry, we are definitely seeing some changes in our industry and it will be very interesting to see the developments in the next few years. At the end of the day, music will always be performed by people and composed by people, whether it is with the assistance of computers or not – the human aspect will always be there.

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Bibliography

Csathy, P. (2020). *The Future Of Music: Where It Is Today & Where It's Going In The Next Decade*. Available at: <https://www.forbes.com/sites/petercsathy/2020/02/02/the-future-of-music-where-it-is-today--where-its-going-in-the-next-decade/?sh=285b33c7707e>

Independent Plastic, (2018). *The History of Vinyl Records*, Available at: <https://independentplastic.com/the-history-of-vinyl-records/>

Daniel, R. (2019). *Digital disruption in the music industry: The case of the compact disc*, Available at: <https://www.tandfonline.com/doi/citedby/10.1080/17510694.2019.1570775?scroll=top&needAccess=true>

Dowling, S. (2019). *Napster turns 20: How it changed the music industry*, Available at: <https://www.tandfonline.com/doi/citedby/10.1080/17510694.2019.1570775?scroll=top&needAccess=true>

Gamal, Ashraf El. (2012). *The Evolution of the Music Industry in the Post- Internet Era*, Available at: https://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1501&context=cmc_theses

Iansiti, M., and Karim R. L. (2017) 'The Truth About Blockchain' Harvard Business Review Available at: <https://hbr.org/2017/01/the-truth-about-blockchain>

IFPI (2021), *Global Music Report*. Available at: https://www.ifpi.org/wp-content/uploads/2020/03/GMR2021_STATE_OF_THE_INDUSTRY.pdf

Music Business Worldwide (2021). *The Services Sector is Transforming the Music Industry*, Available at: <https://www.musicbusinessworldwide.com/the-services-sector-is-transforming-the-future-of-the-music-industry/>

Page, W. (2021). *The music industry makes more money but has more mouths to feed*, Available at: <https://www.ft.com/content/77768846-a751-45ec-9a12-20ff27ddefb>

Robert, B. (2020) *Complying With Article 17 of the EU Copyright Directive*, Available at: <https://www.termsfeed.com/blog/eu-copyright-directive-article-17/-What-Is-Article-17>

Spangler, T (2020). *Apple Services Grow 17% in Year-End 2019 Quarter, iPhone Sales Rise to Power Record Revenue and Earnings*, Available at: <https://variety.com/2020/digital/news/apple-q1-2020-results-apple-tv-plus-1203484288/>

Spotify Stream On (2021). YouTube Video. Available at: <https://www.youtube.com/watch?v=Vvo-2MrSgFE>

Statista (2021). *Number of Spotify premium subscribers worldwide from 1st quarter 2015 to 1st quarter 2021*, Available at: <https://www.statista.com/statistics/244995/number-of-paying-spotify-subscribers/>

Statista (2021). *Global digital population as of January 2021*, Available at: <https://www.statista.com/statistics/617136/digital-population-worldwide/>