

# MUSIC STREAMING SERVICES AND THEIR PATH TO FINANCIAL VIABILITY

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## **Dutch Summary**

De muziek industrie is een volatiele markt en heeft veel technologische innovaties gekend in de voorbije decennia. Vanwege de introductie van onder meer radio, vinyl en CD heeft de industrie zich al vaker moeten heruitvinden. Al deze innovaties bleken positieve effecten te hebben op de muziek industrie. Het digitale tijdperk echter bracht een destructieve wind met zich mee en vernietigde de bestaande business plannen zonder initieel een goed alternatief te bieden. De muziek industrie begint zich nu langzaam te herstellen. Eerst via een business plan gebaseerd op een “pay per track” model, en later via interactieve streaming diensten.

Hoewel streaming eerst erg skeptisch werd ontvangen is de muziek industrie nu, dankzij een explosieve groei van streaming diensten zoals Spotify en Apple Music, hun tweede jaar op jaar groei aan het vieren na bijna twee decennia van inboeten aan omzet. Ondertussen is Spotify echter nog steeds verlieslatend en hun jaarlijks verlies groeit zelfs keer op keer. De onderneming heeft het enorm lastig met de zware licentiekosten die ze moeten betalen ter compensatie van het gebruik van auteursrechten van muzikanten en platenmaatschappijen op hun platform. Spotify heeft het moeilijk met het veilig stellen van een lange termijn winstgevendheid met de erg kleine resterende marge om hun operationele kosten te dekken.

De vraag of artiesten voldoende verdienen aan het streaming business model is al vaak gesteld in de media. Verschillende studies zijn reeds vanuit het perspectief van de platenmaatschappijen en artiesten nagegaan of streaming voldoende oplevert voor de eigenaars van auteursrechten. Slechts enkelen bekijken deze evolutie vanuit het standpunt van de streaming diensten zelf. Een gebrek aan onderzoek vanuit dit standpunt leidde ons tot de volgende onderzoeksvraag:

*Is het huidige business plan van streaming diensten financieel houdbaar op de lange termijn? En indien niet, wat moet er veranderen om deze onderneming winstgevend te maken?*

Een kwalitatief onderzoek zal de beschikbare financiële gegevens van streaming diensten combineren met inzichten van spil personen binnen de muziekindustrie. Via diepte-interviews gaan we na wat de verschillende mogelijke scenario's zijn in hoe de streaming markt uiteindelijk zal evolueren. Dit onderzoek kan relevant zijn voor streaming diensten en alle eigenaars van auteursrechten in de muziekindustrie. Streaming heeft een enorme impact gehad op hoe artiesten en platenmaatschappijen zich moesten construeren. Een goede anticipatie op hoe het streaming business model zal evolueren kan hen voorbereiden op hoe dit invloed kan hebben op vlak van marketing en financiën.

Deze thesis zal de auteursrechten samenvatten die de muziekindustrie ondersteunen. We zullen nagaan hoe dit de relatie tussen streaming diensten enerzijds en artiesten en platenmaatschappijen anderzijds vastlegt. We kijken naar de impact van digitalisatie en hoe de relaties in de value chain tot stand kwamen. We gaan dieper in op het business model van streaming en bekijken de verschillende varianten. Daarna kijken we naar de belangrijkste bronnen van inkomsten en kosten en bekijken we de huidige financiële situatie van Spotify. Gebaseerd op deze informatie, samen met diepte-interviews met enkele spil personen in de muziekindustrie, besluiten we met de verschillende scenario's die ons vertellen hoe de streaming markt mogelijks kan evolueren en hoe dit van invloed kan zijn op de consument, platenmaatschappijen en de streaming diensten zelf.

## **Preface**

This dissertation was written as part of my masters degree in applied economics at Ghent University. Through a special interest in the music industry from a young age and the important changes the industry is going through at the time of writing this dissertation, it was very clear to me I wanted to research the current music streaming market. Whereas it was initially intended to be written from the financial perspective of the artists and record labels, it soon became clear to me this is not where the problem is situated within the current environment.

I would like to thank Professor Dirk Van Den Poel and Matthias Bogaert for the guidance in writing my thesis for the past two years. A special thank you to Charles Caldas, Zach Fuller, Romy Harber and Charlie Phillips for participating in in-depth interviews about my subject. To my colleagues at Hospital Records, from whom I have learned a lot in the past year and who have had a positive impact on the outcome of my dissertation. And last but not least to my mom, for reminding me I have a dissertation to write everyday for the past two years.

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## **List with used abbreviations**

A&R – Artist & Repertoire

ACPU – Average Cost Per User

AMPU – Average Margin Per User

ARPU – Average Revenue Per User

ATCPU – Average Total Cost Per User

ATRPU – Average Total Revenue Per User

MAU – Monthly Active Users

PPD – Published Price to Dealer

UGC – User Generated Content

UK – United Kingdom

US – United States

WAU – Weekly Active Users

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# 1. Introduction

The music industry is a volatile industry and has known many technological innovations over the past decades. Through the introduction of radio, vinyl and CD, the industry has been forced to continuously reinvent itself. All of these innovations eventually turned out to be sustaining innovations. As the industry entered the digital era, it has known an evolution that was very destructive to the existing business models. The industry is now slowly recovering through new business models generating revenue on the internet. First through a business model based on a pay per track or pay per album basis, and since recent years through the business model of interactive streaming.

Whereas the streaming business model was initially perceived with a skeptical approach, thanks to the exploding growth of streaming services such as Spotify and Apple Music, the recorded music industry is now celebrating its second consecutive year on year growth after a crumbling market for almost two decades. Meanwhile however, Spotify has yet to become profitable and in fact its loss is growing every year. The company is held down by license deals agreeing the bulk of revenue to be paid out as a royalty to the copyright holders of the music. It is proving difficult for Spotify to secure a long term commercial viability with low margins left to cover their operational cost.

The question whether artists are earning enough money from the streaming business model has been widely discussed in the media. Several studies took the perspective of the record labels and focused on whether streaming can generate enough value for the copyright holders. Few however took the perspective of the streaming services themselves. A lack of research from the perspective of the streaming services lead us to the following research question:

*Is the current business model of streaming services commercially viable in the long term? And if not, how would the business model have to change in order for it to become commercially viable?*

Our qualitative research combines financial figures of music streaming companies with the expert insight of key persons involved in the recorded music industry. Through in-depth interviews we verified different scenarios in how the streaming business model can find its path to profitability. This research can be relevant to streaming services and all copyright holders in the music industry. Streaming had an enormous impact on how artists and record labels had to market themselves. A good anticipation on how the streaming business model will evolve can prepare them on how this will affect them on a marketing and financial perspective.

The paper will first summarize the copyrights upholding the recorded music industry and how these secure the industry to be financially compensated for their copyright ownership. Alternatively it will look into how they establish the financial relationship between streaming services and copyright holders. Second we will focus on the impact of digitization on the music industry. It will go into detail on how the industry coped with the disruptive innovation of the internet and what business models came in place to adapt the industry to the digital era. It will go deeper into the streaming business model, describing all different variants of the business model and showing what services are on the market right now. Next we will look at the internal financial structure of streaming services. Defining their main sources of revenue and where the money eventually is spent. Based on in-depth interviews with key persons of the music industry we will conclude with possible scenarios on how the streaming market will evolve and how consumers, copyright holders and streaming services will be affected.

## 2. Literature study

### 2.1 Value chain in the recorded music industry

In this section, we will go through the different entities in the music industry and the different copyrights these entities own or commercially exploit. This will give an interesting overview of how money flows within the industry. We go into deeper detail of the business models generating money within the music industry, with its focus primarily on the on-demand streaming model. It goes into deeper detail what different rights oblige streaming services to pay royalties to the copyright owners and how this goes into place. This is an interesting aspect of our research question as royalties are the biggest cost for a streaming service.

#### 2.1.1 Copyrights in the recorded music industry

Revenue is created in the recorded music industry through the exploitation of copyrights. Copyrights protect the ownership of an original work of music and stimulate both creative and commercial activities by ensuring talent and effort of artists and songwriters are rewarded (Lewis, Graham, & Hardaker, 2005; Towse, 1999). Whenever a piece of music is created and expressed in a fixed form, copyrights apply. In most countries copyright lasts a lifetime plus a minimum of 50 years after the death of the author for most types of written, dramatic, and artistic works (Intellectual Property Office, 2015a). There are two types of copyrights: economic rights and moral rights (Intellectual Property Office, 2015b).

Economic rights protect the right to commercially exploit a copyrighted work. Economic rights are transferable, which allows authors to license, assign or sell these rights to third parties who can exploit these copyrights on their behalf (Towse, 1999). These third parties ensure a remuneration to the authors through payment of royalties or a buy-out fee. Under UK law there are six exclusive economic rights granted to a copyrighted work (Intellectual Property Office, 2015b):

- (1) the reproduction right
- (2) the distribution right
- (3) the rental and lending right
- (4) the public performance right
- (5) the public performance right by means of an electronic transmission
- (6) the adaptation right.

Moral rights capture the individual expression and protect emotionally and/or intellectually non-economic interests. These rights cannot be transferred. They protect the reputational rights of the authors. Under UK law there are four exclusive moral rights granted to a copyrighted work (Intellectual Property Office, 2015b):

- (1) the right to demand or decline attribution
- (2) the right to object to derogatory treatment of a work
- (3) the right to object to false attribution
- (4) the right to privacy of photographs and films

In the recorded music industry, a piece of music consists of two components on which each individually copyrights are applied (Towse, 1999):

- (1) the musical work
- (2) the sound recording

### **2.1.2 Entities in the value chain of the recorded music industry**

Several entities are in place in the value chain of the recorded music industry to commercially exploit copyrighted works. Figure 1 visualizes the value chain of the recorded music industry in the UK and the direction of financial transactions between applicable entities. A blue arrow represents a remuneration given for the public performance of a musical work or sound recording. An orange arrow represents the remuneration given for the reproduction or distribution of a musical work or sound recording. In this section, we will go into deeper detail about what and whom each of these entities represent.

#### **VALUE CHAIN OF THE RECORDED MUSIC INDUSTRY IN THE UK**

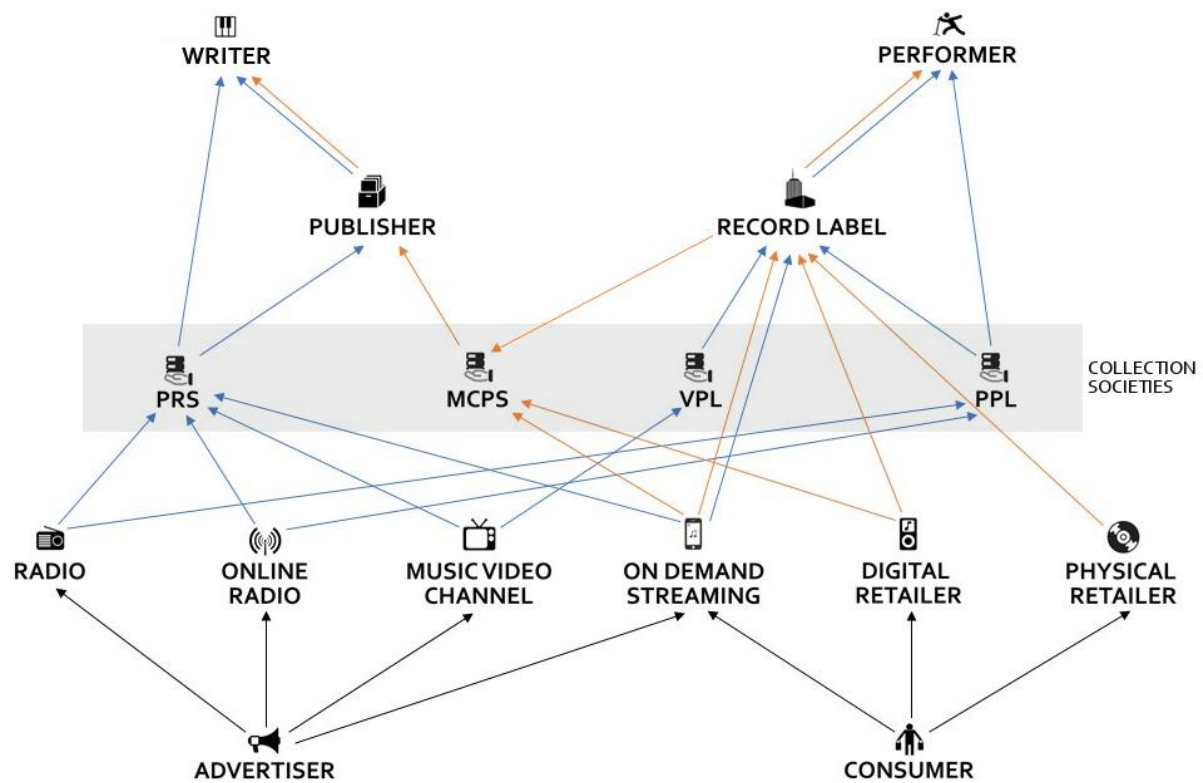


Figure 1: Value chain of the recorded music industry in the UK

#### **2.1.2.1 WRITERS**

Writers create or write musical works. Their musical works include aspects such as melodies and lyrics (Garofalo, 1999; Towse, 1999). When the musical works are created and expressed in a fixed form, writers are granted the copyrights. Under UK law, copyrights over a musical work last a lifetime plus 70 years from the end of the calendar year the last remaining author dies (Copyright, Designs and Patent Act, 1988a). The writers' copyrights include both economic and moral rights. The economic rights are transferable and are in practice transferred to publishers, who commercially exploit the work on the writers their behalf. Writers receive a remuneration for the commercial exploitation of

their copyrights via their publishers and a collection society. The collection societies in the UK representing the publishers and writers are PRS and MCPS (Towse, 1999).

#### **2.1.2.2 PERFORMERS**

Performers perform the music written by composers or lyricists. Clear examples are singers performing lyrics or an orchestra performing a symphony written by a composer (Towse, 1999). When their performance is expressed in a fixed form as a sound recording, performers are automatically granted the copyrights over this sound recording. Under UK law, copyrights over a sound recording last for 50 years from the end of the calendar year in which the work was created or, in case the sound recording is released within this period, for 70 years from the end of the calendar year in which the work was released (Copyright, Designs and Patent Act, 1988b). The performer's copyrights include both economic rights and moral rights. The economic rights are transferable and are in practice transferred to record labels. Performers receive a remuneration for the commercial exploitation of their copyrights through the payment of royalties by their record label and a collection society. Collection societies in the UK representing the record labels and performers are PPL and VPL (Towse, 1999).

#### **2.1.2.3 PUBLISHERS**

Publishers are specialized in the commercial exploitation of the copyrights on musical works. Writers can sign a contract with a publisher to exploit their copyrights on their behalf (Towse, 1999). Publishers defend the six exclusive rights granted to a copyrighted musical work. A publisher collects revenue every time a musical work is reproduced, distributed, rent or lent, publicly performed, publicly performed by means of an electronic transmission, or adapted (Intellectual Property Office, 2015b). A main activity of publishers is issuing licenses for usage of a musical work and collecting the license fees. The bulk of these licenses is generally issued on publishers their behalf by a collection society. Collection societies are, in the UK and most other countries, non-profit organizations and issue licenses for usage of copyrights on a national level, as will be explained later in this section. Publishers then remunerate writers in the form of royalties (Towse, 1999).

Besides the administrative work of issuing licenses, collecting licensing fees and remunerating writers in the form of royalties; publishers their job consists of boosting revenue by promoting the writers in their catalogue. Publishers will chase esteemed performers to collaborate with their writers. And will chase potential clients such as TV stations, advertisers, video game production companies or film production companies to license musical works in their catalogue for synchronization. A synchronization license allows these clients to combine music with other content (Tschmuck, 2017).

Publishing had an estimated worldwide market value of almost 10.4 billion dollars in 2015 and accounted for 42.7% of the total recorded music industry (Ingham, 2016a). Approximately half the publishing market is in hands of the three majors: Sony Music Publishing (23% market share), Universal Music Publishing (16.8% market share), and Warner Chappell (10% market share). The remaining market share is in the hands of independent publishers (Mulligan, 2017a).

#### **2.1.2.4 RECORD LABELS**

Record labels are specialized in the commercial exploitation of the copyrights on sound recordings. Performers can sign a contract with a record label to exploit their copyrights on their behalf. A record label collects revenue every time a sound recording is reproduced, distributed, rent or lent, publicly

performed, publicly performed by means of a digital audio transmission, or adapted (Intellectual Property Office, 2015b). The reproduction and distribution is commercially exploited by the record labels through the sales of digital and physical formats. Record labels provide digital formats of sound recordings via digital retailers and on-demand streaming platforms. Physical formats of sound recordings, such as CD and vinyl, are provided via physical retailers. After a commission taken by these digital and physical retailers, revenue flows back to the record labels (Tschmuck, 2017). Public performance revenue can be collected from collection societies who issue licenses for the public performance of a sound recording and music videos, as will be explained later in this section (Towse, 1999). Record labels pay a remuneration to their performers in the form of royalties. Record labels must also remunerate writers for every reproduction of their musical works through the payment of a specific type of royalties named mechanicals. Record labels must pay mechanicals to collection societies or directly to the publishers if such an agreement is in place for every physical copy made. For digital copies, these mechanicals are directly paid by the digital retailers to the collection societies or publishers if such an agreement is in place. Exemption are digital copies made by a digital retailer in the US and a few other countries, for which the mechanicals are paid by digital retailers to the label and it is then the labels' responsibility to pay this to the collection society or directly to the publishers if such an agreement is in place (Gray & McGee, 2013; Towse, 1999; Tschmuck, 2017).

Besides the administrative work of collecting revenue and remunerating performers in the form of royalties, main activities for record labels are Artist & Repertoire (=A&R) and marketing their artists. A&R encompasses the discovery and nurturing of fresh musical talent and is the music industry's equivalent of R&D. In 2015, record labels spent 16.9% of their revenue on A&R (IFPI, 2017). With the arrival of the internet, the majors were no longer able to own and control the distribution channels. The internet has become the main distribution channel, a medium that is available to all artists and consumers. It spectacularly lowered the entry costs to distribute music and allows artists to take on the role of record labels themselves. The greatest incentive for an artist to sign its sound recordings to a record label is their great expertise in marketing and the knowledge in the commercial exploitation of sound recordings (Graham et al., 2004).

The worldwide market value of the record labels' recorded music industry was 13.98 billion dollars in 2015 and accounted for 57.3% of the total recorded music industry (Ingham, 2016a). The greater part of the music recorded industry is in hands of the majors. In 2016, the three majors owned 68.7% of the market: Universal Music Group (28.9% market share), Sony Music Entertainment (22.4% market share), and Warner Music Group (17.4% market share). The remaining 31.13% of the recorded music market is in the hands of the independents (Mulligan, 2017a). Independents or indies are record labels who work on a smaller scale and generally differentiate themselves by focusing on a niche market. They outsource activities such as digital distribution of their music to an aggregator (Tschmuck, 2017).

#### **2.1.2.5 COLLECTION SOCIETIES**

Collection societies are, in most countries, non-profit organisations and provide collective rights management in their country of residency. They protect copyrights where individual rights management would be inconvenient or near impossible. Collection societies are active in various industries that are built on the exploitation of copyrights. They have four main functions (Towse, 1999):

- “(1) license the works in which they hold the copyright or for which they act as agent on behalf of their members for specific uses
- (2) monitor use and collect revenues
- (3) distribute revenues as royalties to members
- (4) enter into reciprocal arrangements with foreign collecting societies to collect and distribute royalties earned in the home country to foreign rightsholders and to receive and distribute royalties earned abroad to rights-holders in the home country”

Every individual or organization publicly performing a copyrighted musical work or sound recording owes writers and performers a remuneration for the usage of their copyrighted content and must opt in on a license of a collection society. Broadcasters and other enterprises such as restaurants, pubs, music venues, hairdressers, offices, gyms, ... or any other individual or organization playing music in public must obey to this law. For many users, a detailed program of used copyrighted works must be kept and forwarded to the collecting societies for them to share royalties accordingly with the original right owners (Towse, 1999). Besides public performance, collection societies also protect the reproduction of the musical works and issue mechanical licenses with record labels and digital retailers for every reproduction (PRS for Music, 2017). They also collect revenue from private copying, a tax held on sales of empty storage formats such as blank CDs and tapes in most EU countries and other major territories to compensate for the copying of copyrighted works that happens in a private sphere (PPL, 2016). A collection society's field of operating is geographically restricted to their country of residency. They protect copyrights on behalf of all writers, publishers, performers, and record labels in their country of residency that choose to register with them. And they issue licenses to and collect license fees from any entity publicly performing copyrighted work within their country of residency. Collection societies usually do have agreements with other collection societies around the world. This to protect the copyrights of their members worldwide on one hand, and protect copyrighted work from members of foreign collection societies on the other hand (PRS for Music, 2017b).

Collecting societies are a natural monopoly or are created as monopolies and regulated by the state in the UK and many other countries (Handke & Towse, 2008). Collective rights management merges the costs of rights management and reaches high economies of scale opposed to if a right owner were to exploit this public performance right individually. A monopoly reduces transactions costs and works beneficial for both copyright owner and licensee. Without the existence of collection societies copyright owners would have to monitor usage of their content everywhere in the world explicitly for their own content. And thanks to collection societies, a single fee allows users to make use of the collection societies their entire repertoire. Otherwise users would have to license music from all the different copyright owners for every different piece of music they use (Handke & Towse, 2008). In some countries, including the United States, collection societies are for-profit organisations and operate in a free competitive market with multiple collection societies each representing different members (Kernochan, 1985).

The recorded music industry in the UK knows four different collection societies. PRS represents the public performance on musical works. MCPS represents the reproduction of musical works. PPL represents the public performance of sound recordings. And VPL represents the public performance of music videos. PRS and MCPS together form PRS for Music LTD and VPL is a sister company of PPL (PPL, 2017; PRS for Music, 2017a;). Most countries have a similar collection society system in place (PRS for Music, 2017b).

#### *2.1.2.5.1 Collection society: Public performance of musical works (UK=PRS)*

This collection society protects the public performance of musical works. In the UK, this collection society is PRS, the Performing Rights Society. They collect license fees every time a musical work is broadcasted, streamed, performed, or played in public (PRS for Music, 2017a). Entities licensing music from PRS are traditional and online radio & television broadcasters, music video broadcasters, and venues publicly performing music with copyrighted musical works for their customers. On-demand streaming services are obliged to pay a license fee for musical works being streamed on their platform (PRS for Music, 2017c). Also 25% of digital download stores their mechanical royalties are administered through PRS (PRS for Music, 2017e). PRS then pays, after recoupement of administration costs, collected license fees to the publishers and writers in the form of royalties. 50% is paid to the publishers and 50% is paid directly to the writers (PRS for Music, 2017d).

#### *2.1.2.5.2 Collection society: Reproduction of musical works (UK=MCPS)*

MCPS, the Mechanical Copyright Protection Society, collects license fees every time a musical work is copied or reproduced (PRS for Music, 2017c). Mechanicals is the terminology for this specific type of royalties that covers the writers every time a copy of a sound recording using their musical work is made. This includes physical copies, downloads, and on-demand streams. Record labels pay mechanicals every time they make a physical copy of a sound recording with the underlying musical work on CD, vinyl, or any other physical format. For digital copies made by digital download stores or on-demand streaming services in the UK, these services routinely pay mechanicals directly to MCPS, or directly to publishers if such an agreement is in place. Also 25% of non-interactive streaming services their remuneration for musical works is administered through MCPS (PRS for Music, 2017e). Most countries established a similar system. Except for the United States, where mechanicals for digital copies made by a US download store are paid to the record label and it is then the responsibility of the record label to pay this to the collection societies or directly to publishers if such an agreement is in place (Gray & McGee, 2013; Towse, 1999; Tschmuck, 2017). Mechanicals are established as a fixed fee per copy or a fixed percentage of the PPD and vary from country to country. In the UK, mechanicals are valued at 8.5% of the PPD (PRS For Music, 2010). In the United States, mechanicals are 0.091 dollars per physical or digital copy (Harry Fox Agency, 2014a). Interactive on-demand streaming services pay mechanicals every time a sound recording with the underlying musical work is streamed on their platform. A detailed explanation of how these mechanical rates for streaming services are negotiated and calculated in multiple territories will be explained later in this paper.

#### *2.1.2.5.2 Collection society: Sound recording (=PPL)*

PPL (=Phonographic Performance LTD) collects license fees for the public performance and the broadcasting on radio, television, and internet of sound recordings. Entities licensing from PPL are traditional and online radio & television broadcasters, and venues publicly performing copyrighted sound recordings (PPL, 2017). PPL then pays, after recoupement of administration costs, the collected royalties to the record labels and performers. 50% of royalties is paid to the record labels and 50% is paid directly to performers (PPL, 2011a).

#### *2.1.2.5.3 Collection society: Music videos (=VPL)*

VPL (=Video Performance Limited) collects license fees for the public performance and the broadcasting of music videos (PPL, 2011b). Entities licensing from VPL are traditional and online music television broadcasters and venues publicly performing copyrighted music videos. VPL then pays, after recoupment of administration costs, the collected royalties to the record labels and performers. 50% of royalties is paid to the record labels and 50% is paid directly to the performers (PPL, 2011a).

#### **2.1.2.6 RADIO BROADCASTERS**

Broadcast radios were first established in the late 1920s (Moreau, 2013). Music broadcasting by radio stations has two interesting aspects for copyright holders. It introduces people to new music, which is an important marketing asset to record labels and can indirectly drive sales (Meisel & Sullivan, 2002). Plus, for radio stations being allowed to broadcast copyrighted music, the radio station must opt in to licenses from collection societies and pay a licensee fee. Both public performance via electronic transmission of musical work and sound recording must be licensed via respectively PRS and PPL (PPL, 2017; PRS for Music, 2017b). Things are different in the United States, where radio broadcasters only pay a license fee for the musical work and not for the sound recording (Ritala, 2013).

#### **2.1.2.7 ONLINE RADIO BROADCASTERS**

With the digitization of the music industry, broadcast radio developed an online equivalent. While offline broadcast radios have a reach often limited to its geographic borders, webcasts are potentially accessible worldwide (Meisel & Sullivan, 2002). A specific type of webcasts are non-interactive online radio stations such as Pandora. Whereas traditional broadcast radio plays the same audio in realtime to all listeners, non-interactive streaming services broadcast a user specific selection of tracks. They use data provided by the users to learn their preferences and select music accordingly for every individual user. Non-interactive radio stations don't give listeners the option to listen on-demand to a specific track at a specific time, opposed to interactive streaming services who offer music on-demand as will be explained later. Webcasts and non-interactive streaming services must pay a license fee for public performance of both musical works and sound recordings, even in the United States (Ritala, 2013). In the UK this license fee is paid to PRS, with 25% of the fee being administered through MCPS (PRS for Music, 2017e). Or it is paid directly to the publisher if such an agreement is in place.

#### **2.1.2.8 MUSIC VIDEO BROADCASTERS**

Music television emerged in 1981 with the launch of MTV, a television channel primarily showing music videos (Peake, 2007). Music video broadcasters generate money through selling advertisement slots during their airtime. They license the music on their channel via collection societies for both public performance of musical works (via PRS) and public performance of the music video (via VPL) (PPL, 2011b; PRS for Music, 2017b). With the arrival of the internet, MTV lost its influence and video content platform YouTube became the most popular source for music videos. Music channels such as MTV generally rebranded as youth television channels (Tschmuck, 2017).

#### **2.1.2.9 PHYSICAL RETAILERS**

Music is pressed on a physical format such as CD and vinyl by the record labels. For every manufactured physical copy, so for every physical reproduction, the record label owes writers mechanicals. These mechanicals are directly paid by the record label to MCPS or directly to publisher



if such an agreement is in place, as explained before in this section (Gray & McGee, 2013; Towse, 1999; Tschmuck, 2017,). Physical retailers buy physical copies of the record label and then retail them to consumers (Vaccaro & Cohn, 2004).

#### **2.1.2.10 DIGITAL RETAILERS**

Online download stores allow consumers to download music files for a fixed price per individual track or album. This model is referred to as the pay per track or album model (Fox, 2004). The consumer gets to download the music file and store it on a harddrive. Buying a digital music file technically does not give you ownership over the file but is merely a perpetual lease that allows you to use this file for personal and non-commercial purposes (Tschmuck, Collopy & Winter, 2012). As opposed to physical copies, consumers are given the ability to download separate tracks and are no longer obliged to buy a collection of tracks in the format of an album (Premkumar, 2013). Alternatively, a less common model is the download subscription model, offering a certain number of downloads for a fixed price per month (Vaccaro & Cohn, 2004).

When a digital retailer sells a download, the musical work and sound recording of a piece of music is reproduced and distributed and therefore the store must remunerate the copyright holders. Record labels are remunerated for reproduction and distribution of their sound recording. Mechanicals are owed for the reproduction of the musical work. For downloads in the UK, digital retailers pay these mechanicals directly to MCPS. As explained before, a similar system is in place in most countries where download stores pay mechanicals to the residencing collection society depending on the sales territory. Exception are downloads in the United States, for which mechanicals are paid to the record labels and from there on it is the responsibility of the record label to pay these mechanicals to MCPS (Gray&McGee, 2013; Towse, 1999; Tschmuck, 2017). In the UK, in practice 75% of the license deal between PRS for Music and digital download stores goes to MCPS, and 25% gets administered through PRS (PRS for Music, 2017e).

#### **2.1.2.11 ON-DEMAND STREAMING PLATFORMS**

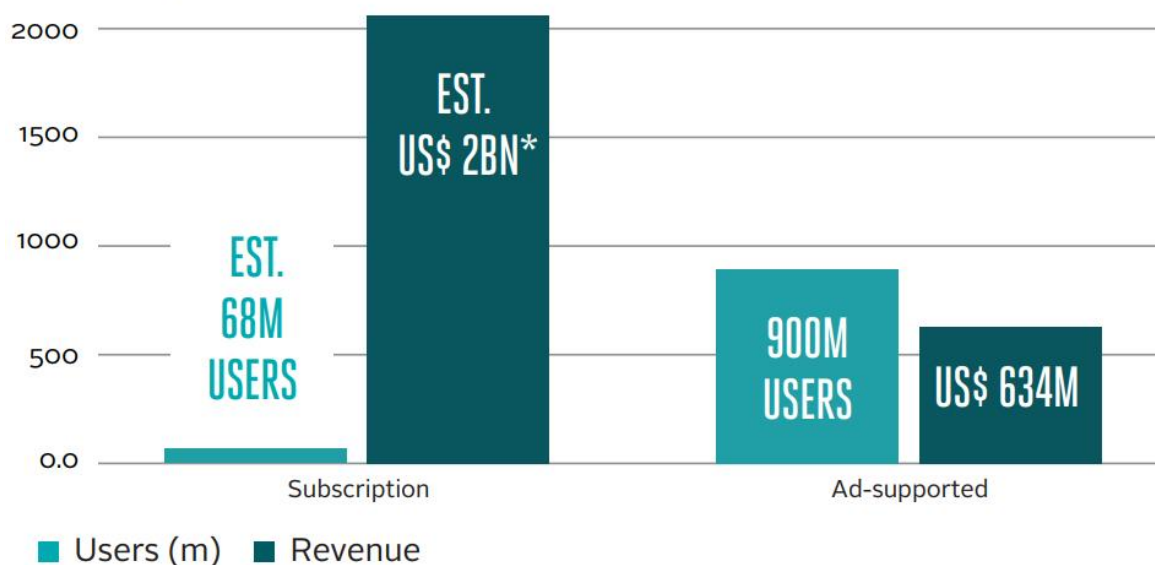
Instead of paying a fixed price for one track or one album, streaming services provide immediate access to their entire catalogue. It generates revenue for the copyright owners by demanding a fixed price per month or through advertisement income. While with download services you store the music on your own harddrive and have a perpetual lease to listen to the music file, with streaming services you stream music from their platform and you get access to their catalogue only for as long as you choose to use their service for (Tschmuck, Collopy, & Winter, 2012). Interactive or on-demand streaming services allow the users to listen to the exact music they want when they want, with access to the specific tracks and albums they want to listen to. This in contrast to the non-interactive online radio stations where choice of music is limited to what the station selects for the listener. Whereas non-interactive streaming services only must remunerate copyright owners for public performance of their musical work and sound recording, interactive streaming services also must remunerate copyright owners for the distribution and reproduction of musical work and sound recording (Ritala, 2013). Interactive streaming services in the UK remunerate public performance of musical work through PRS and reproduction and distribution of musical work through MCPS, or directly to the publishers if such an agreement is in place. The bulk of royalties is paid as a remuneration for public performance, reproduction and distribution of the sound recording and goes directly through license agreements with the record label (PRS for Music, 2017e; Ritala, 2013).

On-demand streaming services exist in different variants and there are two key factors that can distinguish one streaming model from another. The first factor is whether they are ad-supported or subscription based services. A second factor is whether they are streaming services or content platforms.

#### 2.1.2.11.1 Ad-supported vs subscription based streaming

Ad-supported streaming services are free of charge for the consumer. They generate revenue by showing advertisements during or in between songs. For a subscription based streaming service the consumer pays a monthly fee. This service doesn't interrupt your music experience with advertising and often comes with extra perks such as offline listening and a higher audio quality. The price varies from service to service and territory to territory, but the default subscription price of a music service is around 10 pounds or euros a month (Apple, 2016a; Apple, 2016b; Spotify, 2013a; Spotify, 2013b). Some streaming services, such as Spotify, offer both ad-supported and subscription based streaming, a so called two-tier freemium model (IFPI, 2012). A freemium model attracts new consumers by offering a free, ad-supported tier and then drives users to their more profitable subscription tier (Spotify for artists, 2013). As shown in figure 2 (IFPI, 2016), subscription based streaming services prove to generate more revenue than ad-supported streaming services. In 2015, 68 million subscription users generated an estimated revenue of \$2 billion, while 900 million ad-supported users only generated \$634 million. Thus, according to these figures, the average subscription user generates over 40 times more revenue than the average ad-supported user (IFPI, 2016).

### SUBSCRIPTION AND AD-SUPPORTED REVENUES VERSUS USERS (2015)



\* This figure includes estimated paid subscription revenues only

Source: IFPI

Figure 2: Subscription vs ad-supported streaming revenue in 2015 (source: IFPI, 2016)

### 2.1.2.11.2 Streaming services vs content platforms

Streaming services and content platforms may provide a similar service, yet they are fundamentally very different. Streaming services their catalogue solely consists of music that is directly licensed from and provided by the copyright holders. The catalogue of content platforms such as YouTube and Soundcloud are user generated. Everybody can upload their or someone else's content on these content platforms. This makes content platforms merely a neutral hosting service which gives them certain exemptions to copyright law. They defend themselves by so called "safe harbor" rules, which were established by the 1998 Digital Millennium Copyright Act in the early days of the internet with the purpose to exempt passive content hosts from copyright liability. These exemptions allow them to not necessarily acquire a license with the music industry, or give them vast negotiating leverage to acquire licenses at artificially low rates (IFPI, 2016). IFPI claim this creates unfair competition between digital music services (IFPI, 2017). Content platforms can be forced to remove unlicensed content when requested by the copyright holder, but for copyright holders this is a slow and ineffective process. Rightholders have the option to either start costly proceedings against these content platforms or just agreeing to their terms of service and making revenue from this content (Frankel, 2014; IFPI, 2016). Thanks to their free accessibility and user-friendliness, content platforms are one of the most popular places to stream music. YouTube is the largest content platform and hosts a wide selection of music that attracts more than 800 million monthly music video viewers (IFPI, 2016). Advertisements shown alongside the music videos generate revenue while automatic content identification makes sure this revenue is shared with the copyright owners. Yet in 2016 an estimated 900 million users only generated us\$ 553 million. Which is minimal compared to the us\$ 3.9 billion generated by the only 212 million users of fairly licensed ad-supported and subscription driven streaming services as shown in figure 3 (IFPI, 2017). The mismatch between the value content platforms make from copyright holders their content being offered on these platforms, and the little revenue returned to the music industry is known as the value gap (IFPI, 2016).

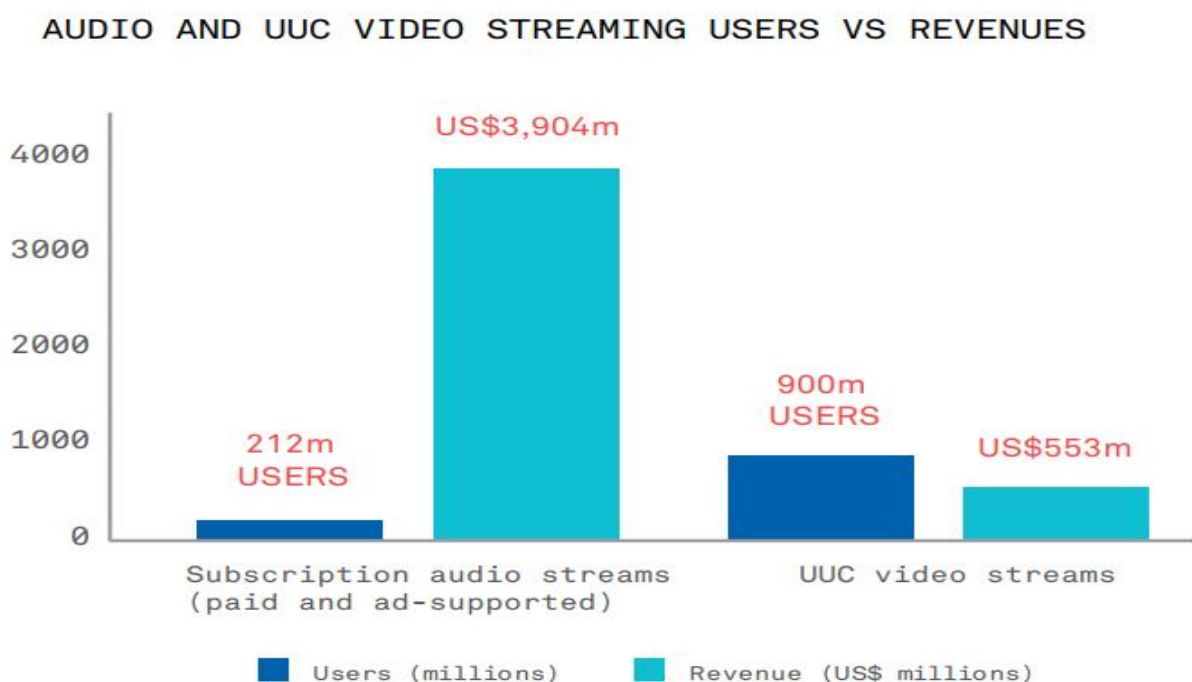


Figure 3: Streaming service vs content platform revenue in 2016 (Source: IFPI, 2017)

## **2.2 Impact of digitization on distribution in the music industry**

Music as a commercial business started in the nineteenth century through publishing income with the sales of sheet music. It turned into a full-fledged business in the twentieth century with the sales of vinyl, cassettes and CDs (Graham et al., 2004). Figure 4 (Moreau, 2013) shows the technological innovations the recorded music industry went through since the 19<sup>th</sup> century (Moreau, 2013). A technological innovation in the music industry historically often paired with a sceptical attitude by the major labels towards the new technology and the way it can endanger their competitiveness and bargaining power. Up to the innovation of the CD, these technological innovations turned out to be sustaining innovations. They never had a large impact on the way music was being sold and distributed, it was mainly just the packaging format that changed. What was different with the arrival of the internet is that it had an extensive impact on both distribution and promotion, the two main competitive advantages of the majors in the music industry. It ticks all the boxes of a disruptive innovation and required a complete rethinking of the business models of the recorded music industry (Moreau, 2013).

<b>KEY TECHNOLOGICAL INNOVATIONS IN THE RECORDED MUSIC INDUSTRY</b>			
<b>Year</b>	<b>Innovation</b>	<b>Impact on distribution</b>	<b>Impact on promotion</b>
1877–87	Phonograph (cylinder), gramophone	Birth of the recorded music market with the introduction of the 78rpm in 1906	
1920	Radio	None	“Star system” created by Decca in 1929 (massive use of radio broadcasting to promote record sales)
1948	Vinyl disc (331/3rpm, 45rpm)	None; only a change in the support	None; radio broadcasting still the dominant model of promotion. However, singles (45rpm) sales promote album sales.
1962	Audiocassette	None; only a change in the support	None
1979	Walkman	None; only introduction of listening in mobility	None
1982	CD	None; only a change in the support	None
1990s	Internet and ICT	Change in the support (digital files) and in business models (streaming, subscription)	Recommender systems, online word-of-mouth, social networks

**Figure 4: Key technological innovations in the recorded music industry (source: Moreau, 2013)**

The arrival of the internet sparked a plethora of new business model opportunities in the music industry. It introduced new manners in which consumers can obtain and listen to music. Alongside the traditional business models of radio and physical goods, the internet inaugurated a renegade business model based on online piracy, the unauthorized copying and distribution of copyrighted work on the internet (Vaccaro & Cohn, 2004). People suddenly obtained very effortless acces to illegally downloading music for free on the internet whilst bypassing the rightful owners of the music’s copyrights. Record labels receive no compensation for the use of their product whatsoever and this makes the music industry miss out on revenue. The internet however also brings a lot of opportunities for the record labels to reach their consumers. The internet allows them to establish new business models based on online distribution models and bypass costly traditional physical retailers (Meisel & Sullivan, 2002; Vaccaro & Cohn, 2004). Two successful new business models are the download model

and the streaming model. The following section goes in more detail on the renegade business model and these two new business models.

### **2.2.1 Business models in the digital era**

#### ***2.2.1.1 THE RENEGADE BUSINESS MODEL: PIRACY***

Piracy was already present in the music industry before the era of the internet through the unauthorized copying of CDs and audio cassettes. The massive costs of producing, shipping and warehousing these physical products restricted piracy to only happen on a relatively small scale (Fox, 2004; Sudler, 2013). With the arrival of the digital media, a single master copy can be copied an unlimited amount of times at no extra cost and at no loss of quality. Digital music files are non-rivalrous and non-excludable, so copying and sharing a music file does not hinder the usage of the file for the original owner (Moreau, 2013). These characteristics make a digital music file vulnerable for piracy. The introduction of the world wide web offered a platform for these copies to be distributed. (Fox, 2004; Sudler, 2013). The success of piracy was not a result of a shift in consumer preferences, but merely a result of the sudden effortless access to piracy. Major factors that played a role in the emergence of piracy are technological developments such as the growing presence of the Internet; an increasing download speed, write-able CD technology, and the development of the mp3 (Bhattacharjee et al., 2003; Gopal et al., 2004).

Online piracy reached a mainstream audience for the first time in May 1999 with the birth of Napster, an entirely free peer to peer software which was used to share and download music files (Blackburn, 2004). These music files were shared without any royalties being forwarded to the owners of the master and publishing rights. The service became widely popular. Registered user estimations vary from 20 million to 80 million unique accounts worldwide (Blackburn, 2004; Dolata, 2011; Gordan, 2015). In December 1999, Napster got sued by the five majors of that time and the RIAA, the Recording Industry Association of America. This was the start of a long line of law suits which eventually resulted in the dismantling of Napster in 2001 after a series of defeats in court (Blackburn, 2004; Dolata, 2011; Meisel & Sullivan, 2002).

The music industry took two different approaches in response to piracy. A first approach was to try and fight piracy through Digital Rights Management (=DRM) and lawsuits against the supporters of piracy, as in the case of Napster (Dolata, 2011). DRM are implemented technical restrictions in audio files that hinder any unauthorized copying and are ought to turn these music files in an excludable good (Moreau, 2013). This technique had mixed success. Some empirical studies suggest this was an effective approach (Bustinza et al., 2013). Yet pirates responded by designing software that removes these DRM locks, the implementation of DRM was costly, and the locks were inconvenient for legitimate buyers and discouraged them to buy legal copies (Sudler, 2013). The downsides of this technology made the industry eventually give up on this strategy by the end of 2007 (IFPI, 2008). The establishment of the Digital Millennium Copyright Act (DMCA) in 1998 gave music companies the legal right to prosecute networks infringing their copyrights (Dolata, 2011). A second approach was through outcompeting the piracy models. The music industry was looking for new business models that can offer the same value for listeners as Napster did, while still being able to generate revenue for the music industry. Meisel & Sullivan (2002) stated "The value to users from Napster's innovation is more than the free price; it is also the access to virtually any song you desire to hear, the convenience of that access, and the flexibility in the listening experience accompanying that access.". The adaption of

new business models in the music industry, and doing this successfully, was a slow process. The slow reaction of the music industry can be explained by several factors: the difficulty to foresee the impact of innovating technological opportunities, the complex and time-consuming process to adopt these new technologies in existing institutions, defensive attitude towards existing technologies, and the majors overestimating their power within the oligopolistic market structure and faulty communication within the hierarchically structured firms (Dolata, 2011). Only after they felt the immense pressure to adapt to the new market environment they decided to switch lanes and embrace the possibilities of the internet (Dolata, 2011).

#### **2.2.1.2 THE NEW BUSINESS MODEL: DOWNLOADING**

Online download stores first started popping up in the late nineties as a legal alternative to piracy with services such as eMusic offering music from independent labels. The majors had a more sceptical approach and didn't offer their music online until 2000 (Dolata, 2011). To keep control of their own distribution channels, the majors started offering their music on their own digital platforms. The competition between the majors their own digital platforms made them refuse to license their catalogue to eachother's service. The gap in catalogue and an unfriendly userface made these digital retailers turn out not to be successful. Unwilling to co-operate, it made them change their strategy and start partnerships with independent specialist online distribution companies (Dolata, 2011; Graham, 2004).

Apple was the first company to successfully offer a legal alternative for people to acquire digital music files through the launch of the iTunes music store in April 2003 (Chen, 2010). It offered nearly the complete catalogue of all five major labels plus the catalogue of over a thousand independent labels. By December 2004, 200 million songs were downloaded through the iTunes store (Apple, 2004). The success of iTunes was thanks to the access to an exhaustive catalogue, its functional use, and the coupling of the service with their digital music player iPod. But maybe most of all because of the pressure on the music industry to find a response to free music file sharing (Dolata, 2011). Today iTunes is still the predominant permanent music download service. By February 2013, iTunes had sold 25 billion songs. In 2013, on average 15.000 songs were being downloaded per minute (Apple, 2013).

#### **2.2.1.3 THE NEW BUSINESS MODEL: STREAMING**









A second succesfull online business model is streaming. While it was not its original intention, YouTube became the first successful music streaming platform. The video streaming platform, launched in 2005 and sold to Google not much later in 2006, offers user generated video content (Telegraph, 2010). YouTube became an interesting platform for record labels to reach their consumers and promote their music videos without having to pitch it to the traditional music television channels (Cooke, 2016). And the growing advertisement income created enthousiasm about a potentially vast ad-supported business model (IFPI, 2011). As subscription based streaming started to take off however, the YouTube advertisement income started to look less impressive which resulted in the situation that is now known as the value gap. YouTube went from being an interesting marketing tool to a low paying streaming platform competing with the subscription based streaming services (Cooke, 2016). Nevertheless, YouTube stays an important streaming platform with 1.5 billion logged in monthly users (Wojcicki, 2017).

Spotify launched in 2008 and was the first succesfull on-demand subscription based streaming service. Spotify currently still is the market leader in the on-demand subscription based streaming market with

over 60 million subscribers and over 140 million total active users as of June 2017 (Spotify, 2017). They are being tailed however by big players such as Apple, Amazon and Google who joined the market and each started their own subscription based streaming service (Mulligan, 2016). Initially, unlimited access to an inexhaustible catalogue of music was the unique selling point of the streaming industry. Today, with a competitive market requiring more differentiation, the industry gradually focuses more on the curation and recommendation of the right music for the right person. It shifted from not only being a place to listen to your favorite music of today but also being a place to discover your favorite music of tomorrow (IFPI, 2015).

The streaming business model has an important impact on the way the industry monetizes consumer behaviour. Especially from a copyrights holder perspective, it went from monetizing buying behaviour to monetizing listening behaviour. This has an important impact on the marketing incentives of record labels. It went from maximizing sales in a short time frame around the initial release, to maximizing consumer dedication to listen to their content spread over a long time frame. After a consumer downloaded a file or bought a CD, consumers actually listening to that product didn't have any direct additional financial value for the copyright holders. Whereas now, this is where the value of the streaming model is based. This benefits the record labels with a vast back catalogue, as streaming revived revenue for old catalogue that was dormant on the physical and download market but still being listened to by consumers (Harber, personal communication, 10<sup>th</sup> August 2017).

Figure 5 gives a summary of the biggest on-demand streaming services on the market based on the most recent publicly available market data (IFPI, 2016; Mulligan, 2017c; Mulligan, 2017d; Mulligan, 2017e; Spotify, 2017a). The total subscription driven streaming market reached a total of 136.3 million global subscribers as of June 2017 (Mulligan, 2017c). Market leader of subscription based streaming services is Spotify, with 60 million paid subscribers as of June 2017 (Spotify, 2017). Spotify runs a freemium model and offers both a subscription and ad-supported option to their consumers. Other popular streaming services are Apple Music, Amazon Music, the Chinese QQ Music, and Deezer (Mulligan, 2017c). Apple Music launched in June 2015 and within its first 2 years it managed to achieve over 28 million subscribers (Dredge, 2015; Mulligan, 2017c). Amazon Prime Music launched in the United States in 2014 and is a basic music streaming service that is included within an Amazon Prime subscription (Shankar, 2017). Amazon Music Unlimited launched in October 2016 and is a full-fledged streaming service that is available independently from the Amazon Prime subscription plan (Hern, 2016). Both plans combined had approximately 16 million active subscribers by June 2017, which makes it the third biggest service on the market (Mulligan, 2017c). Often overlooked is the Chinese streaming market where Tencent, a Chinese company with a valuation of more than 250 billion dollars, owns music streaming services such as QQ Music and has a total of 15 million subscribers (Jones, 2017). Ad-supported platforms are vastly more popular thanks to their free accessibility. Spotify's basic ad-supported plan has over 80 million monthly active users as of June 2017 (Spotify, 2017a). YouTube and Soundcloud are two popular content platforms. YouTube reached an estimated 800 million monthly active music listeners on their platform in 2015 (IFPI, 2016). And Soundcloud's monthly active users is estimated to be around 70 million in the first half of 2017 (Mulligan, 2017d). Both Soundcloud and YouTube are currently developing an ad-free subscription based streaming model with fairly licensed music on their website. But their services are having underwhelming results when it comes to number of subscribers (Elder, 2017).

	SUBSCRIPTION BASED	AD-SUPPORTED
STREAMING SERVICE	 SPOTIFY (60M MAU) <sup>3</sup>  APPLE MUSIC (28M MAU) <sup>4</sup>  AMAZON (16M MAU) <sup>4</sup>  DEEZER (6.9M MAU) <sup>5</sup>	 SPOTIFY (80M MAU) <sup>3</sup>  DEEZER (No Data Available)
CONTENT PLATFORM		 YOUTUBE (800M MAU) <sup>1</sup>  SOUNDCLOUD (70M MAU) <sup>2</sup>

- 1 In 2015 (Source: IFPI, 2016)
- 2 Estimated, May 2017 (Source: Mulligan, 2017d)
- 3 July 2017 (Source: Spotify, 2017a)
- 4 June 2016 (Source: Mulligan, 2017c)
- 5 December 2016 (Source: Mulligan, 2017e)

Figure 5: Market analysis of interactive streaming services



## 2.2.2 The impact of digitization in numbers

### 2.2.2.1 FROM PHYSICAL TO DIGITAL ON A MACRO LEVEL

Since the introduction of the internet and mainstream piracy channels in the late nineties, the music industry experienced a constant decrease in global trade revenues, as shown in figure 6 (IFPI, 2017). In the past decade, there was a clear substitution from physical sales to digital sales. In 2015 digital sales revenue overtook physical sales revenue. In 2015 also, after almost two decades of decline, the music industry noticed a significant year on year increase in global trade revenues with a growth of 3.6% (IFPI, 2016). This positive trend accelerated in 2016 with a growth of 5.9% (IFPI, 2017). In 2016 for the first time, digital sales represented 50% of global revenue. Physical sales accounted for 34% of sales. While performance rights revenue, the income through broadcasting and public performance of recorded music, and synchronization revenue, the use of music in advertising, film, games and television, accounted for 16% of the global revenue (IFPI, 2017).

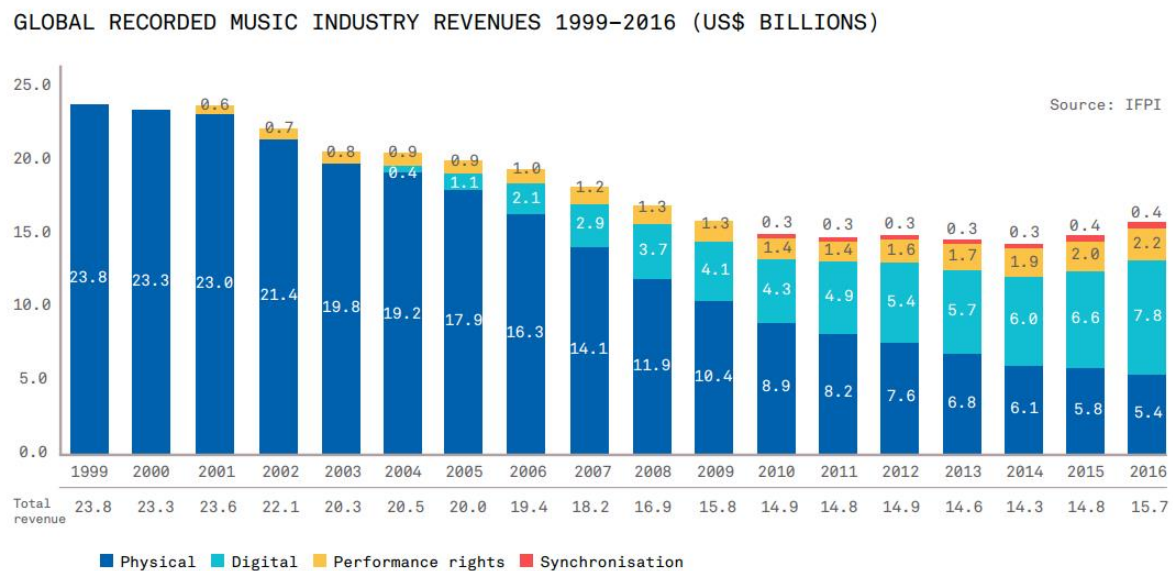


Figure 6: Global recorded music industry revenue 1999 - 2016 (IFPI, 2017)

### 2.2.2.2 FROM DOWNLOADING TO STREAMING ON A MACRO LEVEL

While it was the download model inaugurating the digital age in the music industry, the market is now tilting towards the streaming model. Financial figures, shown in figure 7 (IFPI, 2016), demonstrate a substitution from downloads to streaming. While downloads still accounted for 72% of digital revenue in 2011, it only accounts for 45% of digital revenue in 2015. Streaming on the other hand is growing rapidly and accounted for 42% of digital revenue in 2015, compared to just 13% in 2011 (IFPI, 2016). Due to a further decline in downloads and a further increase of streaming, streaming made up 59% of total digital revenue in 2016 and 29% of the total revenue (IFPI, 2017). In 2014 there were 41 million people using a subscription based streaming service (IFPI, 2015). By 2016 this number almost tripled to 112 million users (IFPI, 2017).

## GLOBAL DIGITAL REVENUES BY FORMAT 2011–2015 (%)

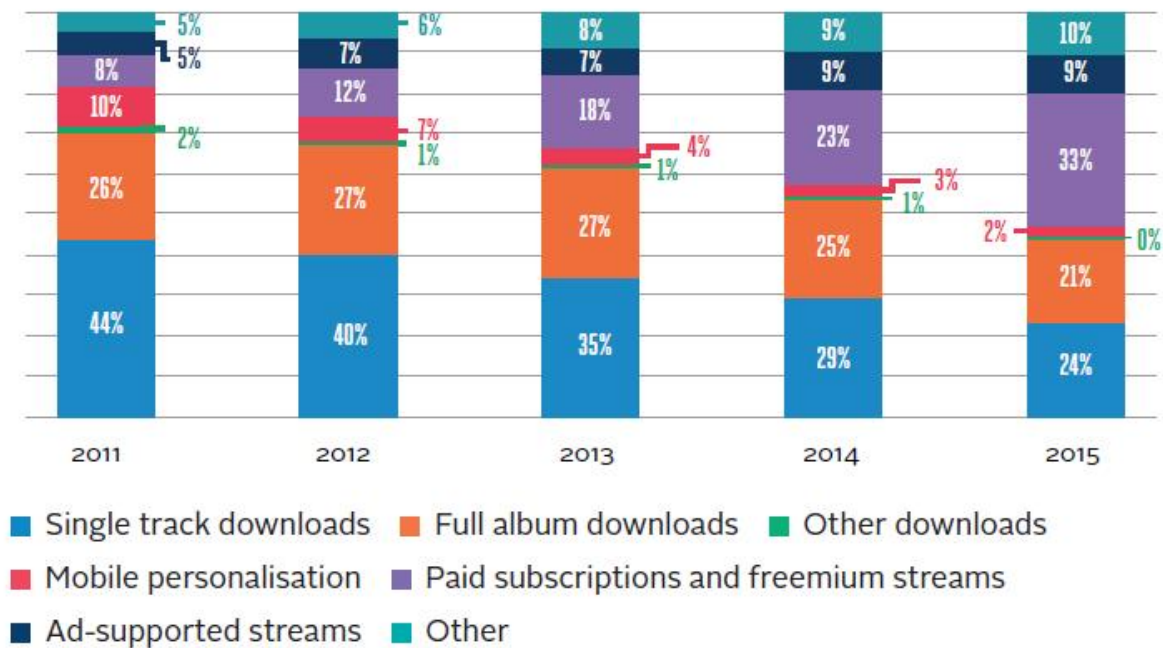


Figure 7: Global digital revenues by format 2011 - 2015 (IFPI, 2016)

The decline of permanent downloads and the expansion of the streaming market is due to a variety of factors. One of the most important factors would be the development of smartphones and tablets, which stimulate the use of streaming services in disadvantage of the permanent download market. Paired with this are the bundled partnerships, where streaming services adapt to the popularity of streaming on mobile devices and made deals with mobile telecommunication companies which give clients the option to integrate a paid subscription into their phone billing (IFPI, 2015). Another factor is the increasing competition in the music streaming market. Next to that, streaming services are expanding into increasingly more geographical markets. In the last few years, fast mover and current market leader Spotify has been accompanied by recently launched services, often powered by digital giants. Apple Music, Google Play and Amazon Music Unlimited are just a few of the examples. An important commentary is that the increased competition is based on market growth. Not only does the increased competition spur innovation within the industry, they all manage to attract a new audience and are not eating into eachothers consumer base (IFPI, 2017).

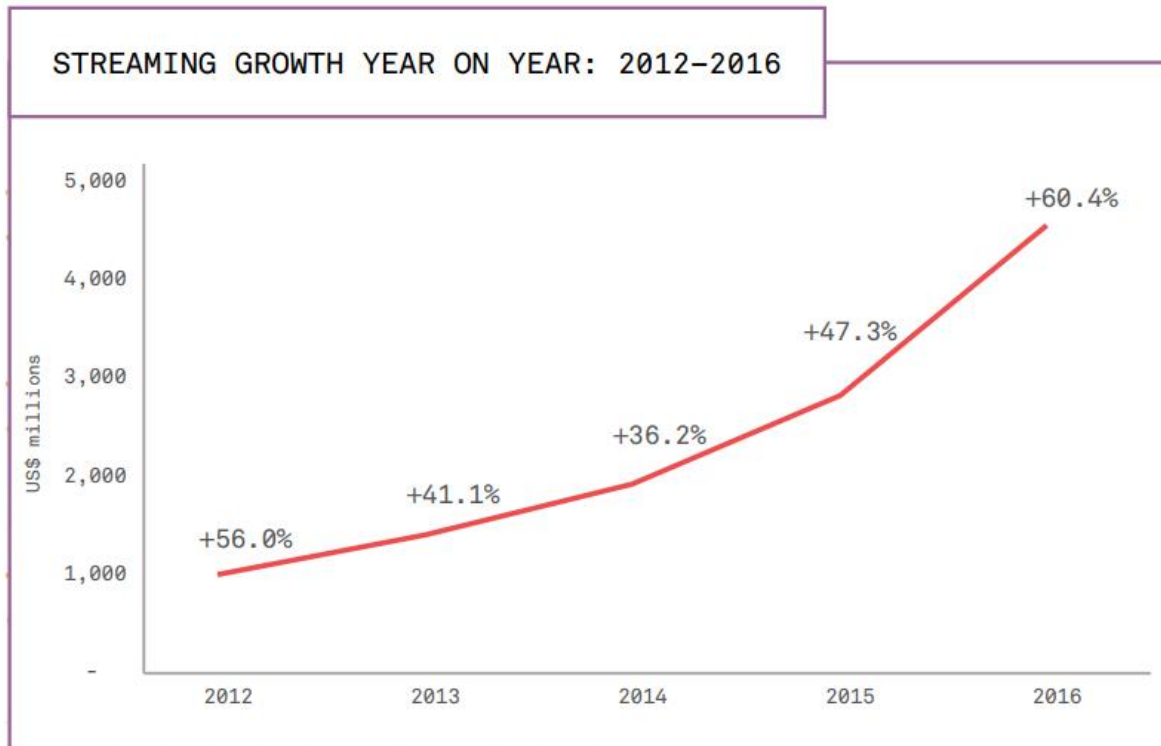


Figure 8: Year on year streaming growth 2012 - 2016 (IFPI, 2017)

Streaming now accounts for almost 30% of the global recorded music industry revenue (IFPI, 2017). With its exponential growth over the past few years, as visually represented in figure 8 (IFPI, 2017), it has solely triggered a resurrection in the music industry. The skepticism whether streaming can provide a sustainable revenue for the recorded music industry seems to be warded off by the enormous injection of revenue it provides to the entire industry. As streaming revenues multiply, scepticism seems to be carefully being replaced by optimism within the music industry. Yet the industry realizes there's still a long way to go to sustain this growth and recover from the 40% value decline the industry had to suffer since their peak in the late nineties (Fildes, 2017).

## 2.3 Revenue sources of interactive streaming services

The revenue of music streaming services is based on two components (Bozovic, Sornette, & Wheatley, 2017):

- (1) the size of the user base
- (2) the average revenue per user (=ARPU)

### 2.3.1 Size of the user base

In a competitive emerging market where not all cards have yet been shuffled, growth of the user base is an important focus for current music streaming services (IFPI, 2017). Figure 9 shows the number of subscribers of Apple Music and the number of subscribers and total active users of Spotify. This graph is based on publicly available data (Carpenter, 2016; Ingham, 2016b; Ingham, 2016c; Mulligan, 2016b; Mulligan, 2017c; Pressman, 2016a; Spotify, 2017; Statista, 2017a; Statista, 2017b; Wagner, 2017). Spotify announced it reached 60 million premium subscribers in June 2017 (Spotify, 2017a). Apple Music is on its tails and grows at a similar pace, yet does not manage to close the gap Spotify had created before the launch of Apple Music and is in fact even losing some terrain. There is currently no sign of streaming services their user growth slowing down and the business model has yet to unlock potential in new markets with an increasing smartphone adoption rate (IFPI, 2017).

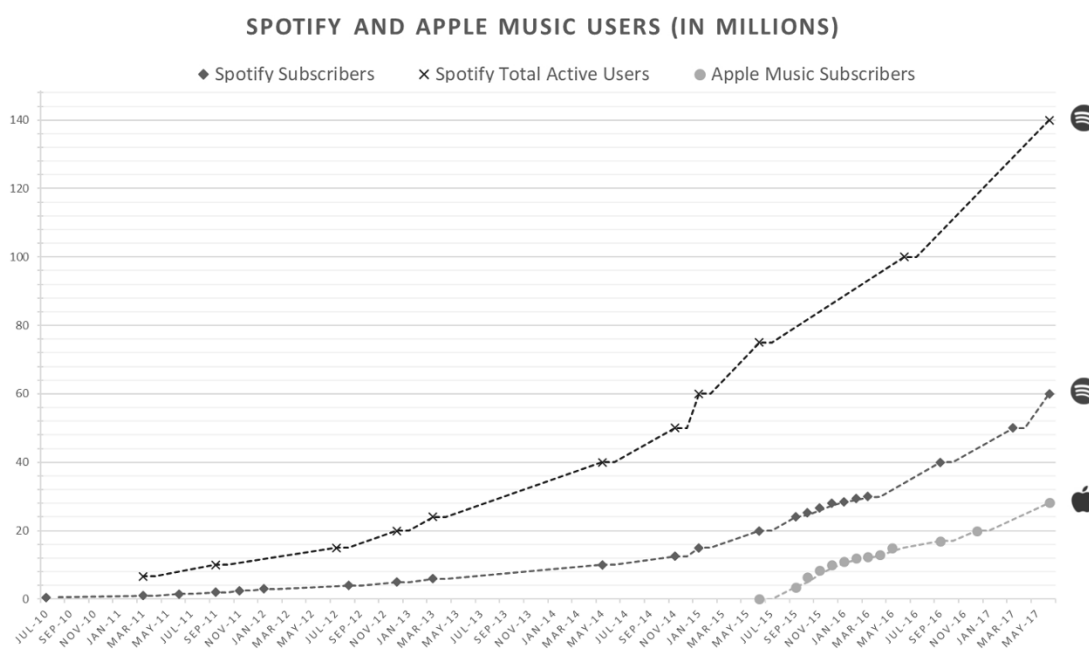


Figure 9: Number of Spotify's total MAU, Spotify subscribers and Apple Music subscribers

### 2.3.2 Average revenue per user

Interactive streaming services have two potential income sources to generate revenue from their users, as visually presented in figure 10 (Thomes, 2011):

- (1) free of charge services that generate revenue through advertisements on their platform
- (2) streaming services that require a flat-rate monthly subscription to access their platform.

Subscription driven services are generally of better technical quality and provide useful perks such as offline listening, no advertisements interrupting the listening experience and applications that allow users to access music on-demand on their mobile (Thomes, 2011). An example of an ad-supported streaming platform is YouTube. An example of a subscription driven streaming platform is Apple Music. Spotify combines these two sources of income and operates a freemium business model. Spotify lures customers through its free ad-supported model and then pushes them towards their more lucrative subscription driven model that offers several extra perks (Spotify for artists, 2013). Not only does their free tier attract users and gets them used to their platform, users are also less likely to move away from the platform when it stores their playlists, saved favourite songs and is connected to their social media (Ritala, 2013).

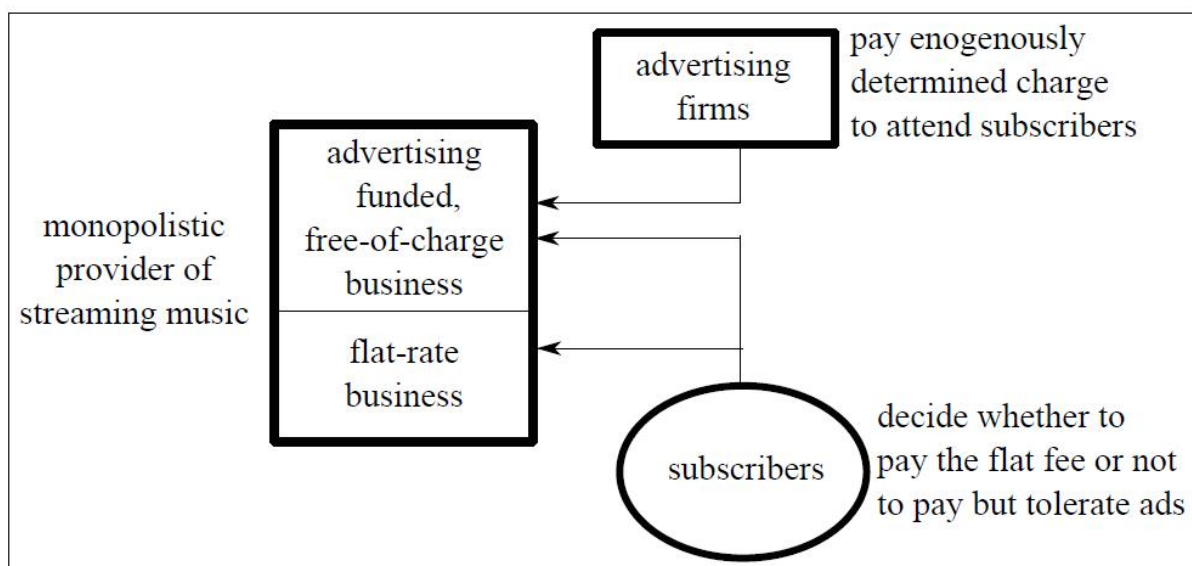


Figure 10: Revenue sources of a freemium streaming service (Source: Thames, 2011)

#### 2.3.2.1 ADVERTISEMENTS

The average revenue per user on ad-supported platforms depends on three different factors. A first factor is the amount of time a user spends on the platform and can thus be exposed to the advertisements on this platform. A second factor is how many advertisement slots services manage to sell on their platform. A third factor is for what price the platform manages to sell their advertisement slots. The formula of revenue on ad-supported platforms can be written as (Dawson, 2016; Bozovic, 2017):

$$\text{Revenue} = \text{Users} \cdot \text{Time Spent} \cdot \text{Ad Load} \cdot \text{Price Per Ad}$$

Popular streaming platforms displaying advertisements on their platform are Spotify, YouTube and Deezer. Spotify's global cross-platform users spend on average 148 minutes a day on the ad-supported tier of the streaming service (Spotify For Brands, 2015). Their ad load includes a variety of advertisements shown on the free-tier model on their platform. The most interruptive kind of ads are audio ads, these are unskipable ads of up to 30 seconds and are played about every 15 minutes in between two tracks and can be accompanied by a video. They also have display ads which are shown as banner format on the platform and overlay ads which are shown as overlays on the platform and can only be clicked away after two seconds. Other advertisement options are sponsored playlists, branded playlists, and sponsored sessions. The cost of advertising on Spotify is calculated on a CPM basis. Advertisers on Spotify can target their audience based on their habits, mindsets and tastes of their music listening experience and on demographic information such as age, gender, and geographical location (Spotify for brands, 2017a; Touchpoint Digital, 2017).

#### **2.3.2.2 SUBSCRIPTIONS**

Streaming services are generally subscription driven and their subscription price for consumers is dependent on currency and geographical location. In Belgium, both Spotify and Apple Music offer their subscription plan for €9.99 per individual (£9.99 in the UK). They also offer student plans for €4.99 and family plans for €14.99 (respectively £4.99 and £14.99 in the UK) which can include up to six accounts for family members of the same household (Apple, 2016a; Apple, 2016b; Spotify, 2013a; Spotify, 2013b). Besides that, subscription plans are often sold as bundles together with services by mobile network operators (IFPI, 2015). A subscription plan on Spotify has several advantages compared to its free tier. It is free of advertisements, you can skip songs as much as you like, you can listen to music on-demand on mobile, you can listen to music offline and it offers a higher audio quality (Spotify, 2013a).

## 2.4 Costs of interactive streaming services

Streaming services their main costs are cost of revenue. This encompasses the licensing cost to remunerate copyright holders for access to their music catalogue. Other costs are marketing, R&D, and Administration.

### 2.4.1 Cost of revenue

Streaming services their biggest cost is their cost of revenue. For streaming services to be able to offer music on their platform, they must make sure the copyright holders of the music are remunerated. Entities that must be remunerated are the record labels for the distribution, reproduction, and public performance of sound recordings and collection societies or publishers directly for the public performance and reproduction of the musical work (Ritala, 2013; PRS for Music, 2015). As we already discussed earlier in this paper which copyright holders must be remunerated by interactive streaming services and why, we will now mainly focus on how the license fees are negotiated.

Licensing music from copyright holders is a variable cost and is in proportion with the total revenue generated by the streaming services. Spotify simplifies their revenue cost as shown in figure 11 (Spotify for artists, 2013). Spotify's monthly revenue pool is shared with the copyrights holders on a pro rate basis based on the number of streams. Approximately 70% of the monthly revenue pool is shared with the copyrights holders. The exact percentage depends on the license deals that are in place between the streaming service and the master and publishing owners. How much the artists eventually receive depends on the royalty rate they agreed with their record labels and publishers (Spotify for artists, 2013). Also Tidal publicly confirms this way of royalty calculation but claims approximately 75% of the monthly revenue is shared with the copyright holders (Tidal, 2015).

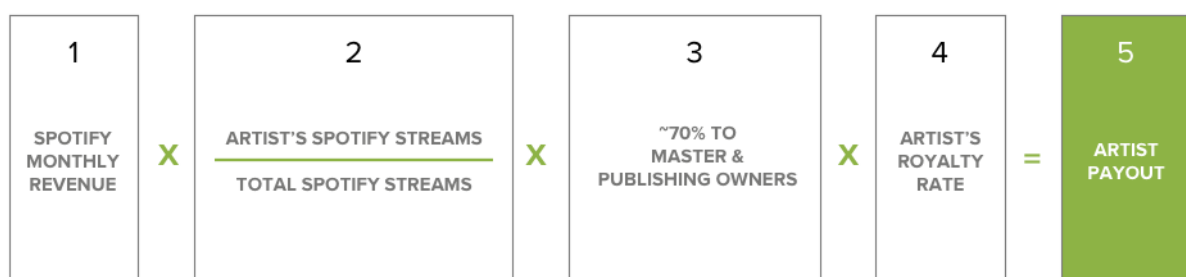


Figure 11: Spotify's royalty calculation explained (Source: Spotify for artists, 2013)

#### 2.4.1.1 PUBLIC PERFORMANCE, DISTRIBUTION, AND REPRODUCTION OF SOUND RECORDING (RECORD LABELS)

Interactive streaming services must remunerate copyright holders for distribution and reproduction of their sound recording. These licenses are negotiated directly with the sound recording owners. Under US law, interactive streaming services must also license the public performance of a sound recording from a performance rights society representing the copyright owner or directly from the copyright owner. In practice, streaming services negotiate licenses for public performance of sound recording directly with the copyright owners simultaneously with the licenses for distribution and reproduction (Ritala, 2013). Content of license deals between streaming services and record labels are kept confidential. But according to some sources, in the case of Spotify, it would include an advance

at the beginning of each term, which are recoupable under certain conditions, giving Spotify access to the record labels their catalogue. Followed by royalty payments on a pro rate basis of their revenue share (Ritala, 2013; Singleton, 2015). More details become clear when looking into a leaked contract about the North American license deal between Sony Music and Spotify which was in action between 2011 and 2012 and had an option for 2013. The license deal showed an agreed 60% of the gross revenue share in the relevant territory to be shared with Sony Music on a pro rate basis (Singleton, 2015). Their ad-supported tier also included a minimum royalty payment of \$0.0025 per stream or a discounted \$0.0025 per stream on condition that Spotify meets both its subscriber and conversion rate growth. The subscription based tier included a minimum royalty payment of \$6 per subscriber paid on a pro rate basis. And over the course of three years Spotify gave Sony Music 9 million dollars worth of advertising slots, that Sony Music could either use or resell. On top of that they had the option to buy another 15 million dollars worth of advertisement slots at discounted rates (Singleton, 2015). The license deal included quarterly advances to be paid at the beginning of each term, that are non-refundable but recoupable for the owed royalties within each term individually. The contract also included a Most Favored Nation clause, which makes the contract amendable in case Spotify strikes a more favourable deal with any other record label, and pretty much guaranteed Sony to have the best possible deal with Spotify within the agreed terms (Singleton, 2015). Just one of the majors barring their catalogue from Spotify would mean a death sentence for the streaming service, something both parties in the agreement were aware off.

While in their early days the success of Spotify was largely dependent on the catalogue of the majors, the power balance between both parties is slowly shifting. With Spotify their royalty payments growing each year, so is their bargaining power (Ingham, 2016d). To lower its cost of revenue, Spotify renegotiated its license deals with its biggest partners in the course of 2017. Not coincidental while they are on their path towards an IPO and are trying to convince investors Spotify can turn into a profitable business (Nicolaou, 2017a). In April 2017, Spotify struck a multiyear license deal with Universal Music Group. The license includes lower royalty rates in exchange for the promise that Spotify will pay a minimum of 2 billion euros to record labels over the course of the next two years. The deal also includes targets for Spotify's user growth, collaboration on marketing campaigns, access to data, and the option for Universal to restrict some albums to premium Spotify users for two weeks after the initial release (Soderpalm, Pollard, & Blair, 2017; Nicolaou, 2017b). Later on in the year it also struck deals with Merlin, Sony, and Warner under similar terms and therefore guaranteed a long term partnership with its most important partners (Auchard, 2017; Nicolaou, 2017c; Spotify, 2017b). Also Apple Music is believed to be currently trying to renegotiate its license deals to bring their rates down comparable to those of Spotify (Shaw & Webb, 2017).

Note that Spotify also has a non-interactive online radio service function, for which it remunerates copyright holders as a non-interactive streaming service. No royalties go directly to the record label, but go to collection societies for the public performance of both composition (to PRS in the UK) and sound recording (to PPL in the UK) (Ritala, 2013).

#### **2.4.1.2 REPRODUCTION OF THE MUSICAL WORK (MCPS) AND PUBLIC PERFORMANCE OF THE MUSICAL WORK (PRS)**

Interactive streaming services must acquire public performance and mechanical licenses for musical works (Koransky, 2016). The public performance and mechanical license fee for streaming services depends on the territory and is either negotiated by their respective collection societies or directly by



the publishers. Some publishers have such a vast catalogue and are such vital partners to the streaming services that they will often have a direct agreement in place (PRS for Music, 2015). These public performance and mechanical licenses are usually negotiated simultaneously and will therefore be discussed together in the next part of this paper.

In the UK, PRS for Music (encompassing both PRS and MCPS) negotiates the mechanical and public performance rate for digital music services. They provide a blanket license for streaming services with an annual revenue of less than £200,000 and ask for an annual flat fee (PRS for Music, 2017f; PRS for Music, 2017g). This flat fee is calculated gradually and depends on the number of annual streams or monthly subscribers and the type of streaming service. For example, an on-demand premium streaming service available offline and on multiple devices with a revenue between £12,500 and £200,000 pays a flat fee that coincides with £0.672 per subscriber per month (PRS for Music, 2017f). For streaming services with an annual revenue over £200,000, including services such as Spotify and Apple Music, PRS for Music individually negotiates license deals (PRS for Music, 2017h). The fees for public performance and mechanicals are negotiated simultaneously and are split 50/50 between public performance and mechanicals (PRS For Music, 2017e).

In Belgium, licenses for mechanicals and public performance of musical works on streaming services are negotiated by SABAM. Their flat fee is 12% of the net revenue of the streaming service. With as a safety net a minimum tariff of €0.75 per subscriber per month or €1 per subscriber per month when subscribers have the option to listen offline, or a minimum tariff of €0.003 per stream in case the user isn't opted in on a subscription plan (SABAM, 2014). Many collection societies in other countries such as France and Germany have a similar strategy with the rate as a fixed percentage of the music streaming service net income and a minimum tariff per stream or per monthly subscriber as a safety net (Klembas, 2016).

With the different collection society landscape in the US, their rules for mechanical and performance royalty rates for on-demand streaming services are slightly different and more complicated. In the US, royalty rates for mechanicals and performance royalties are determined by law by judges on the Copyright Royalty Board (=CRB) (Ritala, 2013). CRB established the so called "All-In Royalty Pool". The all-in royalty pool contains the royalties shareable with the writers for both public performance and mechanical rights. The royalty rate differs slightly depending on the type of streaming service. Harry Fox Agency (2014), the premier collecting society in the United States for mechanicals, visually presented the "All-In Royalty Pool" for interactive subscription based streaming services accessible on multiple devices and offline as shown in figure 12 (Harry Fox Agency, 2014). The all-in royalty pool for this type of streaming service is calculated as either (1) 10.5% of the music streaming service's revenue, (2) \$0.80 per subscriber per month, or (3) 21% of the royalty payout to record labels in case of a non-pass-through agreement where the streaming service pays royalties directly to the collection society or publisher and 17.36% in case of a pass-through agreement where mechanicals are paid by the record labels (Harry Fox Agency, 2014b). This royalty pool will be at first hand used to pay performance royalties, of which the rate is individually negotiated between streaming services and Performance Rights Organizations (PRO, the American collection societies) in the USA. These rates are believed to be approximately 6 or 7% and are set each year (Manatt, Phelps, & Phillips, 2016). What remains of the royalty pool after paying performance royalties is paid as a mechanical royalty. As a sort of safety net, the eventual mechanical royalty must be at least \$0.50 per subscriber per month (Harry Fox Agency, 2014b). The all-in royalty pool for ad-supported streaming services in the US is the

greater of either (1) 10.5% of the music streaming service's revenue or (2) 22% of the royalty payout to records labels in case of a non-pass-through agreement and 18% in case of a pass-through agreement (Harry Fox Agency, 2014b).

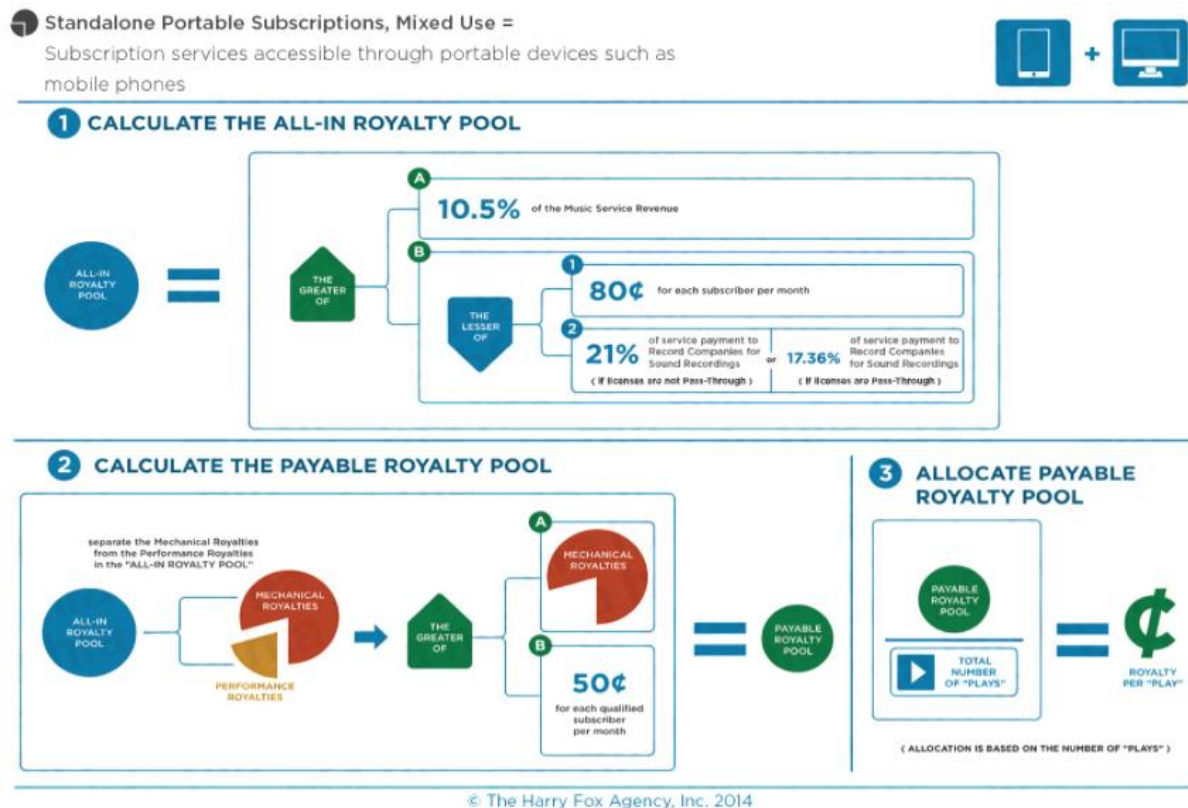


Figure 12: Calculation of performance and mechanical royalties of interactive subscription based streaming services available offline and on multiple devices in the United States (Harry Fox Agency, 2014)

As shown in figure 13, Manatt, Phelps, & Phillips (2016) give an approximation of how royalties are paid by on-demand streaming services in the United States. Approximately 58.5% of Spotify and 58% on Apple Music's revenue gets shared with the record labels for the distribution and reproduction of the sound recording. Approximately 6% respectively 6.75% of revenue are paid as mechanicals for the reproduction of the musical works and 6.12% respectively 6.75% are paid as royalties for the public performance of musical works. This leaves 29.38% of the revenue for Spotify and 28.5% of revenue for Apple Music. This information however is based on findings before Spotify and Apple Music started renegotiating their license deals with the record labels in 2017.

## What Happens to a of Revenue<sup>1</sup>

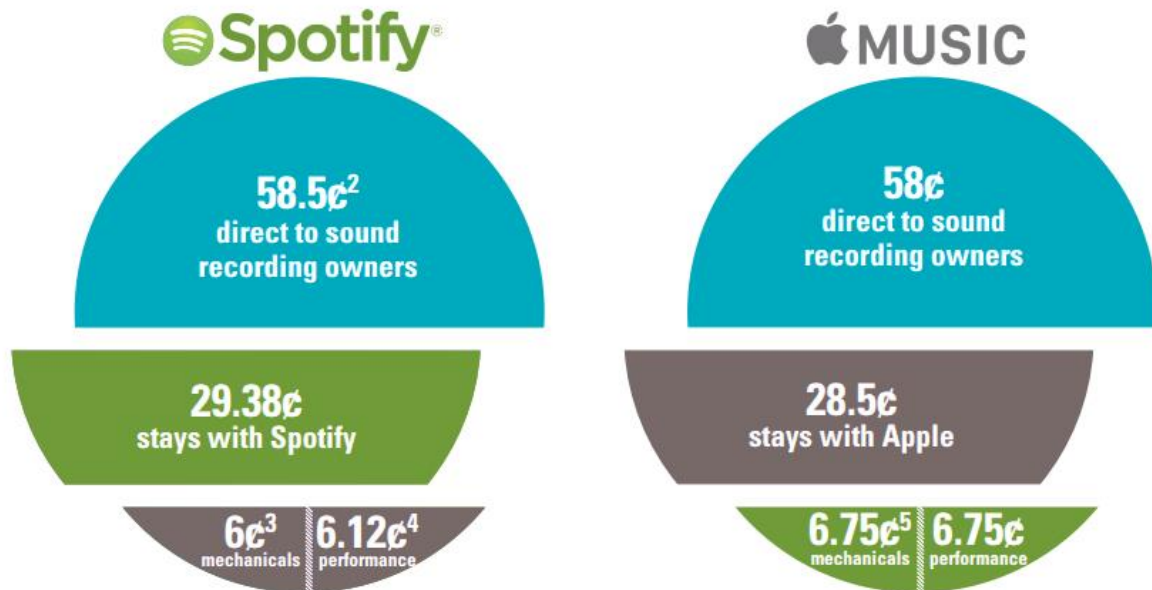


Figure 13: What happens with \$1 of revenue on Spotify and Apple Music in the US (Source: Manatt, Phelps & Phillips, 2016)

### 2.4.1.3 PERSPECTIVE OF THE COPYRIGHT HOLDERS

For copyright holders it is relevant to compare the total revenue of streaming with the total consumption of their music on streaming platforms, as it gives an idea of the revenue it provides them compared to consumption of downloads and physical sales. A per stream rate however is not the basis of license deals. In streaming, value should not be measured by units but by number of subscribers and the value they create (Caldas, 2015). But per stream rates can be useful to get an insight in the record labels' perspective.

A indie label revenue report including 2016 sales figures published by The Trichordist (2017) revealed per stream rates of Spotify (0.00437\$/stream), Apple Music (0.00735\$/stream) and YouTube (0.00069\$/stream). As part of our research we independently researched a confidential 2016 revenue report of an independent UK label exhibiting over 200 million streams and found slightly higher figures. Our findings also included a per stream rate between five and ten times higher for the Spotify Premium tier than the Spotify ad-supported tier. This disparity has been fuel for a vast discussion whether ad-supported streaming services provide a fair remuneration to the artists and record labels. The most famous example would be popstar Taylor Swift withdrawing her catalogue from Spotify in 2014, claiming the free ad-supported tier of the service would undermine the value of her music (Swift, 2014). Spotify has always defended their freemium model and the strategy to provide their entire catalogue on both their subscription and ad-supported plan as it diverts people away from piracy and low paying content platforms and into their premium model. An allegation that is confirmed in a study by Thomes (2013). Recently however Spotify came back on this strategy, with the possibility to keep key album releases exclusive to their subscription tier for two weeks after the initial release as part of the renegotiated license deal with Universal Music Group in April 2017 (Soderpalm, Pollard, & Blair, 2017). Short after, Taylor Swift her back catalogue, released on Universal Music Group,

returned to Spotify. So called to “thank her fans for the support” and “celebrate her album *1989* selling over 10 million copies” (Singleton, 2017).

Whereas a stream on Spotify on average generates half a cent in revenue, a download on iTunes in Europe for €0.99 generates €0.69 for the record label. It must be said that it is easier to achieve 1000 streams for a song than it is to achieve 1000 downloads. But it shows however the scepticism of the copyright holders and musicians the streaming services had and still have to deal with whether streaming can provide them a sustaining income. Additionally, with streaming, revenue is spread over a longer period of time. Whereas sales of downloads and physical formats would see a spike in sales in the initial period after the release and then rapidly decrease, streaming revenue will see less of a spike but less rapidly decrease. This lack of spike might give artists the impression they don't earn enough from the streaming model, while failing to see the long term return on investment streaming has to offer. In 2012 Spotify CEO Daniel Ek talked about a perception problem and claimed people in the music industry were yet to realize the value Spotify can create for them (Kafka, 2012). As a great part of revenue for the recorded music industry is now derived from streaming, with total revenues going up for the first time in almost two decades, this scepticism is fading away and streaming is even called the saviour of the recorded music industry (Ellis-Petersen, 2016). Studies suggest music streaming is a substitution for other ways of music consumption (Aguar & Waldfogel, 2015; Wlomert & Papiers, 2016). Yet they also find the net revenue increases thanks to subscription driven streaming. Ad-supported streaming has a negative impact on revenue, but the aggregate result on revenue of streaming is still positive (Wlomert & Papiers, 2016).

#### **2.4.2 Operating costs**

There is a number of operating costs involved to keep a streaming service running. Spotify categorizes these expenses as costs in sales and marketing, research & development, and general and administrative costs (Ingham, 2017a).

## 2.5 Financial situation of streaming services

### 2.5.1 Independent streaming service: Spotify

In this section, we will look at the financial situation of Spotify. Spotify is the current market leader in the subscription based streaming market and is a standalone independent streaming service. Although very basic, financial information about Spotify can be found. This in contrast to Apple Music and Amazon Prime, as they are both part of a bigger enterprise and specific financial information for just the streaming service is hardly available.

Since its launch in 2008, Spotify has known a clear expanding growth in revenue each year. But so is the growth in net loss. Figure 16 (Ingham, 2017a; Statista, 2017c) shows the evolution of Spotify's revenue and net income. The margin after cost of revenue currently proves not to be enough to cover its working costs. In an interview in 2012, Spotify CEO Daniel Ek claimed losses are due to their high level of investment, that their focus is to grow, and that they would become profitable if they are no longer investing everything they have in growth (Kafka, 2012).

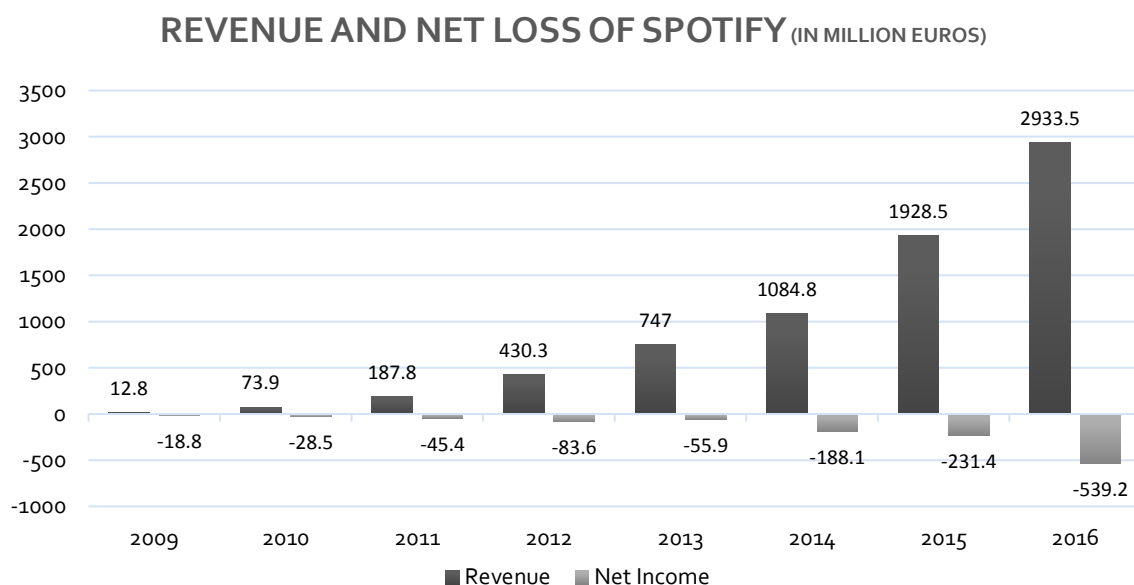


Figure 14: Revenue and net loss of Spotify (Source: Ingham, 2017a; Statista, 2017c)

Figure 17 (Ingham, 2017a) shows a financial statement by Spotify from 2014 till 2016. Cost of revenue takes the bulk of Spotify's costs, worth approximately 84.6% of their total revenue in 2016. Operating costs in sales and marketing, product development and general and administrative affairs take up 27.3% of their total revenue in 2016. A negative net finance income takes up 6.4% of the total revenue in 2016 (Ingham, 2017a). In the next section of this paper we will look closer into the revenue, cost of revenue, operating costs and financial costs of Spotify.

## Consolidated statement of operations

for the year ended December 31  
(in € thousands except per share data)

	Note	2016	2015 Restated*	2014 Restated*
Revenue	6	2,933,504	1,928,548	1,084,788
Cost of revenue		2,482,973	1,664,085	910,500
<b>Gross profit</b>		<b>450,531</b>	<b>264,463</b>	<b>174,288</b>
Product development		206,853	136,107	114,248
Sales and marketing		417,911	258,723	184,009
General and administrative		175,179	105,926	67,165
<b>Operating loss</b>		<b>(349,412)</b>	<b>(236,293)</b>	<b>(191,134)</b>
Finance income	9	152,399	35,756	28,539
Finance costs	9	(336,632)	(26,239)	(19,450)
Share in earnings of associates and joint ventures		(2,054)	207	(435)
<b>Finance income/(costs) - net</b>		<b>(186,287)</b>	<b>9,724</b>	<b>8,654</b>
<b>Loss before tax</b>		<b>(535,699)</b>	<b>(226,569)</b>	<b>(182,480)</b>
Income tax expense	10	3,511	4,812	5,642
<b>Net loss attributable to owners of the parent</b>		<b>(539,210)</b>	<b>(231,381)</b>	<b>(188,122)</b>
<b>Net loss per share attributable to owners of the parent</b>				
Basic and diluted	11	(145.38)	(65.20)	(55.99)
<b>Weighted-average ordinary shares outstanding</b>				
Basic and diluted	11	3,709	3,549	3,360

\* Refer to note 4.

Figure 15: Spotify financial results 2014 - 2016 (Ingham, 2017a)

### 2.5.1.1 REVENUE

Figures by Midia Research show Spotify Premium users had an ARPU of €4.58 in 2016. Ad-supported users had an ARPU of €0.32 in 2016 (Mulligan, 2017f). These numbers are slightly deflated, as they are based on the end of year user data and do not take into account a lower number of users in the beginning of the year. It does clearly show however the disparity between revenue generated by premium and free users. The reason the average premium user generates €4.58 and not the objected €9.99 can be explained by free trial plans, users opting in on the discounted entrance plans, currency rates and cheaper overseas plans, cheaper family or student plans, or users not opting in on the subscription plan for the entire year. Rough estimated figures by Ingham (2017b) suggest the ARPU of Spotify subscribers has been going down every year since 2012. Likely due to Spotify's increasing offer of discounted plans to stay ahead of its competitors (Kafka, 2014; Perez, 2017; Reid, 2017; Spotify News, 2016).

	2016	2015	2014
	(in € thousands)		
<b>Premium</b>			
Revenue	2,638,493	1,732,306	982,741
Cost of revenue	2,154,708	1,434,245	774,213
<b>Gross profit</b>	<b>483,785</b>	<b>298,061</b>	<b>208,528</b>
<b>Ad-supported</b>			
Revenue	295,011	196,242	102,047
Cost of revenue	328,265	229,840	136,287
<b>Gross profit</b>	<b>(33,254)</b>	<b>(33,598)</b>	<b>(34,240)</b>
<b>Consolidated</b>			
Revenue	2,933,504	1,928,548	1,084,788
Cost of revenue	2,482,973	1,664,085	910,500
<b>Gross profit</b>	<b>450,531</b>	<b>264,463</b>	<b>174,288</b>

Figure 16: Spotify's revenue and cost of revenue sources 2014 - 2016 (Ingham, 2017a)

An important objective for Spotify is to increase their conversion rate. As the average revenue per user is over 14 times higher for premium users than for ad-supported users, increasing the conversion rate to the subscription plan can have a significant beneficial impact on the revenue. Spotify has already achieved an increase in its conversion rate. After a stagnation in its conversion rate in 2013 and 2014, Spotify managed to increase their conversion rate from 25% in January 2015 to over 40% by June 2017. A study by Wagner, Benlian, & Hess (2014) suggests a good approach for freemium services to increase their conversion rate is to increase the fit between the free service and the premium service. Free trials are a good strategy as it gives consumers the possibility to try the service, but eliminates the free riders. It suggests a freemium model like Spotify's does not limit free rider behaviour efficiently, and the basic free version may not give potential users a good perception of the possibilities of the premium version. It does however make their service more accessible and can make exploring potential consumers used to their service. According to a survey by AudienceNet published by BPI (2017), main motivations for UK consumers to switch to a premium plan are: they used the premium on a free trial and wanted to keep using the service (60%), they were using the free version and wanted to remove ads (31%), and they wanted to use the interactive streaming service on a mobile device (28%). Recommendations from peers (12%) and access to premium users' music exclusives (9%) complete the list. When asking for reasons not to subscribe to a premium plan, consumers answered the service didn't appeal to them (48%), the subscription plan is too expensive (31%), the free version of the streaming service provides a sufficient service (26%) and they prefer free alternatives such as YouTube (25%).

#### 2.5.1.2 COST OF REVENUE

Table 1 shows the proportion of the cost of revenue compared to the total revenue based on released Spotify financial statements (Ingham, 2017a). Whereas in theory approximately 70% of the revenue is kept aside for the copyright holders, in practice over 80% of revenue is eventually shared with the copyright holders (Ingham, 2017a; Spotify for artists, 2013). Possible reasons behind this lower margin for Spotify are advance payments to record labels and discounted subscription prices that are only partly contributed to by the record labels and certain service costs related to the cost of revenue being included in this figure by Spotify. Also a cost of revenue higher than the actual revenue for the ad-supported tier, due to minimum tariffs exceeding the share of revenue royalty rate, adds to a higher cost of revenue share (Christman, 2017; Mulligan, 2016a).



Year	Revenue (€ M)	Cost of Revenue (€ M)	Cost of Revenue (%)
2014	1 084 788	910 500	84%
2015	1 928 548	1 664 085	86%
2016	2 933 504	2 482 973	85%

Table 1: Spotify's cost of revenue share in proportion with total revenue (source: Ingham,2017a)

With a cost of revenue this high, it is clear to see why Spotify is currently renegotiating its license deals to acquire more beneficial rates. Out of comparison, Netflix, a profitable subscription based video streaming service, had a cost of revenue of just over 68.3% in 2016 (Netflix Inc., 2017). To what extent Spotify will manage to lower their cost of revenue, only future can tell. But as long as Spotify is growing and the record labels are relying on Spotify as an income source notably more each year, Spotify's bargaining power in the license negotiations will increment (Ingham, 2016d).

### 2.5.1.3 OPERATING COSTS

There is a number of costs involved to keep a streaming service running. Spotify categorizes these expenses as costs in sales and marketing, research and development, and general and administrative costs (Ingham,2017a).

Year	Sales & Marketing	Product Development	General & Administrative
2014	17.0%	10.5%	6.2%
2015	13.4%	7.1%	5.5%
2016	14.2%	7.1%	6.0%

Table 2: Spotify's operating costs as a percentage of total revenue 2014 - 2016 (Ingham,2017a)

Table 2 shows these three cost categories in proportion to the revenue based on released Spotify financial statements (Ingham, 2017a). Out of those three categories, Spotify's biggest costs is sales and marketing. Maybe not surprising in this competitive market mainly based on growth (IFPI, 2017). Whereas initially Spotify's marketing campaign was mainly based on word-of-mouth, with keeping its free tier as invitation only creating a feeling of scarcity and hype around their service, Spotify now invests more in marketing campaigns (Chaffey, 2015). A good example being their "Thanks 2016, it's been weird." campaign with billboards at key locations in 14 different countries near the end of 2016 (Schneider, 2017).

Costs in research and development presumably include analysing consumer data. On one hand to use this to implement music recommendation algorithms for their users. And more recently also to link music listening behaviour with offline personalities and behaviour (Spotify For Brands, 2017b; Spotify For Brands, 2017c). An interesting asset for advertisers to understand and get more information about their target audience.

When looking at Spotify their expenses by nature as shown in figure 21 (Ingham, 2016e), personnel costs are the second biggest cost for Spotify. As shown in figure 22 (Ingham, 2017a), personnel costs accounted for over 372 million euros in 2016, approximately 12.7% of the revenue. With an average of 2.162 full time employees in 2016 this comes down to a total cost of 172.249 euros per employee per year, up from 163.519 in 2015 and 132.790 in 2014. Spotify defends their high wages as a necessity to protect their company culture of innovation, focus and teamwork (Resnikoff, 2016).



## 7. Expenses by nature

The Group's cost of revenue and operating expenses (Research and development, Sales and marketing and General and administrative) are comprised of the following:

	2015	2014	2013
Royalty, distribution and other costs	1,633,289	882,463	602,918
Streaming content expense	14,987	-	-
Personnel costs (note 8)	243,366	180,930	113,969
Travel costs	21,785	16,822	11,573
Advertising and public relations	87,335	68,763	45,642
External consulting fees	49,136	38,762	30,524
Facilities fees	33,389	25,016	15,464
Other expenses	15,703	15,067	8,794
Depreciation and amortization	30,832	18,987	9,152
	<b>2,129,822</b>	<b>1,246,810</b>	<b>838,036</b>

Figure 17: Spotify expenses by nature (Source: Ingham,2016e)

## 7. Personnel expenses

	2016	2015 Restated (in € thousands)	2014 Restated
Wages and salaries	230,992	163,321	115,184
Social security expenses	37,585	44,740	27,668
Contributions to retirement plans	12,142	6,672	5,820
Share-based payments	52,880	28,149	16,976
Other employee benefits	38,804	15,641	15,478
	<b>372,403</b>	<b>258,523</b>	<b>181,126</b>
Average full time employees	<b>2,162</b>	<b>1,581</b>	<b>1,364</b>

Figure 18: Spotify personnel expenses (source: Ingham,2017a)

### 2.5.1.4 FINANCIAL COSTS

Whereas most cost categories stay roughly in the same proportion to the revenue in 2016 compared to previous years, there was a notable spike in finance costs. This due to value movements on \$1 billion in convertible bonds Spotify issued in March 2016 (Christman, 2017). Investors can convert their bonds into shares at a 20% discount to Spotify's IPO price. A discount that increases 2.5% every additional six months it takes for Spotify to go public (Elder, 2017). It also involves a coupon with 5% interest a year, and rises after one year with 1 point for every additional six months it takes for Spotify to go public (Abboud, 2017). This inflates the net loss of Spotify in 2016 from 349.4 million euros in operating loss to a total 535.6 million loss before taxes (Ingham, 2017a).

### 2.5.2 Dependent streaming services

A lot of the current competitors on the music streaming market are streaming services who are part of a bigger picture. With some of the most important competitors being part of the triple A: Apple, Amazon and Alphabet (Google) (Mulligan, 2016a). These companies lack the first mover advantage. And while all three had efforts in establishing a digital music download store, only Apple is the one

that clearly succeeded (Richardson, 2014). However, the streaming services of the triple A have the important competitive advantage that they are backed by multinational cash cows and their financial situation is not as worrisome as that of Spotify and other independent streaming services. “Apple has hardware, Google has advertising, and Amazon has e-commerce” (Joseph, 2016). They are not dependent on their streaming service to be profitable and can use their streaming services as a door to customer relationships (Mulligan, personal communication, 15<sup>th</sup> June 2017). Former Apple CEO Steve Jobs repeatedly said they never expected to make much money from the iTunes store, yet it was a great way to make their hardware more attractive (Wingfield, 2008). A strategy Apple could repeat now with their streaming service Apple Music.

The financial state of these dependent streaming services is harder to estimate since these services are part of a bigger brand and no separate financial information of their music streaming service has been made public. To put the competitive advantage of these dependent streaming services in perspective: in 2016, Apple Inc. had a profit of more than 45 billion dollars (Statista, 2017). Enough to cover Spotify’s 2016 loss of 539 million euros approximately 80 times (given a dollar/euro currency exchange rate as on the 31<sup>st</sup> December 2016 of 0.95034) (XE, 2016).

### 3. Research

In this section, we will ask ourselves if the streaming business model is commercially viable on the long term. And if not, what will it take for the streaming services of today to become profitable

To gather first-hand information about this topic, we completed in-depth interviews with key persons in the recorded music industry. Our panel of experts included:

- (1) Charles Caldas, CEO of Merlin and representative of 800+ independent members in the license negotiations with digital retailers including Spotify.
- (2) Zach Fuller, researcher at technology analysis company MIDiA Research.
- (3) Romy Harber, label manager at independent record label Hospital Records.
- (4) Charlie Phillips, director of legal and business affairs at Worldwide Independent Network.

Unfortunately, Spotify was not available for comment. Based on these in-depth interviews we have established two different scenarios on how the streaming market will evolve. These scenarios are based on the assumption that consumer demand for streaming will keep growing. The scenarios and their sub-scenarios are outlined as follows:

#### **Scenario 1: The independent streaming services will become profitable**

Scenario 1 (a): Streaming services reach economies of scale

Scenario 1 (b): Streaming services find new ways to monetize assets or increase the ARPU

Scenario 1 (c): Streaming services become content owners

Scenario 1 (d): Streaming services lower license deals via their increasing bargaining power

Scenario 1 (e): Streaming services lower license deals as admission of the labels to keep diversity in the streaming market

#### **Scenario 2: The independent streaming services get bought by a tech company and dependent streaming services take over the market**

All scenarios are discussed in the following section. Each scenario is visually represented in figure 24. This figure is based on the economies of scale model, where the average cost reaches a minimum at a certain output quantity (Stigler, 1958). The X-axis shows the quantity, or as you may interpret it, the number of users. The Y-axis shows the average total cost per user (ATCPU) and average total revenue per user (ATRP). In this dissertation, we have spoken about the ACPU as the average cost per user of cost of revenue. As in figure 24 this cost function is based on the average cost per user of the total costs including operating costs, we make the distinction and name this the ATCPU.

#### **3.1. Scenarios in the streaming market**

##### ***SCENARIO 1: THE INDEPENDENT STREAMING SERVICES WILL BECOME PROFITABLE***

Whereas it is less relevant to discuss the profitability of dependent streaming services, the long-term profitability of independent streaming services is a necessity as they run on investors' money. We conclude five different scenarios on how these independent streaming services can reach profitability.

#### a. Streaming services reach economies of scale

Streaming services can reach economies of scale through an increasing volume. Once services reach a global scale, it will become easier for these services to become sustainable than they are now in their growth phase (Caldas, personal communication, 1<sup>st</sup> August 2017). There is still a lot of potential achievable to unlock, which could deliver a tremendous amount of value for the music industry. Innovative technologies such as smart speakers may help streaming subscriptions to become the norm. Music subscriptions are the default way of listening to music on this type of device. If it comes to a point where smart speakers are equally represented in households compared to other forms of entertainment such as televisions or a gaming console, this will drive growth of music subscriptions even further (Harber, personal communication, 10<sup>th</sup> August 2017). Streaming still has potential to unlock in many geographic markets. Figures by Midia research show Spotify has a weekly active user (WAU) penetration of 38% in Sweden, a market that has acted as a bellwether for the music industry in the past. In the US this WAU penetration is 12%, in the UK 13% and in Japan 3% (Fuller, personal communication, 10<sup>th</sup> August 2017). It is therefore credible to assume consumer demand for streaming will keep growing in the foreseeable future.

“The theory of the economies of scale is the theory of the relationship between the scale of use of properly chosen combination of all productive” (Stigler, 1958). Economies of scale decrease the average costs, caused by fixed costs (Haucap & Heimeshoff, 2013). When we apply this theory to streaming services, we can note that their biggest cost is a variable cost. Cost of revenue, the remuneration of copyrights holders, is calculated as a percentage of the revenue. For every additional revenue, the cost of revenue grows in the same proportion. License deals between streaming services and record labels are confidential and are different for every partner and territory, but are believed to agree to an approximate 70% of revenue share. It will come down to costs in marketing, product development and administration to grow less proportionate to the revenue. For Spotify, in 2016 these costs accounted for 27.3% of the total revenue, compared to 26% in 2015 and 33.7% in 2014. Streaming services currently spend a lot on expansion to new markets, customer acquisition, market education and trials. As the market becomes mainstream, a lot of these costs are believed to relatively come down (Caldas, personal communication, 1<sup>st</sup> August 2017).

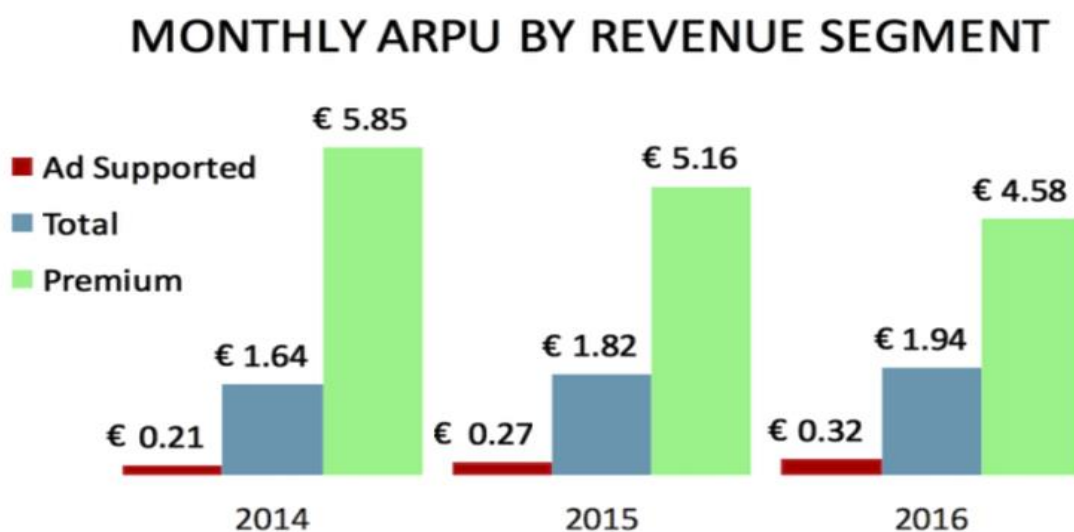


Figure 19: Monthly ARPU by revenue segment (Spotify 2014-2016) (Source: Mulligan, 2017f)

Streaming services are pursuing growth rather than a short term profitable business (Fuller, personal communication, 10<sup>th</sup> August 2017). When looking deeper into the ARPU of Spotify, we can see this growth comes at a cost. The excessive offer of discount plans to drive growth, lowers the ARPU of premium users. This is basically a substantial hidden cost in marketing and the lower revenue is only partly contributed to by the labels. Figures by MIDiA Research, as shown in figure 23 (Mulligan, 2017f), show an increase of the ARPU of total users, thanks to a slight increase in ARPU of ad-supported users and increasing conversion rates, but a decreasing ARPU of premium users. These ARPU figures are based on yearly financial results and end of year user data, which gives a slightly deflated figure as it doesn't take in account a lower number of users in the beginning of the year. Nevertheless, these figures show a clear downwards trend for the ARPU of premium users. Once the market reaches a maturity phase and becomes less focused on growth, Spotify could cut down the amount of discount plans and focus on the increase of ARPU of their users, driving their margins and profitability (Fuller, personal communication, 10<sup>th</sup> August 2017).

*b. Streaming services find new ways to monetization of assets or increase the ARPU*

Increasing the ARPU would be beneficial for the entire recorded music industry. Through their percentage share of the revenue, it would directly increase the remuneration for artists and record labels and it would increase the absolute margins for the streaming services. The evident solution of increasing subscription prices is problematic, as people are now conditioned to the 9.99 price point. Consumers might not accept an increase in price and go back to consuming music in other, less beneficial ways for the recorded music industry (Fuller, personal communication, 10<sup>th</sup> August 2017; Phillips, personal communication, 25<sup>th</sup> July 2017). There are opportunities for streaming services to monetize an audience that is willing to spend more. Streaming services can monetize their presence in other parts of the value chain. They can integrate with merchandise and ticketing services and get people to spend that money on the platform or offer extra content such as livestreams for an extra price. This extra content would have scarcity to it, which there isn't anymore on recorded music (Fuller, personal communication, 10<sup>th</sup> August 2017). Spotify is already involved in both merchandise and ticketing. It announced a partnership with merchandise store Merchbar in 2016 and had partnership with Bandpage and TopSpin before (Music Business Worldwide, 2014; Music Business Worldwide, 2016; Spotify for artists, 2016). Spotify also expanded its ticketing capabilities in 2017 through partnerships with AXS and Eventbrite alongside existing deals with Ticketmaster and Songkick (Spotify, 2017c).

An important asset streaming services hold is data. Whereas download stores only had access to data about how consumers buy music, streaming services now have data about how consumers listen to music (Fuller, personal communication, 10<sup>th</sup> August 2017). This data can be valuable for multiple purposes. Ad-supported streaming services can use this data to help advertisers better target the audience on their platform, which can increase the ARPU of ad-supported users. It can also be used externally. Think about data supporting A&R decisions, geographic user data supporting event promoters, or hotel chains knowing what music to play in their hotel lobby based on the music preferences of their audience (Fuller, personal communication, 10<sup>th</sup> August 2017; Harber, personal communication, 10<sup>th</sup> August 2017). The possibilities for use of data are endless. A lot of this data is currently freely available for the record labels and artists. Yet indirectly this data does come with a price, as an increasing amount of data communication was used as an asset by Spotify to renegotiate

license deals with Universal and Merlin (Caldas, personal communication, 1<sup>st</sup> August 2017; Harber, personal communication, 10<sup>th</sup> August 2017).

*c. Streaming services become content owners*

A creative way to get around the expensive license deals is for the streaming services to become content owners, following the example of Netflix in the video streaming market (Fuller, personal communication, 10<sup>th</sup> August 2017). Netflix owns and produces their own video content, which is an effective way to drive down cost of revenue, as this content shares in the revenue percentage that must be paid to copyrights holders. Spotify could execute a similar strategy and get involved in content and label acquisition, allowing them to own multiple parts of the value chain. This is a delicate situation however, as Spotify content watering down the royalty pool would upset the majors who are still a vital partner for the streaming service. A fallout with one of the majors threatening to pull their catalogue of the service could mean the end of Spotify, as an incomplete catalogue would be a shortcoming in their service towards the users (Fuller, personal communication, 10<sup>th</sup> August 2017; Harber, personal communication, 10<sup>th</sup> August 2017; Mulligan, 2017f).

An alternative that sounds like sci-fi to most people but is a serious activity within the industry is providing music produced by artificial intelligence. Spotify reportedly hired Francois Pachet, an AI music expert who lead the music research team at Sony for 20 years. An interesting perspective from streaming services in this subject is that AI music doesn't require royalties to be paid to the copyrights holder, a computer (Ingham, 2017c). Research in artificial intelligence and music is happening, with its end goal to create a computer that makes music just like a skilled musician (Miranda, 2013). If or when it will come to this point is unsure, but it seems to be a direction that is taken seriously by some in the music industry. Also Google has a project named "Magenta", which researches algorithms self-reliantly writing music on their own (Douglas, 2016)

*d. Streaming services lower their license deals via their increasing bargaining power*

The current license deals are a burden to the streaming services their profitability. For the last three years, Spotify's cost of revenue was approximately 85%. Although this proportion can be brought down through desertion of the active discount plan strategy, it is possible that the burden of the cost of revenue is simply too high for streaming services to reach profitability. It is therefore in the interest of the streaming services to lower the revenue share agreed in these license deals. Spotify renegotiated its license deals with the three majors and Merlin in 2017, with the labels reportedly agreeing to a lower revenue share in exchange for more data and the option to window certain albums and keep them exclusive for premium subscribers in the course of two weeks.

As the streaming market is growing and the royalties coming from streaming services are increasing with each statement, so are the streaming services their bargaining power. If in the initial years of streaming, a major would be dissatisfied with the license deals Spotify is trying to negotiate, they could have decided to remove their catalogue from the platform without much harm for their own business. Whereas now, with streaming being the biggest digital source of revenue for the record labels, removing catalogue from the platform would be problematic for the labels (Harber, personal communication, 10<sup>th</sup> August 2017). There is the argument that this increases the bargaining power of the streaming services. Which is where the economies of scale argument comes back in play. The

bigger the service, the more bargaining power they will have in license negotiations (Fuller, personal communication, 10<sup>th</sup> August 2017).

License deals however are not just about a percentage of the revenue share. There is value that flows in other ways (Caldas, 1<sup>st</sup> August 2017). Perhaps streaming services can find alternative ways to negotiate lower license deals through offering better service to the labels and offering them value in different ways, as they did with the exchange of data and options for album windowing in recent renegotiations between Spotify and the record labels.

*e. Streaming services lower their license deals as admission of the labels to keep diversity in the streaming market*

The revenue share in the license deals decides at what volume the economies of scale effect makes a streaming service profitable. With very low license deals, the necessity for economies of scale and the entrance barrier would be lower which would result in a flourishing streaming market with a lot of competition and diversity between the different services (point C in figure 24). With high license deals comes a high necessity for economies of scale, which results in a highly concentrated market (Haucap & Heimeshoff, 2013). This would result in scenario 2, with a highly concentrated market and independent streaming services unable to compete with the big tech companies (point A in figure 24) (Fuller, personal communication, 10<sup>th</sup> August 2017). At what point in this trade-off the current license deals are is unclear and will only become clear when the market matures and the streaming services reach their economies of scale.

The independent label market feels a natural alliance with the independent streaming market (Caldas, personal communication, 1<sup>st</sup> August 2017). Charles Caldas (personal communication, 1<sup>st</sup> August 2017) hopes for “a market with a good range of music destinations that will speak to different people and their different tastes and music interests” and emphasises “a wider range of services is better for the market than a narrower range of services”. Nevertheless, the record labels and publishers will look for their own interests and negotiate a license deal as high as possible to maximize the monetization of their catalogue (Fuller, personal communication, 10<sup>th</sup> August 2017). But, if economies of scale don't secure the financial viability of the streaming services, the record labels might face the decision between demanding high rates and working with a very centralized streaming market with a very limited number of players with a high bargaining power over the market, or lowering their rates which allows them to work with a diverse and independent streaming market.

**SCENARIO 2: DEPENDENT STREAMING SERVICES WILL RUN THE MARKET**

It is not unthinkable that even after the streaming market reaching maturity, the streaming services with their current license deals will still not become profitable. Streaming services as a standalone business model would not be sustainable. Which either leaves us with the option of scenario 1e, where the labels opt in for a diverse market which allows independent services to flourish but accept a lower revenue share, or they prefer a high revenue share and accept the downsides of a highly centralized market where the streaming services are dependent and part of a big tech company.

The key behind dependent streaming services is that they don't necessarily have to be profitable. They can use their presence in the streaming market as a door to a consumer relationship and generate value through their presence in other parts of the value chain (Mulligan, personal communication, 15<sup>th</sup>

June 2017). Independent streaming services may disappear or be bought and integrated by other companies. Certain possibilities are a Chinese giant such as Tencent buying a western streaming service and expanding their market territory, or one of the companies behind the majors buying a streaming service to increase their presence in the value chain (Mulligan, 2017f). A company like Facebook could buy a streaming service, and integrate it in their social media platform. This would give users yet another reason to stay and give the platform yet another opportunity to monetize users their attendancy (Harber, personal communication, 10<sup>th</sup> August 2017).



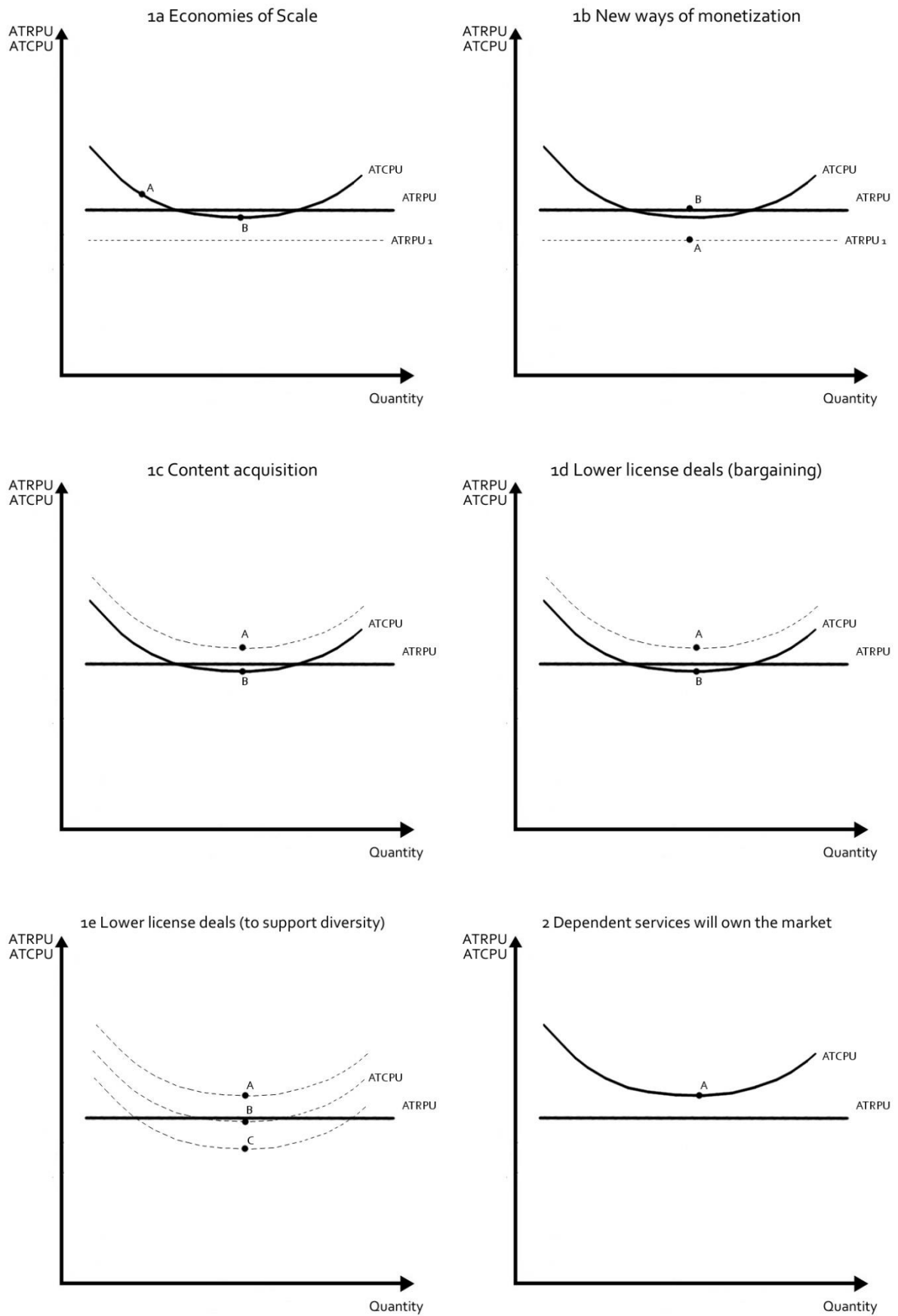


Figure 20: Possible scenarios explained through the economies of scales model

### **3.2. Conclusion**

Given the possible scenarios, we can conclude by summarizing the possible prospects for the streaming market, and the effects this will have on consumers, record labels and streaming services.

Tschmuck (personal communication, 15<sup>th</sup> June 2017) named the consumer the only real winner in the establishment of the streaming market. Whereas streaming services are struggling to become profitable and only record labels with a vast back catalogue are currently really benefiting from the streaming model (Harber, personal communication, 10<sup>th</sup> August 2017), consumers have access to a better service than ever before at a better price than ever before. As long as consumer demand for streaming stays intact, so will the streaming market. Be it either through a diverse market with independent and dependent streaming services, or through a market with solely dependent streaming services that will try to monetize its relationship with the consumer in alternative ways, the market will continue to exist. The optimal situation for the consumer would be a profitable streaming market, with a diverse number of competitors with a high grade of specialization in their service.

Only certain record labels benefit from the streaming business model (Tschmuck, personal communication, 15<sup>th</sup> June 2017). Streaming is a business model that remunerates based on listening behaviour instead of buying behaviour. This gave record labels with a vast back catalogue an important competitive advantage, as with little effort, they managed to revive parts of their catalogue that people were no longer buying but still listening to. Whereas downloads and physical sales happen in a short period after the initial release, the return on investment through streaming is spread over a longer time (Harber, personal communication, 10<sup>th</sup> August 2017). Nevertheless, with the injection of revenue it is giving the recorded music industry right now, and given the prospects the business model has for the future, it is hard to deny the financial benefits streaming has for the record labels. The ideal scenarios for the record labels would be that streaming services become profitable through economies of scale or new ways to monetize their business. In the light of the other possible scenarios, record labels should consider the effects of streaming services becoming content owners, and should think of ways to prevent or respond to this situation. Record labels should also ask themselves the question whether they prefer high revenue shares or a diverse streaming market. It may not come to the situation where record labels have to decide over this trade-off, but it is a relevant concept that describes their relationship with the streaming services.

Given their financial situations, streaming services themselves are not the current winners of the streaming market yet (Tschmuck, personal communication, 15<sup>th</sup> June 2017). Streaming services should keep their focus on growth. With unconquered territories and upcoming sustaining innovations such as smart speakers, there is still a large amount of potential to unlock. It will be the biggest streaming services that are the first to reach economies of scale. And it will be the streaming services with the biggest revenue that have the highest bargaining power over the record labels in the negotiation of license deals. At the same time, streaming services should look at new ways to monetize their assets, with monetization of data and involvement in ticketing and merchandising being clear options.

This dissertation has set a framework for the financial situation of independent streaming services. Future research could further investigate each of these scenarios individually, questioning their likelihood and going into deeper detail on how these scenarios might come in place.

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