

# New Technology in Music and Creative Entertainment

Essay:

New Technology's Influence on the Music Industry

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Appendix

The music industry is an ever-changing industry, compelling everyone involved to adapt. Charles Darwin (1859) states that evolution is steered by the “survival of the fittest”, therefore, learning to adapt is crucial. In this piece of work, the new available technologies, and their influence on the various fields within the music industry, will be analysed and discussed as well as the history of the digital industry to ensure a wider understanding .

### **The Music Industry’s Decline**

The transformation of the music industry from a product-based industry to a service-focused commerce started in 1999 with the rise of Napster. The platform was followed by others such as 2003’s Grokster and 2006’s Limewire. All three, and many others, offered file-sharing services enabling the free distribution of music online. Mulligan (2015) illustrates in Appedix I that this sudden change did not solely affect physical sales as the revenue from the entire recording industry deflated by 45% between 2000 and 2014. Due to the lack of control these platforms offered, major labels were obliged to sue individuals and companies as an attempt to regain control on how and where music was distributed. This is the reason why Napster was sued by all major labels and was obliged to therefore become legitimate. Although the music-file swap platform did not win the case, it challenged the Copyright laws everywhere. Article 13 is an additional example of how copyright infringement is still being fought today. BBC writer (2020) explained that “Article 13 would make it nearly impossible to upload even the tiniest part of a copyrighted work to Facebook, YouTube, or any other site.” They further explained that it would be ‘terrible for the internet’ as platforms such as Soundcloud would be affected as well. That being said, the article also mentions that “Universities and Science Minister Chris Skidmore has said that the UK will not implement the EU Copyright Directive after the country leaves the EU.” Therefore, this might not be applicable in the United Kingdom but as the websites involved are worldwide platforms, creators will be still affected.

### **The Music Industry’s Rise**

Despite the fact that Article 13 could potentially trouble the use of music on platforms such as YouTube, this could push an additional amount of users to utilise streaming services. As previously mentioned, the overall music industry sales drastically dropped in the course of the years 2000 to 2014; however, it slowly but steadily increased in 2015. Appendix II shows the increase and decrease of the Global Recorded Music Industry Revenues from 2001-2018. The graph does not solely illustrate the growth of the overall industry, it also clearly shows the importance of the digital industry compared to the physical sales. This is further emphasised in Appendix III’s pie chart. It clearly exhibits that in 2018, 59% of the global recorded industry revenue was digital music shares. 2019’s Global Music Report explains that the physical revenue has dropped by 10.1% whereas the digital shares have increased by 21.1%. The switch from a product- to a service-focused industry is not solely portrayed by the decline in physical sales but also in the decrease of downloads. IFPI (2019) explains that downloads have dropped by 21.2%. The closure of iTunes could be a representation of that. Silva (2019) states that “The company has moved its functionality into 3 different apps: Apple Music, Podcasts and Apple TV.” moving the audiences’ focus to streaming platforms.

Although the industry has clearly transformed to a service based industry, it is not correct to assume that the physical industry has disappeared. Physical format revenues are increasing in certain countries such as India +21.2%, Japan +2.3% and South Korea +28.8%. Simultaneously, IFPI (2019) shows that “physical revenues still constitute a significant percentage of the market in some countries (representing 71%, 47% and 35% of the market in Japan, Poland and Germany respectively).”

### **The Music Industry’s Streaming**

IFPI’s Report has shown that streaming has taken over the music industry by storm. UK’s and US’ most utilised platforms of 2018 are illustrated in Appendix IV and Appendix V. Not only has the number of streaming users increased, but paid subscriptions have drastically gone up as shown by RIAA (2018) in Appendix VI. Due to the popularity of all streaming platforms, streaming services are obliged to add exclusive content on their services to drive engagement. Spotify’s vertical music video is an example of that. “Spotify has reinvented the once-lambasted 9:16 vertical video format for the modern musician.” (Johnson, as cited in Bereznak, 2019) Selena Gomez’s (2017) *Bad Liar* was the debut of the platform’s vertical music video; however, it was not the last with the likes of Taylor Swift and Billie Eilish following in her footsteps. After the success of the vertical videos, 8 second loops were made to accompany artist’s releases, setting the platform apart from the rest. Similarly to Spotify, Apple Music has had to include exclusive artists collaborations such as James Cordon’s *Carpool Karaoke* even after its fast success. Although Apple Music did not launch until June 2015, the platform “is now a major streaming force as well with more than half Spotify’s paid subscriber count in a fraction of the time.” (Csasthy, 2020) Due to music consumption becoming a service-based industry, streaming platforms are constantly trying to reinvent their product to ensure a wider audience than their competitor.

### **The Music Industry’s Dynamics**

Artists’ collaborations with streaming platforms goes beyond vertical videos. The need to connect artists to their audience has pushed streaming services to create physical experiences for their users. Ariana Grande’s *Sweetener Experience* and Billie Eilish’s *Album Experience* are archetypes of Spotify teaming up to offer an experience to the fans. Elizabeth (2018) writes about the *Sweetener Experience*, “The exhibit features an array of rooms and sections, each dedicated to a different track from Ariana’s latest album.” This would not only act as a way to close the gap between artist and fans but also as a way to drive excitement for an album release and fight the decline in album sales. This is why businesses created the *Stream Equivalent Album sales* or *SEA*. McDonald (2018) explains that “It takes 1,500 SEAs to equal one album” They have become essential as the majority of music is consumed through streaming services.

### **The Music Industry's AI**

Artificial Intelligence has become part of businesses all over the world. “According to a McKinsey report, 70 per cent of companies will have adopted at least one AI technology by 2030”. (Marr, 2019) The technology has enabled streaming platforms to understand its users preferences and further recommend music. Byers (2019) explains that “Data is collected from our usage on the app, it is curated and fed into artificial intelligence systems that learn what we listen to and it sends us new music that we may like according to what we have previously listened to.” The Orchard’s Scott Cohen (as cited in Marr, 2019) explains that AI is imperative to sort through music as 20 000 songs are uploaded to streaming platforms everyday. That being said, the music executive does not believe the new technology is only positive. He states that “AI and big data made the “music genre” obsolete because AI-generated playlists are made not based on genre, but what is determined to be good music.” He further explains that it challenges our model of infinite choices as we are offered what the algorithm recommends.

The consumption of music is not the only aspect of the industry that has become service based. It has become possible to create, perfect and complete music online. That being said, the creation of music with AI is nothing new as computer science engineer, Alan Turing, was the first to create music with a machine in 1951. Major companies such as Google and Sony have since then invested in the technology releasing projects such as The Magenta Project (Google) and Flow Machines (Sony). Daddy’s Car, released by Flow Machines is a song created by the AI technology. Since then, services have been created to offer the everyday musician an opportunity to create music using Artificial Intelligence. Jukedek and Amper Music are two examples of such a service. Not only can artists create music online, they can also get their songs mixed and mastered. Audio company IZotope released Neutron 3 Advanced, “an AI-powered mixing assistant you inject into your favorite DAW.” (Greene, 2019) After the plug-in analyses the project, it suggests differing gain levels and offers mix elements bundles. Although the software will not mix the song on its own, Greene (2019) explains that it has “managed to eliminate about 80-percent of the work.”

Additionally to mixing, AI technology has been made available for the everyday musician to master their tracks. Marr (2019) explains that “AI-based mastering services such as LANDR provide musicians with a more affordable alternative to human-based mastering, and so far more than 2 million musicians have used it to master more than 10 million songs.” The idea of having a song mastered by artificial intelligence has not been received positively by all as there is still a creative component to mastering. That being said, the platform is constantly changing to offer more options. Deahl (2019) explains that the software “can now master music in multiple sonic styles.”

### **The Music Industry's Blockchain**

Similarly to how artificial intelligence has influenced the industry, Blockchain has played a part in the evolution of certain services. Blockchain's ledger technology allows artists to trace their music streams and therefore to receive their royalties and pay all individuals involved in the creation of a single or album. The technology would transform the way musicians would release music whilst also avoiding the use of middlemen. Many artists, the likes of Imogen Heap and Pitbull, have become advocates of the technology's benefits.

Blockchain has already been used to create countless businesses such as MediaChain and Ujo. MediaChain concentrates on the creation of a blockchain database allowing creatives to communicate information across various applications. In addition to that, it ensures all artists are paid correctly using royalties smart contracts that avoid the use of third parties. Similarly to MediaChain, Ujo offers a "blockchain technology to create a transparent and decentralised database of rights and rights owners, automating royalty payments using smart contracts and cryptocurrency." (2020) The use of cryptocurrency in itself has been integrated in the music industry with Björk's and AudioCoin's collaboration. The artist accepted both Audiocoins and Bitcoins for fan's purchase of her album Utopia. The use of cryptocurrencies is interesting for artists as like blockchain, it does not involve a third party, meaning the audience's 'money' goes straight to the artist. Carler (2020) explains that "Statistics reveal that with older-model streaming services, musicians only earned around 12% of the total revenue." Cryptocurrencies and blockchain's technology on its own would change that.

### **The Music Industry's Merchandise**

In this time of streaming, having physical products to remember certain events is still a necessity for fans which is illustrated by the above-mentioned Spotify experiences. Forde (2019) emphasise that by stating that "More than simply a memento from a gig, or a way of showing your musical colours, band T-Shirts can be of considerable importance - to both artist and fan." McIntyre (2019) further agrees with the statement by explaining that "Merchandise has now become a way for artists to reach out and touch their most ardent fans, especially when they aren't on tour." Merch has taken over the importance of a CD. That being said, it is not only a way for fans to connect with the artists but it is also a way to raise further engagement and extend an artist's brand by showcasing their logo on a T-Shirt.

New technologies have made it possible for artists of at all stages of their careers to sell their own merchandise. The products involved can range from traditional T-shirts and hoodies to popsockets, socks and phonecases and more. Priorly only available on tours, artists' merchandise has become a business of its own. Websites such as Printful, Spreadshop or Awesome Merchandise give artists the opportunity to create their own products whilst Bandcamp or Merchbar allow them to sell it. Merchbar is not only a website to sell merch as it has also partnered with YouTube and Spotify to allow artists to advertise their goods. The fact that it is available on the online services once again shows the importance of streaming services in this time and age.

### **The Music Industry's Live Business**

Although the live industry has not as drastically transformed to a service, new technologies have influenced the way one can do a performance. Holograms concerts are nothing new from K-Pop's H.O.T. in 1998 to Tupac's 2012 Coachella performance. Although the performance received negative criticism, it did not stop the evolution of the concept to a complete tour as The Roy Orbison tour involved 10 cities. Since then, hologram or virtual tours have become a favourite with artists that have passed away such as Whitney Houston, Amy Winehouse and Michael Jackson.

Another example of new technology influencing the live industry is Marshmello's Fortnite concert in February 2019. "The stage came to life with building-sized holograms of *Fortnite* characters, while a custom set of graphics played behind Marshmello's avatar." (Statt,2019) The concert was later on published on YouTube and other media platforms. More recently, Travis Scott, similarly to Marshmello did a Fortnite live set. Ketchum III (2020) explains that "Over the course of the 10-minute concert, Scott also lead gamers underwater and into outer space." Another example of new technologies being incorporated in music is violinist Lindsey Stirling's virtual reality performance. In August of 2019, the artist collaborated with Wave, a platform notorious for its VR technology, to bring a virtual reality concert. Melnick (2019) explains that "Those watching live from Facebook, Twitch, and YouTube enjoyed a standard 2D experience featuring several different camera angles, or in VR using a SteamVR or Oculus-compatible headset." Similarly to Fortnite's concerts, users utilising the headset appeared in the stream as characters.

More recently, the COVID-19 outbreak has pushed artists and institutions to perform on the internet. Livestreams on all major social media platforms have been extremely popular, as well as closed concerts on Zoom, Skype or even Houseparty allowing the audience to tune in whenever they want to.

In conclusion, whether you believe that Napster positively or negatively influenced the industry, as Barnes (2015) explains “Had Napster never burst onto the scene, we would be looking at a very different musical landscape today.” It is clear the the recording industry has transformed from a product-focussed to a service-based industry; however, the switch has not solely influenced the recorded industry. The live, engineering sector and creative aspect of the music business have all evolved alongside it. Although some of the above-mentioned technologies are not user-friendly, they will be in the near future as AI has become accessible to all.

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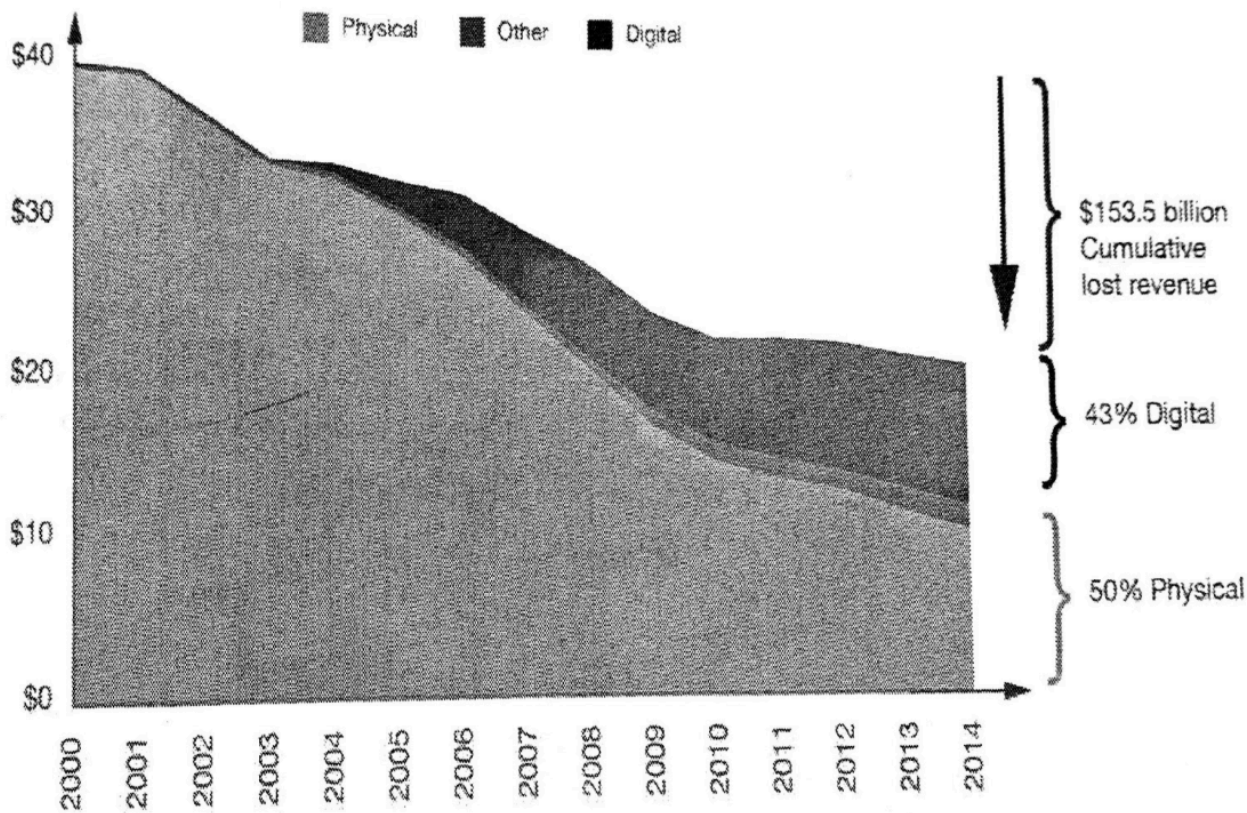
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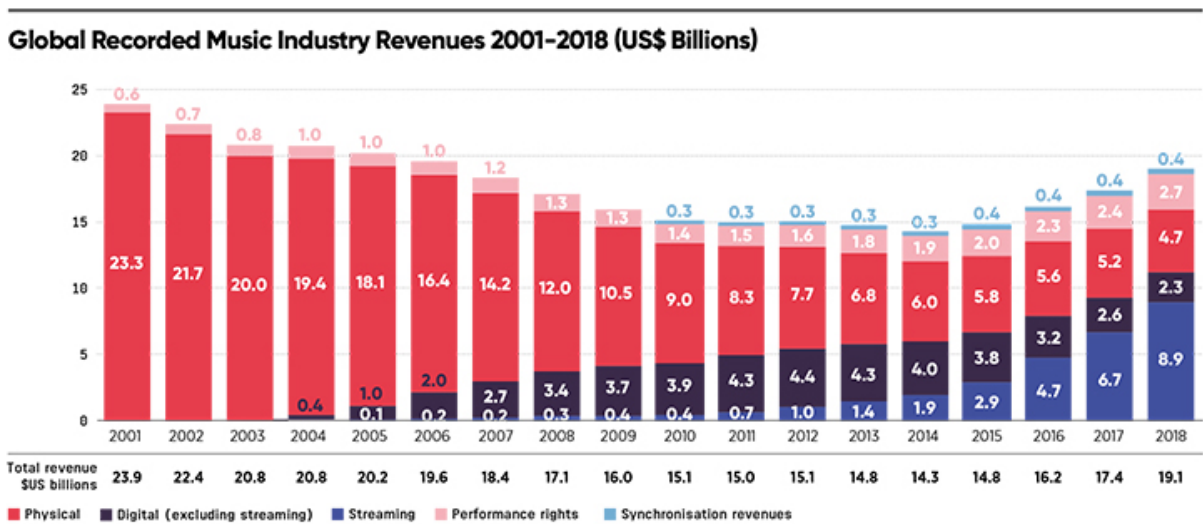
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# Appendix

Appendix I  
Music industry revenue from 2000-2014  
Source: IFPI and MIDIA Research through Mulligan (2015)

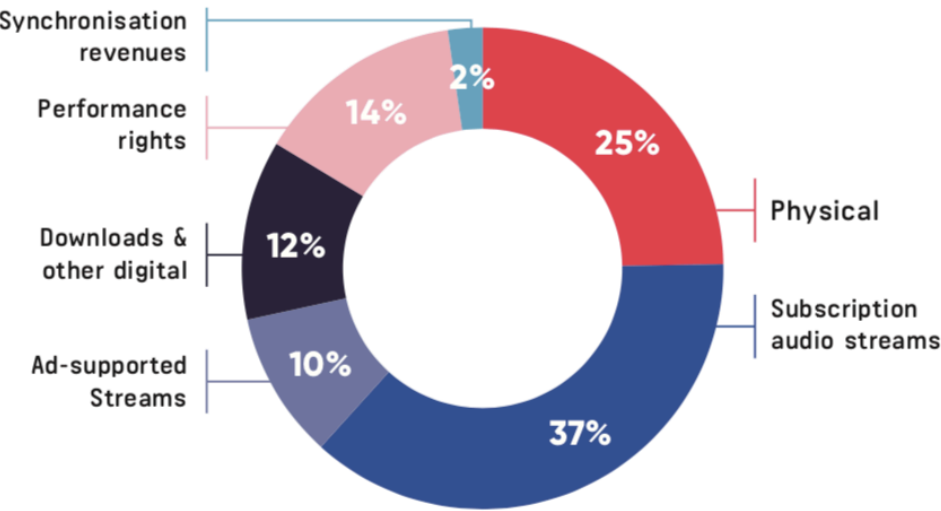


Appendix II  
Global Recorded Music Industry Revenues from 2001-2018  
Source: IFPI through Music Business Association



Appendix III  
Global Recorded Music Revenues by Segment 2018  
Source: IFPI Global Music Report 2019

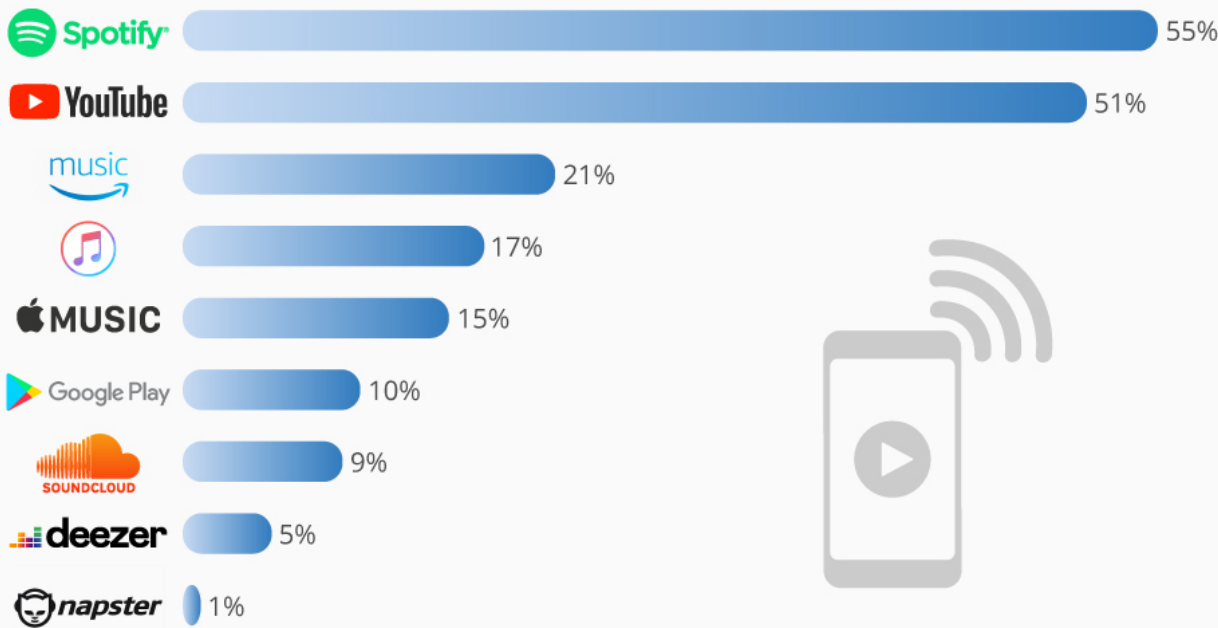
**Global Recorded Music Revenues by Segment 2018**



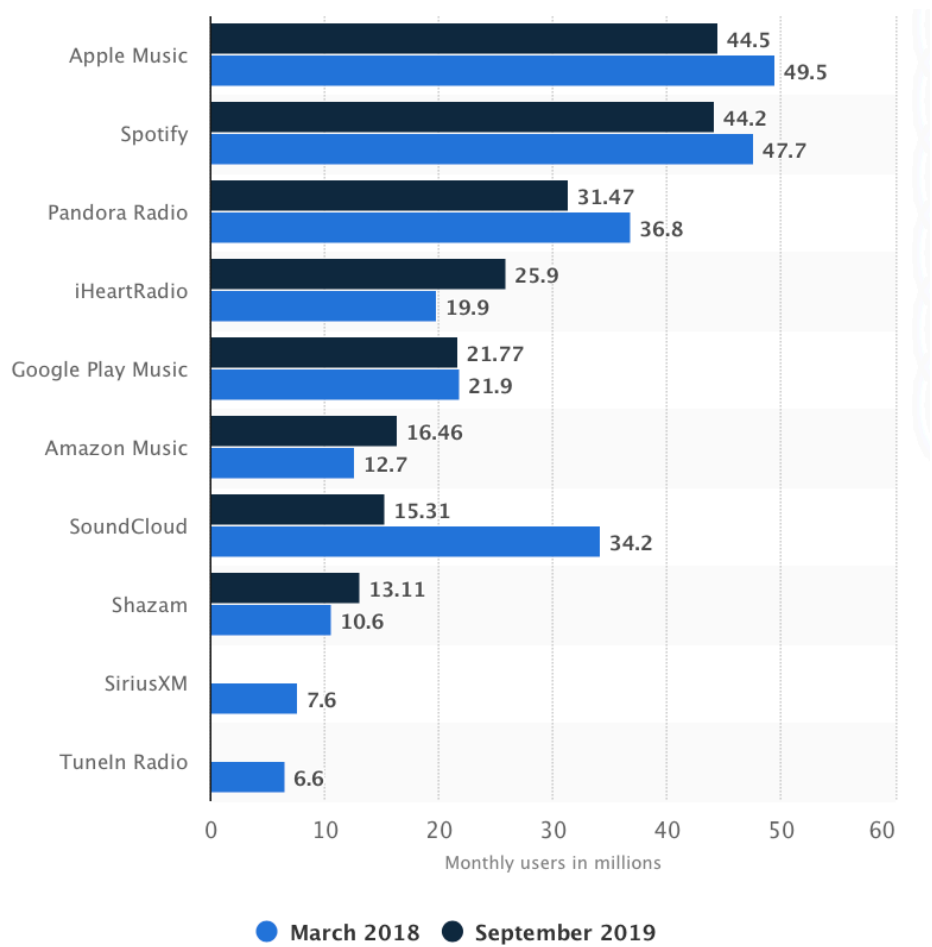
Appendix IV  
UK most popular services 2018  
Source: Statista

**The UK's most popular music services**

Share of music streamers in the UK that use the following services



Appendix V  
USA most popular services 2018  
Source: Statista



Appendix VI  
US Paid Music Subscriptions (2018)  
Source: RIAA

