



UNIVERSITETET I AGDER

Creative Destruction and The Music Industry

A Thorough approach on new technologies and their impact on the sustainability of the music market.

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Introduction

The music industry is a very complex industry, comprised of many stakeholders which have been a subject of many technological changes that have started since the birth of the music industry as a publishing industry. What is at the core of this industry is of course Music, and from a cultural perspective is seen as a way in which creative people express themselves through the combination of sound and rhythm. However, from a business perspective, these cultural expressions are seen as a way to reap benefits. Throughout the years of my study here at the University of Agder in the Music Business and Management degree, I got insightful knowledge about what the music industry is and how it functions (economically and artistically). Me and my student colleagues were engaged in different seminars with important players in the music industry and conferences such as: Sørveiv and Byfarm conference and many more, organized by our professors and the university, and I would like to personally express my gratitude to my supervisor Daniel Nordgård that has put time and effort into guiding me properly and has been a great help in clarifying and meeting my goals on this thesis. I would also like to thank my professors Bendik Hofseth and Peter Jenner that has taught us and have been a great help throughout my study years. I have had my fair share in music performance and continue to do so as a freelance saxophone player, but I am also highly interested in the business side of music, which I have learned to be a fairly complicated and rough business. But what invoked my focus on the most was the way that the music industry has been subjected to the new technologies and how these technologies impacted the music industry. The music industry is an area where *creative destruction* has happened and continues to do so. Creative Destruction is a term firstly named by Joseph Schumpeter around 80 years ago, and it often manifests the power of innovation and new technologies and how they enter the market in the form of new products or processes and leave the old ways of doing things behind. Schumpeter is one of the first to explore the role of new technology and the entrepreneur and how it causes economic growth and development. (Schumpeter 1934,1942). Since the birth of the music industry as a commercial industry, technological changes would

mark a new era which would change the music industry entirely and would bring rise to new market possibilities and new ways of producing and consuming music. Such innovations, where they challenge the old products and processes and forcing an old business model to radically change, have also been called *Disruptive Innovations* (Christensen 1997), creative destruction and disruptive innovation are entangled in many processes and both explain the destructive power of new innovations but also the new possibilities emerged from it. The most affected by these innovations and new technological innovations have been the record labels as they have gone through waves of creative destruction that has caused the music market to evolve into how it is today.

Research Question

In this paper the main research question that the researcher will focus on will be: *Is the music industry an example of Creative Destruction, and does it fit the criteria as mentioned by Schumpeter?*

Sub Research Question

In order to gain more understanding and to help the researcher give light to the primary question, it is also important to look into sub research questions:

- What are the main waves of Creative Destruction in the music industry?
- Are the new technologies a necessity to the sustainability of the music market?

Aim of Research

My main objective in this thesis is to go through the many new innovations that the music industry has undergone and try to define the most important waves of creative destruction by these innovations and try to come to conclusion if the music industry is an example of creative destruction, by defining these innovations as disruptive to the existing products, services and markets, but also as a necessity for market growth and development. The thesis will start by firstly revisiting the concept of Creative Destruction and Disruptive Innovation as they are both entangled and they explain the role of new innovations in an existing market. Then I will

proceed with writing a timeline of the music industry through the most important stages of technological developments which would change the industry radically. By starting with the music industry as a publishing industry in the late 1800s. Then the thesis will proceed with the invention of the phonograph (the first recording device) by the creative mind and the entrepreneurial spirit of Thomas Edison, which created a new market possibility in the music market, that of the record industry which later became a central role in the music industry. Later, the record industry will be discussed how it turned into a highly concentrated industry operating in an oligopoly position. The next stage will be the advent of Radio Broadcasting and the impact it had in the record industry. And then it will proceed with the advent of the internet as the latest disruptive innovation, which would change the entire entertainment industry fundamentally.

Methodology

Given the nature of the research question, I will be exploring the question with a combination of Document analysis and secondary data analysis. Document analysis is considered a qualitative research method. Documents contain text and images that have been previously written without the researcher's presence, such documents might be both printed and electronic forms. Document analysis requires that such given documents to be used, in order to draw out meaning and gain understanding. These documents include: Books, Diaries, brochures, newspapers, press releases, survey data, radio and television program scripts and public records. (Corbin and Strauss 2008) Document analysis is efficient as it requires data selection instead of collection. Another advantage is that many documents are easily obtainable through internet or other sources, without the author's permission as they are on a public domain. (Bowen 2009) In order to, meet my goal and find evidence which confirms or supports a given the given research question in the above section, a qualitative research while using other data resources will be conducted. A huge amount of documents explaining the

history of the music industry, and some of the innovations that happened throughout the years are available. However, into suggesting how many documents a researcher needs to gather, Bowen suggests that a wide range of documents is better, but it should also be rather a question of quality than quantity of documents. (Bowen 2009). There are also some issues to bear in mind, the first issue to consider is the issue of bias, in the perspective of the author and the perspective of the researcher. It is important for the researcher to consider the personal biases that the author might have and how the researcher might bring them to the research. (O'Leary 2014). Documents should also be evaluated how comprehensive the data in the given document are. (Bowen 2009) Documents of all types can help me develop an understanding and discover insight of the different innovations that have been subjected in the music industry throughout history. Given the structure of the thesis, that will follow a series of the major innovations and their impact in the music industry, in order to gather the sufficient data, I will rely on a secondary data analysis. Secondary data analysis is a term used for the collection and re-analysis of the previously collected data by other researchers. Different researchers give similar definition to the secondary data analysis, Reason and Bradbury (2001) define it as analysis of data by researchers who were not involved when this collection of data happened, Kiecolt and Nathan (1985) define it as analysis based on data collected by others. The key aspect of such a method is that the collected data is not conducted by the researcher itself. The use of such a method is a necessity as for some research problems, including historical events, secondary data may be the only data available. (Nachmias 1992). Such data will provide me understanding into how different innovations have impacted the music industry throughout the years, given that they are historical data, secondary data analysis makes it the best method of research. However, it is of importance for a researcher to become familiar with the data, therefore exploring deeply into how these data were collected. There are also a few advantages when using a secondary data analysis, firstly being a much more economical way than the use of a primary data collection. The cost of collecting primary data is often costly and unaffordable, therefore making the secondary data analysis it is a better choice. Another major benefit from such a method is the broad availability of data. Main resources on this thesis include data from the International Federation of the Phonographic Industry (IFPI) which

publishes yearly global reports and a large amount of resources. Recording Industry Association of America (RIAA) which focuses on facts, researches and reports on the US music market. MIDIA which is an analysis, data and research company specialized in music, video, media, Telco, sports and brands. Music Business Worldwide which provides news, insights and jobs to the international music industry community. As my objective is to try and define the music industry as an example of creative destruction, yearly reports and selected data from sources as mentioned above, will give me more insight into the destructive force of new innovations. It is true that the growing popularity of the record sales, plummeted the sales of sheet music, and it is obvious that the advent of the internet brought great distress to the sales of CDs, but equally as great is the new market possibilities and business models that emerged from the internet as a new technology. However, this method does not come without disadvantages as often the large pool of data can be overwhelming, and since the researcher is not the one collecting the data or being present when the data was collected, there is no control over what this data contains.

Definitions

To aid the reader in better understanding this thesis, a list of terms have been defined and how they will be used:

- *Creative Destruction*: A term used to describe the power of innovations and the entrepreneurs to enter the market with new ideas which cause disequilibrium to the existing market by disrupting the existing products and processes which in turn lead to the growth of new market and new possibilities to exploit from. (Schumpeter 1942)
- *Innovation*: The process in which an idea or an invention translates into a good or service which in turn creates value that customers are willing to pay for. In *Theory of economic development*, Development is described by Schumpeter as the historical process of structural changes which are driven by innovations, these innovations were divided into five types:
 1. New production processes
 2. New products
 3. New materials or resources
 4. New markets (markets which are not yet presented in a given industry)

5. New forms of Organizations and Industry Structure which include the creation and destruction of a monopoly position.
- *Entrepreneur*: Richard Cantillon was the first that introduced the term “Entrepreneur”, he called the entrepreneur an *undertaker* that does not retreat, but engages into risky business ventures, however Jean Baptist Say, a French economist, gave a more clear definition on the role of entrepreneurship, he said: “The entrepreneur shifts the economic resources from an area of lower productivity into an area of higher productivity”.

These definitions will be explored and broadly used as the thesis progresses and I will try and implement the uses of such definitions in the music industry.

Creative Destruction

Creative destruction is a term coined in the early 1940s by the economist Joseph Schumpeter on his book: *Capitalism, Socialism and Democracy*. He describes it as “the process of industrial mutation that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one”. New technologies emerge, change and replace the old ways of doing things, therefore bringing prosperity to economies that adapt and develop these new technologies. Schumpeter derived some of his ideas from Marx, although Marx believed capitalists crisis and destruction would lead to its end, Schumpeter believed creative destruction to be necessary to enable new markets and growth. Schumpeterian

equilibrium is paradoxically the never-ending disruption of equilibrium, he also called this transition of disequilibrium through innovation, *Dynamic Disequilibrium*. (Schumpeter 1942). Being an economist of the Austrian school, they argue that the growth of an economy is driven by long wave cycles brought by big step changes in technology. The Austrians Economics view the market and competition as dynamic and in flux. Their followers believe in free market capitalism and that the market can find its own path without the intervention of the government. The Austrian Economics also argue that the market never reaches equilibrium due to the role of the entrepreneurial innovation. (Smith et al 2001)

Schumpeter's view was that the new innovations by the entrepreneurs are the main force on sustaining a long-term economic growth while destroying the value of already established companies. He believed that innovation and entrepreneurship derived from internal forces, which can be: the development of a new product, new method of production or new processes within the corporeal body, and external forces which include: new markets, new supply sources and new forms of organizations. (Schumpeter 1934). These new technologies of course create disequilibrium by constantly reshaping the market processes and creating new profit possibilities and opportunities. Schumpeter emphasizes innovation and sees the entrepreneur as a key player in the market process. While initially suggesting that innovation emerges in new and small companies (Schumpeter 1934) he later argues that the monopoly role is frequently enjoyed by big and already established companies that also play the role of innovative leaders. (Schumpeter 1942). Given by the term Creative Destruction it results inevitably in winners and losers, but economists have seen it as a necessary process of economic development. Studies by David, Haltiwanger and Schuh (1996) concluded that at any point given on time, 10 percent of jobs in general did not exist a year before or will not exist the following year. Meaning that, every year, 10 percent of jobs are destroyed and about the same amount is created in the same year. Ricardo Caballero also writes that creative destruction, over the long run, accounts for 50 percent of productivity growth¹. According to Schumpeter, under capitalism, the competition is not essentially about decisions on price and quality of a product but rather in the discovery of

¹ <https://economics.mit.edu/files/1785>

new technologies and the adaptation of such innovations. Schumpeter explained the role of innovation in economic dynamism, but without a clarity in a variety of such innovations. On the other hand, Christensen, a longtime professor at Harvard business school, gave a distinction in two important forms of creative destruction. He gave a clear definition between two main innovations called *Disruptive Innovation* and *Creative Innovation* in his book "The Innovators Dilemma" 1997.

Disruptive Innovations replace the existing products or technologies while improving performance in a different set of criteria. In Contrast to *Sustaining innovations* which improve the product performance in accordance to the existing criteria. (Christensen 1997). Although the term Disruption is widely used now, most often is also misunderstood. According to Christensen, Raynor and McDonald 2015, Disruption occur when new companies called entrants, enter the market by focusing on segments that are often overlooked by already established incumbent firms. While incumbent firms focus on their most profitable customers (high-end of the market) providing them with products and services to meet their demands, they often ignore the need of other customers, which are the mainstream and the low-end customers. Therefore, entrants focus on low-end (less profitable) customers, improve the performance of their offerings and work their way up to more profitable customer market, challenging the dominance of the incumbent firms. (Christensen, Raynor and McDonald 2015)

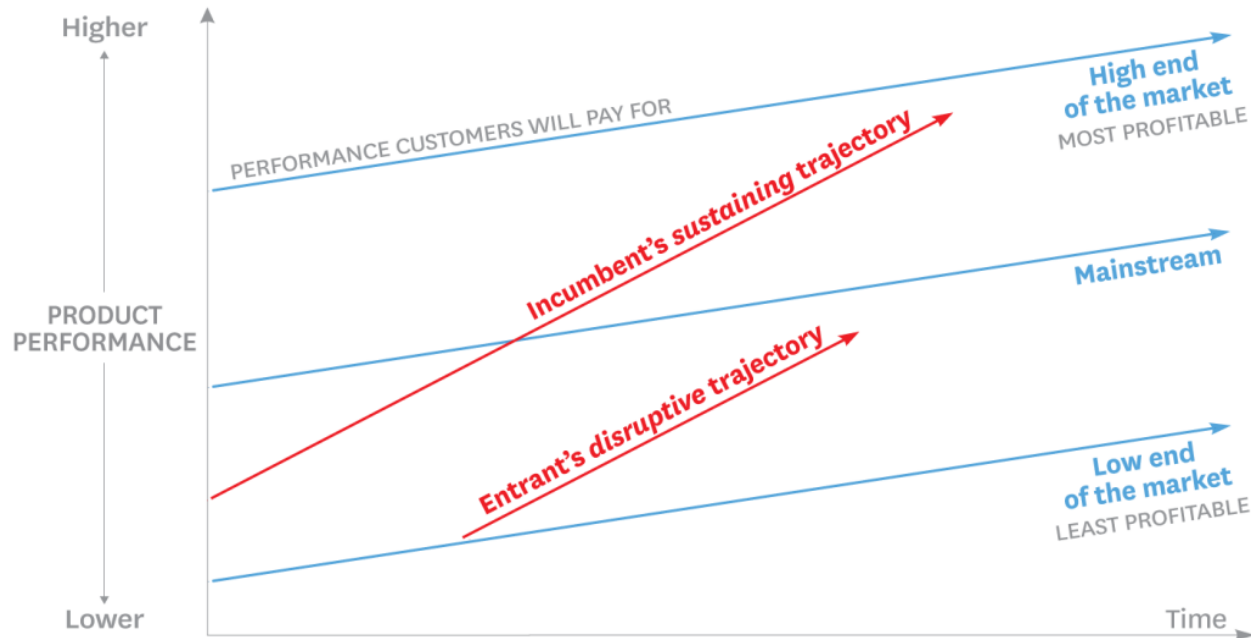


Figure 1 Source: Christensen, Raynor and McDonald 2015

Creative Destruction and Disruptive innovation

Creative Destruction is the overall process of change where old products, companies and organizational forms are taken over by the new. Disruptive Innovation is initial technology-backed innovation, entering at the low-end markets and working its way up to challenge the already established. Both are processes which consider innovation to be key, recognizing innovation as a necessary force to sustain the economic growth and the importance of the investor and the entrepreneur. But what are these innovations in the music industry? And how do they impact in the sustainability of the music market? Is the value of the already established companies in the music industry destroyed because of these innovations?

In the following section's data has been given by analyzing what the innovations are and they impact the industry by going as a back as when the music industry first started as a commercial business with the publishing industry.

The entrepreneurial spirit through technological changes have entered the market with new technology and ideas and have indeed reshaped the market and the way music is disseminated, changed the way music was consumed and created new profit possibilities and opportunities,

and some of these new innovations have led to the rise and fall of several companies, but also not necessarily destroyed some of the already established companies as Schumpeter described, as is the case of the major record labels established in the first half of the 20th century, marking the evolution of vertically integrated companies combined to form oligopolies, some of which are still maintaining the oligopoly position owning nearly 70 percent of the global recorded music share as of 2018. (Mulligan 2019, IFPI2019, Garnham 1990).

Creative Destruction takes place in our everyday lives, our personal, family and professional spaces. It takes place in the open market and has been and continues to be present in every economic field, with new technologies impacting big and small companies. Uber Challenging the taxi companies, Airbnb challenging hotel chains, Travel Agencies offices being replaced by online travel sites, Kodak declaring bankruptcy in 2012 due to its inability to view digital photography as a disruptive technology and many more. But I will focus in the Music Industry as an example of Creative Destruction with many new technologies taking over the old. By following the given method I will go through the different technological changes the music industry has experienced, going as back as the late 1800s and following a timeline of different events where new technology takes over and makes the old technology obsolete in the music industry. I will write in more details how the phonograph challenged the printed sheet music, how radio broadcasting impacted the record industry and all the way until the advent of Internet which brought fundamental changes in the Music Industry. I will focus on literature regarding the new technologies and to see if they fit the criteria as creative destruction technologies by also mentioning their impact on the music industry, their impact on the way the music is being consumed throughout the years and the way the way the music companies have adapted to these changes.

The music industry throughout the years can be separated into four main stages of its development:

1. Music Publishing: Where it took the first form as an industry with the main dissemination of the music through the publishing of the sheet music.
2. The Record Companies: With the first technological developments in the music market, making possible the recording and reproducing the music, which placed these recording companies in the center of the music industry.
3. The advent of Radio Broadcasting and its impact on the record industry
4. The rise of internet and peer-to-peer which brought the expansion of a series of Revenue streams, streaming audio, ad-revenues thus changing the way music has been traditionally consumed and experienced.

The Main Stages of The Music Industry

The Publishing Music industry

The Publishing Music Industry began as an industry comprised of publishers contracting composers to produce songs which then would be mainly performed at concerts, opera houses, etc. The role of a music publisher is seen as an intermediary between the creator of the music on one side and the market on the other. The role of the publisher is to guide the musical work through different stages of production from sheet music to performance, recording and distribution. For years, the business of music publishing has been the acquisition of the copyright of musical works by composers, songwriters and lyricists, the organizing of said works and printing, publication, and sale of the printed sheet music. (Leurdijk 2012)

The first copyright act dates back to the Statue of Anne in 1710. Statue of Anne is considered the world's first copyright legislation and over the years, it expanded to include paintings, drawings and was applied to musical works only in 1777, ruled by the court case of Bach v Longman that copyright also applies to printed music. While in London there has been high quality printed musical works, since the 1730s, in Europe, music publishing industry was not

developed until the late 1770s. With the rise of the concert business during the time, demand for printed music increased, thus publishing houses began emerging. The invention of lithography by Alois Senefelder in 1796 allowed for cheap and unlimited reproductions of printed sheet music, thus leading to mass production of sheet music in many publishing houses in Europe. (Tschmuck 2017). Many years after that the legal business of music publishing was flourishing, but so was piracy due to the poor drafting of the law. The first international Copyright act of 1838, later expanding to include music in 1842, protected the sole right of reproduction of musical works, but was unable to provide penalties for the misappropriation of copyright. Misuses of copyright had to be pursued in the civil court, which inevitably failed due to the inability of finding the pirates. It was only until 1906 Musical Copyright Act, that publishers were able to conquer large-scale piracy. Later on, a number of multilateral meetings happened which lead to the Berne Convention of 1886. The Berne Convention deals with the protection of the works and the rights of their authors, providing reciprocal recognition of copyright among countries. Up until 1993 there were roughly 100 signatories to the Berne Conventions with the US signing as late as 1988. (Garofalo 1999, WIPO, Wikström 2013)

By the end of the nineteenth century with the industrial revolution and the growth of the middle class, the sales of printed sheet music were booming in the US. More than 25.000 new pianos were sold each year and over 500.000 youngsters were studying piano, and this required an increase in the market size of publishers as the demand for sheet music was increasing rapidly. One of the most famous songs: "*After the Ball*" by Charles K. Harris, sold around 2 million in 1892 in America. At the same period, a number of U.S publishing houses coming to dominate the mainstream music market, were converging into 28th street between 5th avenue and Broadway in New York City which it was named *Tin Pan Alley*. With this growing demand song publishers were hiring writers to produce easy to play and catchy songs to reach the broad popular music seeking audience and this seemed like a good path for the music industry of the time. Tin Pan Alley produced only popular songs and was placed in the center of an industry spread all across the US, having a distinctive songwriting style and using good marketing strategies Tin Pan Alley promoted a successful pop mentality never seen before in the history of music in America. (Smith & Telang, 2016, Garofalo 1999).

Up to this point the only way people could consume music was live. One either heard someone play at a performance or would buy printed sheet music to play it themselves. However, new technology would forever transform the music industry and bring it to the way it is today. The invention of the records, inevitably made the sheet music business less important. The records would make music available to everyone. Since not everyone could afford a piano to play at home (or just couldn't play it). To get people to buy printed sheet music, publishers had to drastically lower their prices from 40 cents in 1902 to 10 cents in 1916 (Turow 1999) The invention of the first recording device and the rise of the record companies would be considered as the first wave of creative destruction where the phonograph created many new market possibilities and ways to profit from these markets.

The Rise of Record Companies

The first technological innovation, which would irreversibly bring the demise of the sheet music sales started with the inventor Thomas Edison, while improving the telegraph he had created a device in which he could record sound, store it and then play it back. It had an easy use: to record voice one would simply speak into the horn while turning a cylinder with a hand crank. He patented his idea quickly calling it the "phonograph". This technology had potential for many uses back in the time as recording the voice of your loved ones, audio books for blind people audio letters and also recording music. But the use of it had yet to reach its full potential as the sound quality was poor and it had to be recorded individually. In 1888 Edison improved the phonograph switching to wax cylinders therefore improving the sound quality of the machine. Later on, a new way of making moneys from this machine was found by creating jukeboxes which were coin operated machines. In 1889 Edison and Columbia Phonograph Company began selling music recorded on wax cylinders and thus the recorded music industry was born. (Smith & Telang 2016, Kenney 1999).

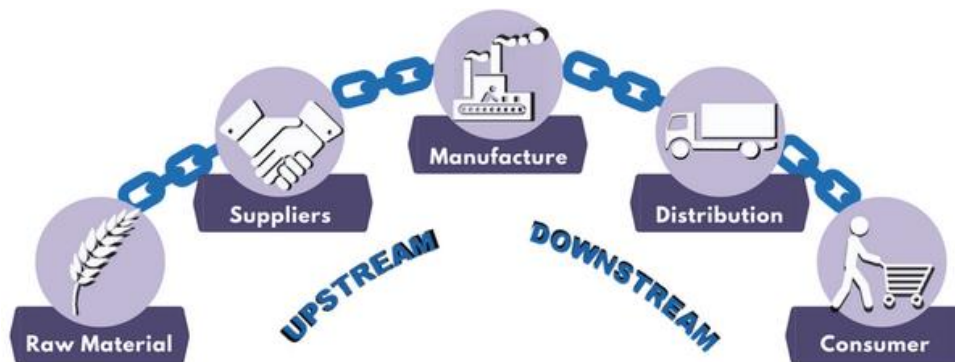
However, in the same year a new device entered the market, another recording device invented by a reputable inventor named Emile Berliner. He also became interested in the

reproduction of sound around 1887 and approached his creating from a different angle. While the other devices were first using metal foil and late wax cylinders Berliner etched the sound in a flat easily copied discs. This device called the “gramophone” had a few important advantages compared to other devices. Firstly, no propelling mechanism was needed, it had a louder reproduction of the sound, it was easy to duplicate the records and the ease on shipment and storage. The ability to make unlimited number of copies of a single master led to a mass-scale production of these copies and thus the artists would derive royalty payments from these sales. (David Sarnoff, Garofaro 1999, Smith and Telang 2016). Similar developments were also happening around the world, the first phonograph company opened in Paris in 1894 by Charles and Emile Pathé. In 1897 William Barry Owen resigned as head of Berliner’s National Gramophone Company to establish the Gramophone Company in London to exploit the Berliner European gramophone patents. Another company was established in Germany by Joseph Berliner called “Deutsche Gramophon”

The gramophone had a clear advantage comparing to Columbia and Edison and they ensued a legal battle with Berliner arguing that he had infringed their patents with the gramophone. In 1901 according to a judge it was ruled out the both companies, Columbia and Berliner’s company would be allowed to make records. This was considered a victory for Berliner and later the Victor Talking Machine was created. The way gramophone entered the market and took over while leaving the phonograph behind is what Christensen would call a *Sustaining Innovation*, as improvements in technology proved to respond better to the customer and market demands. The clear advantages that the Gramophone had to the Phonograph were better suited and fitted the customer demands, therefore the Phonograph lost ground while the Gramophone took over.

Victor and Columbia positioned themselves in the middle of the market therefore gaining control and maximum profit. On one side, they began hiring artists to record their music, giving them upstream power and on the other side, they had control of manufacturing, distribution and promotion giving them downstream power (see below graph). This proved to be a very successful strategy and royalty became a big money maker within the music industry and Victor

Talking Machine alone reached 18.6 million in 1915. (Considering the rate of inflation, it would be equivalent in purchasing power to \$460 million in 2020) (Smith & Telang 2016)



Source: *Smith and Telang 2016*

Here it is shown what the upstream and downstream parts of a supply chain are. With the raw material and suppliers being the Artist. The manufacturer being the Record Label. And the Downstream part being Distribution, Promotion and the end of the supply chain, the consumer

By this time it was clear the records were getting the upper hand in the music market and were becoming a powerful cultural force. US in 1909, manufactured more than 27 million discs and cylinders translating to \$12 million. In Germany, in 1907, record production went to 18 million. British and French markets also counted 10 million copies each. In Russia the sales were counted at 20 million units in 1915. At that time only a few record companies were controlling the market in Europe and the US. Lindström and Pylophon in Germany, Pathé Frères in France and Gramophone Company and Columbia Graphophone in England. Up until the 1913 the US market was dominated by Edison Phonograph Co (Producing mainly cylinders), Columbia Phonograph Co (producing cylinders and records) and Victor Talking machine producing only records which would later become the standard format. In only six years the number of record companies would increase up to 166 reaching a high number in revenues as much as \$106 million. (Tschmuck 2012,2017, Gronow 1998).

However, music publishers did have a problem with the increasing of the recording industry, they feared that the sheet music sales were being replaced by recordings. So, they lobbied for a revision of the copyright. John Philip Sousa was one of the most popular composers to speak up

about what he saw as a threat to the music industry at the time. In his essay “The Menace of Mechanical Music” in 1909 he wrote that the phonograph and the recordings were becoming a substitute for the human skill, intelligence and soul. He predicted that the recording would bring the demise of music. Paradoxically The Columbia Phonograph Company helped him and his band to become famous through some recording that were made in the early days of the phonograph. However, Sousa together with Victor Herbert which were backed by the large publishing houses on 1909 campaign for the revision of the copyright, and the copyright act of 1909 granted copyright protection for the original published works. (Tschmuck 2017, uslegal.com, Ross 2015)

Then the US copyright of 1909 set out a fee of 2 cents to be payed-out to the publishers for each record sold, then the American Society of Composers, Authors and Publishers were created, in order to collect moneys for the use of the artistic works of its members. (Tschmuck 2012)

Because the US copyright act of 1909 used “Mechanical Reproduction” these fees were then known as mechanicals. (Garofalo 1999). This followed in the UK also where the Mechanical Copyright Protection Society was created in order to collect moneys from the mechanical reproduction of music, which it later merged with Performing rights Society (PRS). To recover their sources of revenue, composers and songwriters, backed by publishers, organized themselves in these professional associations called performing rights associations. France had formed SACEM (Société des Auteurs, Compositeurs et Éditeurs) in 1850. In Germany, GEMA was founded in 1933 (Gesellschaft für Musikalische Aufführungs). This new copyright legislation led to a new value-added network, which it interlocked the economic interest of the three main sectors of the music industry: The Record industry, The Publishing industry and the Live music industry, thus creating the modern music industry. (Tschmuck 2017). The next section explores the radio as a new innovation, which would again challenge the existing music industry and can be considered as another wave of creative destruction.

Radio Broadcasting

The 1920s would mark an important decade in the music industry, a decade in which it would be faced with another industry, critical to its existence for the decades to come. The idea of transmitting music through airwaves proved to be a revolutionary idea which, would inevitably bring disruption to the music industry. As Schumpeter predicts, new business models emerged to take advantage of this technological revolution, however, if the radio broadcasting is as destructive as the previous innovations or even more destructive to the existing industries, I will try to go through different given literature to try and find the destructive effects of radio broadcasting. The first commercial radio to enter the market in 1920 is generally believed to be KDK in the US. The number of Radio stations grew tremendously in the upcoming years going over 500 in 1923 and by 1926 it was claimed that roughly 5 million households had radios. (Liebowitz 2004). Record companies at the times, of course were worried that this might discourage the revenues (as they usually are in times of innovation) as they feared that people would listen to the radio instead of buying disks. The Victor Talking Machine Company, fearful about the future of the business merged with Radio Corporation of America (the worlds biggest producer of radio sets at the time). The Columbia Phonograph Company also worried about that the business was going down, merged with United Independent Broadcasters and they would later change the name of Columbia Phonograph Broadcasting System. Suffering from huge financial losses, the network was then bought by William S. Paley, whose father owned one of the network's principal advertisers. On January 1929 Columbia Broadcasting System aired. (Turow 1999, Erickson 2017). Radio stations did generate positive value to listeners as they were willing to listen to several hours every day even with advertising in between. Radio grew to become a major industry nevertheless, with a great influence on the culture as well. (Liebowitz 2004). The Record industry reached its peak in 1921 with an historic revenue of \$106 million (nearly \$1.5 billion today considering inflation). However, the US recording market was to lose 44.3 percent in the next few years with the main reasons being the overproduction, the hesitance to accept new music styles at the time such as Jazz, Blues etc. and of course the emergence of the radio. (Tschmuck 2017). The music market continued to decline and the drop in record sales after 1929 was far more precipitous with records dropping by more than 90

percent from 1929 to 1933, the years 1929-1939 were considered the worst economic downturn in the history of the industrialized world, this of course affected the music industry as well and the sales plummeted immensely, falling from \$150 million at their peak to as down as \$6 million in 1933, a decline of 92%. The sales of the sheet music also plummeted and to never recover their importance. The record companies were in deep financial problems, in the UK the Gramophone Co and Columbia Graphophone we forced to merge together, thus creating Electrical and Musical Industries (EMI) in 1931. By the end of 1930s the recorded music in the US record market was in control of big broadcasting companies such as CBS and RCA. Decca Records was the only record company that was not acquired by radio broadcasting companies. (Tschmuck 2012,2017). Although most of the decline was blamed on The Depression, Liebowitz 2004 gives a more additional insight into the impact of radio broadcasting to the decline of the record sales. He shows that radio continued to grow rapidly through the depression, but the records didn't have the slightest increase until the 1938 and even then, could not reach the levels it had in the early 1920s. From 1921 and on, Radio Broadcasting had a constant growth for two decades, while conversely, the record industry had a constant decline during the same period. Liebowitz argues that this correlation is not just happenstance and that the radio did have an impact on the decline of the record sales. Liebowitz also mentions a possible "fallacy of composition", although the radio airplay of particular songs does serve as an exposure effect, therefore increasing sales of those particular songs, the airplay of songs generally does not imply the same exposure effect in the overall sales of the recordings. He does document that

the dissemination of radio displaces the sales of recorded music.

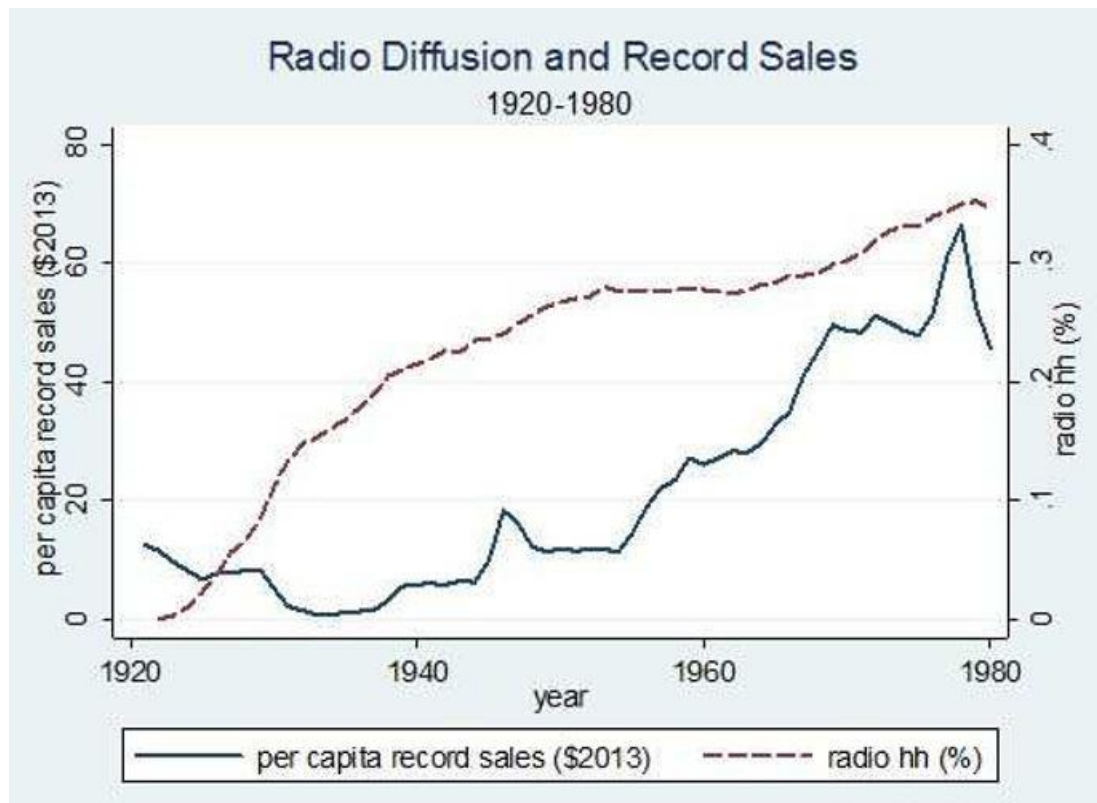


Figure 2 Aguiar and Waldfogel 2015

Although the common belief was that radio broadcasting would bring exposure to the pre-recorded music and that it would enhance the record sales, but both Radio Broadcasting and Prerecorded music were music based and were listened to at home, Radio Broadcasting had some advantages in contrast to pre-recorded music. Often the acoustic quality of radio was better than that of the early recordings and sound recordings between the 1920s and 1930s allowed only four minutes of play before another record would have to be switched, making it somewhat inconvenient to listen to music in long stretches, which it wasn't on the radio. Another argument Liebowitz explains is the fact that Americans at the time listened to about 3 hours of music on the radio on a daily basis, while music listeners spent around 45 minutes listening to pre-recorded music. Therefore, without the availability of the radio more people would have consumed the closest substitute, the pre-recorded music. More time spent on

listening to pre-recorded music the more of it a consumer would buy. Therefore, is easy to imagine that radio broadcast could lead to a decline of record sales. (Liebowitz 2004). Data on the impact of radio to the recorded music sales is hard to obtain as there are not many researches conducted, by looking at Liebowitz 2004 research, and the figure 2 given above, the continuous increase of radio use and the decline of the record sales, and give the fact that both radio and recorded sales had music as its main product, radio can be seen as an innovation that brought distress to the record sales.

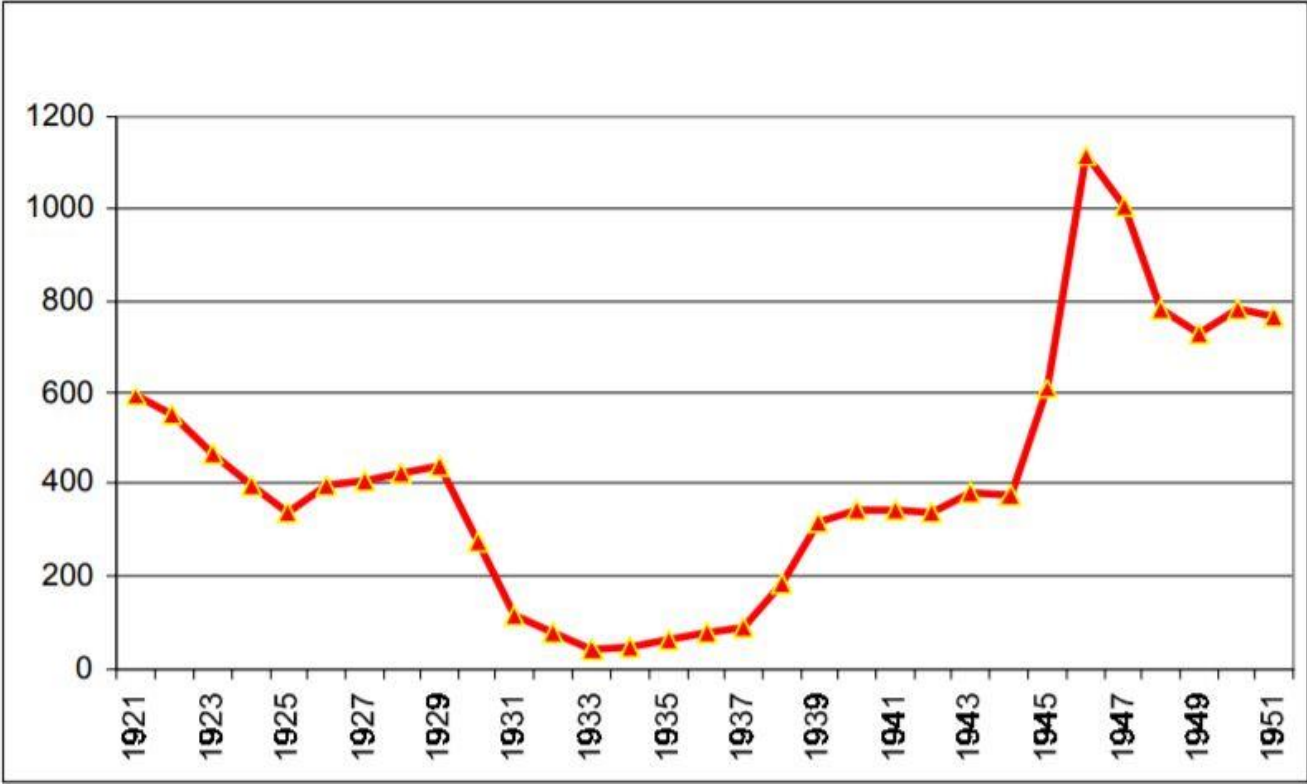


Figure 3 Record Sales in 1983 Dollars (Liebowitz 2004)

With the war restrictions being lifted, the record industry was breathing again, a number of advances in audio technology in the 1940s the stage was set for the emergence of rock and roll and the impact it would have in the music industry. As figure 3 above show, the decline of the record sales hit the bottom in 1933 and continued to increase slowly, but still could not reach

the levels it had in the early 1920s up until the year 1945. One of the most noticeable record companies, *Decca Records*, started late compared to other companies, but made up for the lost time by becoming an important player in the industry. Firstly formed in England in 1929 then later buying Melotone and Edison Bell Record companies, it quickly launched a branch in USA by 1934 holding a good position in the record companies market thanks to a number of popular artists being signed in the 30s and 40s such as: Louis Armstrong, Ted Lewis, Guy Lombardo, Bob Crosby etc. (Decca Records). This was a time where numerous inventions would bring many technological advantages to the way music was recorded and reproduced. Firstly, Columbia and RCA introduced records that had the ability to play at a lower speed (33 $\frac{1}{3}$ and 45 rpm leaving the 78rpm behind). These new types of records permitted for longer recordings. The sound quality was also enhanced by the introduction of stereophonic high-fidelity record players. And also vinyl, being a much stronger material than the previous highly breakable shellac disks. The ability to play long-records allowed musicians to experiment with ideas that were longer than the traditional three-minute songs. Transistors also replaced the vacuum tubes used in the radios and allowed for light weight, small battery radios that could be carried everywhere. The development of tape records also gave musicians more freedom in the way they created and edited their songs, changing the way music was created. (Turow 1999, Garofalo 1999).

At the time, the music industry became a highly concentrated industry and was focused on the hands of a powerful few, between 1946-1952 the six biggest companies produced 158 out of 163 of the "gold-records" recordings and Decca and RCA/Victor presented 67% of Billboard Top Pop Records. (Smith and Telang 2016)

Then the Rock 'n' Roll revolution followed, but was firstly seen with inferiority by the side of the majors and was even attacked perceiving it as immoral. But it would inevitably change the landscape of the popular music. The revenues of the music industry in the US in the rock and roll years (perhaps coincidentally) nearly tripled and the revenues climbed from \$213 million in 1954 to \$603 million in 1959. During these years rock and roll went from 15.7% of the pop market in 1955 to 42.7% in 1959. Record companies also had a tremendous increase going from 11 in 1949 to almost 200 in 1954 and with the independent record companies going from 21.6% share of the pop market in 1955 to 66.3% in 1959. (Tschmuck 2017, Garofalo 1999). Rock 'n'

Roll was obviously an economic threat to the already established record companies as they were losing their oligopoly power in the music market, forty-two of the small independent labels, had records part of the charts by 1962. This proved costly by the side of the labels as they lost control on the second half of the 1950s with 101 records coming from the independent labels out of 147 making it in the top ten billboards. However, the introduction of music cassette and the lack of innovation put the recorded sales in a decline. Major companies were forced to lower the cost by reducing their personnel and cut costs. However, the CD, invented by a number of Japanese firms entered the market in 1983. Having a digital approach to the implementation of the sound, never wearing out and arguably a better sound quality than that of the vinyl, the CD proved to revive the record market and slowly replaced the vinyl. The CD is a clear example, how new technology replaces the old technology (the vinyl) by offering better standards than the old technology. However, the digital nature of the CD made it easier to create copies of albums on home computers without degrading the sound and this led to a surge of piracy. Anon 1983 gives insight that the audio disk peaked in 1978, however, sales of singles and LPS dropped by 13 and 27 percent respectively in Britain and the pre-recorded cassette increased by 75 percent. Yet, the increase of pre-recorded cassettes could not make up for the loss of almost 15 million singles and 32 million LPS and the British record companies lost around 1200 jobs on the first half of the 1980s (Anon 1984, Turow 1999, Garofalo 1999, Tschmuck 2017).

Not long after the Majors were able to get back into maintaining the control as they were better prepared and equipped to survive in the industry and thus by mid 1970s re-establishing themselves as a dominant force in the market and also owning many of the small labels. In 1995 the six majors controlled the majority of the recording market globally, almost 85 percent being owned by: Sony Music Entertainment, EMI, BMG Entertainment, Warner Music Group, Universal Music Group and Polygram, and in 1997 the CD sales reached a number of 5 billion units worldwide. (Smith and Telang 2016, Tschmuck 2017). The following section explains the internet as the most recent innovation in information and communication technology, which marks yet another wave of creative destruction where the music industry, especially the recorded industry would face many challenges critical to its survival.

The Advent of Internet, a new Digital Era

Throughout the years the music industry was subjected to new technological developments which would again shape the music industry, the internet would also bring another era of creative destruction which would create disequilibrium in the already established market and challenge the existing products and companies but would also give rise to new business models and opportunities and new ways of profiting from these models. The reaction was a skeptical one by the side of the major labels, as they have usually been on times of innovation, on the fear that it might challenge their bargaining power. Prior to the invention of the internet these technological developments turned out to be sustaining developments. It was mainly the packaging format that was changed and never had a large impact on the way the music was sold and distributed. But with the arrival of the internet, the difference was that it had an impact on two of the main competitive advantages of the major labels: distribution and promotion. This required a rethinking of the business models. (François Moreou 2010).

The advent of the internet in the late 80s combined with the Mpeg-1 Layer three technology, created by Fraunhofer laboratories in 1992 led to the development of peer-to-peer networks. The MP3 technology made possible the compression of digital music files in a smaller format, therefore making these digital files easier and faster to transfer through peer-to-peer networks with programs such as Napster. (The case of NAPSTER). Liebowitz (2004) gives data on the yearly changes from 1995 up to 2002 which was the time where the transition between

physical and digital happened therefore impacting negatively in the CD sales.

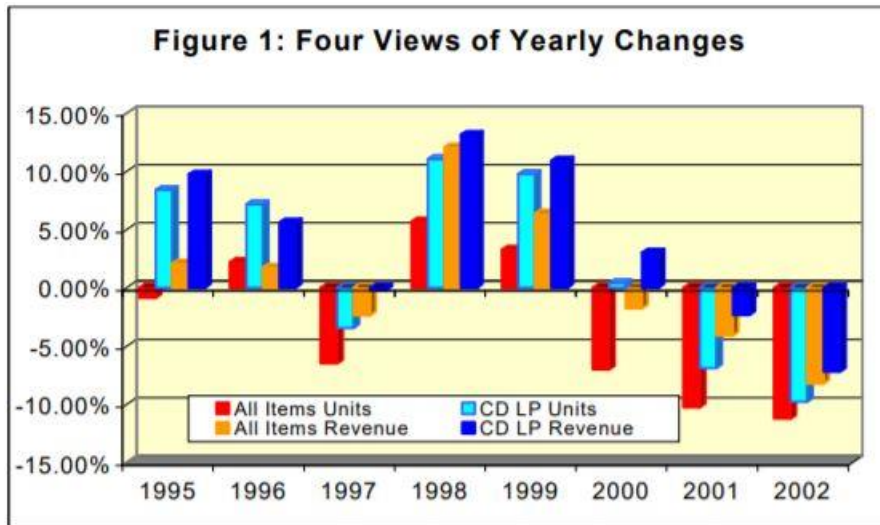


Figure 4 Liebowitz 2004

However, even with the CD revenues falling the least out of total units it is clear that that the impact is negative nevertheless. (Liebowitz 2004).

Internet as an invention coupled with the entrepreneurial spirit gave rise to new innovations that would change the old ways of doing things. As Schumpeter views the entrepreneur as the driving engine of the economic development, they also cause creative destruction via new combinations or innovations. People such as Shawn Fanning (Napster), Steve Jobs (Next) and Daniel EK (Spotify), Bill Kincaid (SoundJam MP), emerged as innovative entrepreneurs and in the early stages of innovation, they were new entrants who later proved to have a great impact on the music industry and the market economy in general. However, the challenge that new the internet and the rise of digital technology posed for the already established firms, was not technological in nature, as the majors being big as they are could invest in online promotion tools and create digital retailers themselves, as the case of Sony offering a service to download music, but the challenge was in the industry's business models changing radically. (Moreau 2010). Moreover, these new innovations did bring disequilibrium to the music market and changed the structure of the music industry, most obvious the Supply Chain and the way the music is disseminated, creating new market possibilities and destroying the old ones, but the value of some of the already established companies or incumbent firms would still not be

destroyed as I will try and explain further in the thesis by also defining who the incumbents and entrants are in the music industry.

Value Chain (Supply Chain) in the Music Industry

Firstly introduced by Michael Porter in his book *The Competitive Advantage: Creating and Sustaining Superior Performance* (1985), referring to a full life cycle of a product or a service, the whole range of activities starting from the creation of a product or service, through different phases of production, delivery and distribution to the final consumer while adding value through each stage. It is to consider an organization as a system made up with subsystems, all of which aim to increase value. The basic economic principle of value chain is competitive advantage, which involves identifying all the parts and stages of the value chain and determining which can be improved or eliminated thus resulting in improved productive capacity or reduced cost. (Michael Porter 1985)

There is a tendency to use “value chain” and “supply chain” as a same notion, but there is a significant difference in the concepts. A supply chain is a simple transfer of commodities in between stakeholders in a chained matter. The value chain is the value added at different stages of the transfer. In different parts of the value chain, different stakeholders add value to the product increasing the value in the end. The main goal is of course to increase and deliver maximum value with the lowest amount of cost possible. A study made by Feller, Shunk and Callarman² pointed out that “the primary difference between supply and value chain is a fundamental shift in focus from the supply base to the costumer. Supply chains focus upstream

² <https://www.bptrends.com/publicationfiles/03-06-ART-ValueChains-SupplyChains-Feller.pdf>

on integrating supplier and producer processes, improving efficiency and reducing waste while the value chains focus downstream on creating value on the customer's perspective".

A strong value chain management team can contribute and help the company to create high value to its products and services therefore having a competitive advantage over its competitors. (Porter 1985).

The same can be shown in the music business as well, as initially the chain starts with the creation of the product in this case music and lyrics by composers, songwriters and lyricists. Then the chain continues with other stakeholders such as recording studio, reproduction/packaging, marketing, distribution, retailing and the end customer.

The main functions of a supply chain are: Product development, Marketing, Operations, distribution, finance and customer service. In cultural products such as music the initial part of the chain is the creation which is combined with other inputs to create a cultural good. In the music industry, music must be firstly created, produced, manufactured, reproduced and distributed to the end consumer so a basic chain of the traditional music industry would be as shown below:

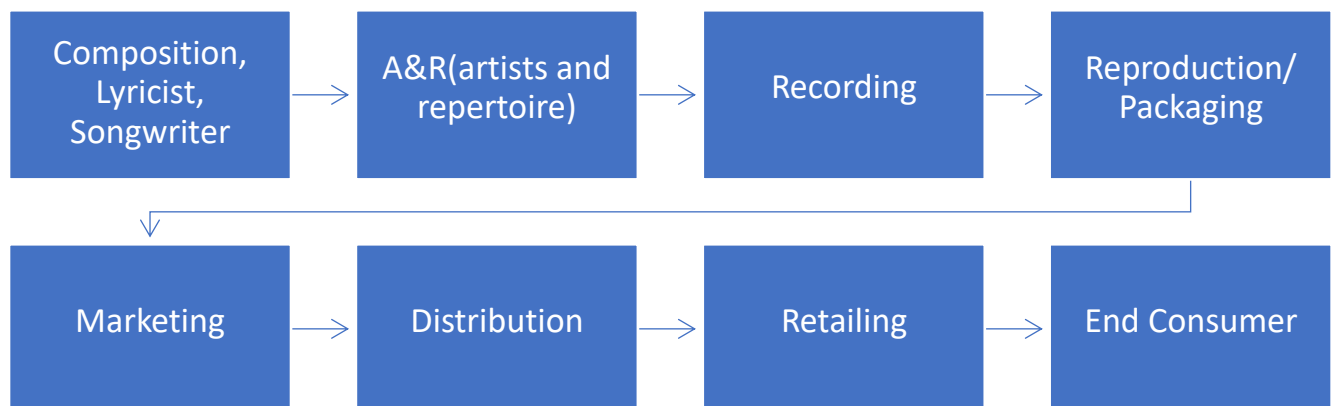


Figure 5 Graham 2006

Incumbents and New Entrants

The music industry is a highly concentrated industry in which by the end of the twentieth century “The Big Five” major recording labels were holding an oligopoly position controlling more than 70 percent of the music industry market. Universal Music Group (subsidiary of French based Vivendi Group), Warner Music Group, Electric and Music industry (EMI), Sony Music (subsidiary of Japanese based Sony Corporation), Bertelsmann Music Group (BMG Entertainment). The Big Five of the major labels would be reduced to the “Big Three” with Sony Music and BMG merging together in 2004 with a 50-50 deal, later acquiring 100 percent of the ownership over BMG, EMI was also bought by Universal in 2012. Yet, nearly 70 percent of the global recorded music market is still in the hands of now “Big Three” major labels, and this proves that even with the emergence and the challenges of the internet as a new technology, the music market is still in the hands of the few. But the new innovations as a destructive force proves to be right again as Sony and BMG parent groups argued that their businesses needed to join forces in order to survive the crisis that the music industry was faced from the emergence of the internet and the illegal music downloading that came with it. Reports showed that Sony and BMG planned to cut down around 3000 jobs once the tie-up would be approved. ³

Incumbents

According to Oxford dictionary an incumbent firm, is a firm which is already established and in position in a market, where the goods produced are homogeneous (products which have essentially the same quality and physical characteristic as similar products from other suppliers). In comparison to new entrants which are new firms that have recently entered a market or an industry sector, incumbent firms have a competitive advantage as they are more experienced, and they might have used a process of vertical integration. (Geoff Riley). The Major labels have been in a process of vertical integration for a long time and continue to do so, they control a number of aspects of the manufacturing and distribution process making them incumbent firms in the music market. They also own and operate these manufacturing facilities such as cassette tapes and CDs, therefore they need not to contract other facilities for production, by cutting these costs, they can exploit economies of scale. Control over such

³ <https://www.dw.com/en/eu-approves-sony-bmg-merger/a-1271129>

technologies proves to be a great entering barrier, therefore making artists and musicians dependent on the distribution controlled by the Big Labels. (Latonero 2003).

Entrants

Prior to the digitization, high transaction and production costs laid out high entry barriers, since the majors have control of the distribution and marketing channels. The artists and musicians are the content providers, which are contracted by the record companies to record their material, therefore the artist is dependent on the technological means of production and distribution (Latonero 2004). The record labels, then, are in control of the distribution and supplier, giving them ownership on the core value of the supply chain, the music content. These entry barriers make it hard for new entrants to succeed in a market dominated by few. In the case of the record labels one can consider the new independent labels to be entrants in the music industry. Some of the entry barriers would conclude:

- Huge Marketing costs, which include six figure dollar sums used by the incumbents to market their music into national and international market
- The complex logistics of an international distribution network that must also be able to cope with changes in demand
- The nature of a Pareto distribution in which 10 percent of the products accounts for the 90 percent of the turnover, this proves to be a high risk, high return definition in which the major labels are prone to taking these risks. (Graham 2006)

The music industry is a complex industry, comprised of many different stakeholders. With the major labels being in a vertical integration process, the threat of new entrants would not be the independent labels, but as Schumpeter explains the types of innovation, the threat would be the innovation by external forces which include: new markets, new supply sources and new forms of organizations. Such external forces in the music industry would be The Internet which inevitably reshaped the economic structure and created new profit possibilities. Therefore, one would consider entrants also the new companies such as Napster, which challenged the traditional way of distributing music.

Nevertheless, the digitization of the market has proven to challenge the bargaining power of the majors, with the decreasing of the transaction and production costs, which lowers the entry barriers created by incumbent firms, thus creating an environment where artists have more control over their music and they can skip the different parts of the supply chain by offering their music directly to the consumers. (Graham 2006)



Figure 6 Gary Graham 2006

The Oligopoly Position of the Incumbents
 With the failure of the majors to establish their own online sale services such as (Pressplay, MusicNet) in the early days of digitization, the common belief was that the change in the supply chain of the music industry would threaten the dominance of the majors, giving the consumer and the artist a more powerful role in the production and distribution of music (Graham 2006) the contrary is shown in the data given by IFPI throughout the years.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Universal	21.7	22.9	23.5	25.4	23.5	25.5	25.6	25.7	28.8	28.6	27.7
Sony	17.1	14.6	14.7	13.8	13.2	21.5	19.0	21.2	20.1	21.2	23.1
BMG	10.0	8.7	8.1	9.6	11.9						
EMI	12.0	13.6	13.3	12.2	13.4	13.4	13.6	12.8	10.9	9.6	10.0
Warner	11.4	12.1	12.0	11.8	12.7	11.3	12.8	13.8	14.4	14.9	15.3
Total Majors	72.2	71.9	75.6	72.8	74.7	71.7	71.0	72.5	74.2	74.3	76.1
Indies	27.8	28.1	24.4	27.2	25.3	28.3	29.0	27.5	25.8	25.7	23.9
CR4	62.2	63.2	67.5	63.2	62.8	71.7	71.0	72.5	74.2	74.3	76.1

Figure 7 François Moreau 2013

Conversely enough the dominant position of the labels remains the same and has even increased during a period of ten years going from 72.2 percent in 1999 to 76.1 percent in 2009

as it is shown in the figure above. Even with other stakeholders taking control over distribution of online music such as (iTunes, Spotify, Deezer etc.) the majors managed to maintain their dominant position through their vast catalogue that they possess, giving them a strong bargaining power over the digital retailers.

The internet as the most prominent example of creative destruction displaced older markets and turned the entire entertainment industry upside down, the decline of physical sales and the music chain stores closing down going from roughly 9500 in 1991 to about 2000 record stores in 2006 in the United States. (Noguchi 2006) Even with small business suffering the destruction of the internet as a new technology, equally as great is the evolutionary process of creating many new businesses and new market structures, rewarding innovations and the entrepreneurial spirit as Schumpeter noted. Just as the transition from cassette tapes to CDs was seen with skepticism by the music industry and the consumers, but would eventually bring billions of revenues to the industry, Napster, as an innovation (even though failing to develop as a legal business model) would also reveal the potential for digital distribution and lead to countless of innovative startups which would over time prove to be successful. New business and market opportunities emerge to leave the old ways of doing things behind as it happens in the process of Creative Destruction, and bring prosperity to companies that adapt to these technological changes as Schumpeter pointed out. The next section goes into more details what the new business models that emerged from the internet as an innovation and how they operate in the music market.

New Business Models emerging from the Digitization:

Piracy as a business model

Even though illegal, it is important to see piracy as a business model and how it operates. Music labels have suffered a great loss since music is now available in the internet due to digitization

of the music files and everyone owning a personal computer with internet access, may download music for free through peer-to-peer networks. Even though this process is illegal the tremendous numbers of available platforms and the transactions on them makes it very hard and almost impossible for the owners of these musical works to enforce copyrights. But piracy is not a new thing with the digitization era and has been part of the music industry even before the advent of internet, such as the example of physical music products like CDs (using a CD burner to burn copies of music onto writable CDs), EMI and Sony BMG tried to fight this way of pirating creating special CDs which they couldn't be played in the PC and therefore couldn't be burnt and copied, but they also couldn't be played in car CD players and other various players so it came out to be an expensive failure and discontinued (the music network). Also other products like the Audio Cassettes were a subject of piracy, and the attempts to fight the piracy back were not effective, as in the case of the British Phonographic Industry (BPI) in which they use the slogan "home taping is killing music" back in the 1920s as an anti-copyright infringement propaganda. However the massive cost of producing, transporting and warehousing of these physical products maintained the piracy in a rather small scale (Sudler 2013) but the arrival of internet made available for these digital to be online and be copied to an unlimited amount of times with no loss of quality and no extra cost (Moreau 2013). According to IFPI Digital music report 2010, the global recorded music sales declined from 2004-2009 by around 30%. (IFPI 2010). Many different authors agree that piracy affects recorded music sales strongly, therefore declining the revenues (Liebowitz 2016). Also a study conducted in 2017 in Germany (the world's third largest music market) showed that "with the increase of piracy, the impact of concert demand on record demand decreases" (Papies and van Heerde 2017). This is mostly due to the fact that, prior to the digitization, consumers would buy a record after having a positive concert experience. After the digitization, with the emerge of file-sharing, they would just be satisfied with downloading it on the peer-to-peer networks for free. (Papies and van Heerde 2017).

Mentioning piracy and copyright infringement as the main reasons for the market declining the International Federation of Phonographic Industries (IFPI) reported shift of record sales as shown below: (Tschmuck 2010)

Canada	-9.6 %
Japan	-9.4 %
Germany	-9.2 %
United States	-4.5 %
Italy	-8.6 %
France	+10 %
Great Britain	+5 %

This new model of online piracy by using P2P file sharing network shook the music industry of course and one of the most prominent of the sites was Napster created on 1999. Napster served as a search engine containing a database with thousands of songs in which users could search music of their choosing. Since the music was not property of Napster, but rather of consumers themselves the risk of copyright infringement was significantly reduced (El Gamal 2012).

Considered one of the fastest growing businesses in history, reaching an immense number of 80 million users in less than two years Napster brought to the music industry a huge distress. One could simply open the app, search for a song, click download and would have the file in his/her computer in a matter of minutes (considering the broadband connection speed).

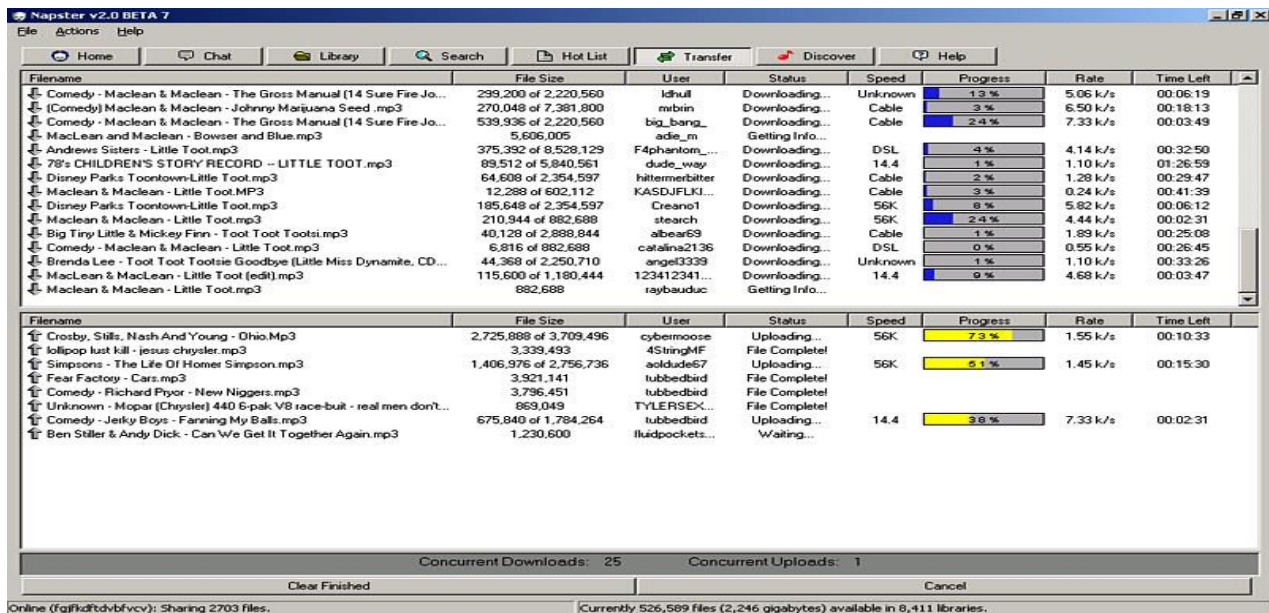


Figure 8 Tommy Ferraz

This tremendous success of NAPSTER became a valuable source of market insight which was ignored by most industry key players. Tons of college students, which were also the music industry's best customers embraced Napster and other P2P networks causing the music industry a loss of 4.2 Billion dollars each year to piracy (Barnes 2005). Pirate consumers were using Napster and other P2P networks not only because it was free, but it also offered a range of other features such as: The ease of use, wide selection of music tracks, convenience, high quality sound and it also allowed people obtain tracks that they liked without having to buy an entire album as the general conception at the time was that the creative quality of the albums was decreasing and many argued that an album contained only a few good songs and most of it was "low-quality have to buy" songs. (Choi & Perez 2007)

The music industry tried to fight piracy firstly by trying to file lawsuits against the supporters of piracy, and it didn't take long until the major labels of the time EMI, Universal, BMG, Sony and Time Warner music represented by *The Recording Industry Association of America* (RIAA), filed a suit against Napster, blaming it that it was affecting on their CD sales as Napster had become

a website where copyright content was being pirated. I did not last long until Napster lost the fight and declared bankruptcy. (McCourt and Burkart)

But shutting NAPSTER down didn't bring the end of piracy, other P2P networks followed and even more desktop clients for each, others continued the legacy of Napster, despite knowing the dangers, P2P networks such as LimeWire, Gnutella, Morpheus, BearShare and many more proceeded as a mythological hydra head, you take one down and many more take its place.

The second approach that the music industry took against fighting piracy was with the introduction of Digital Rights Management systems, and it was in the early 2000s when Steve Jobs the founder of Apple (which had just created the iPod at the time and sold millions around the world) approached the major labels with the idea of iTunes. He argued that people always bought the music, but Apple was offering it in a digital way (Steve Jobs), firstly only to Apple Mac users and later to all personal computers. Apple offered the ability to download tracks online while still protecting them from unauthorized sharing via internet through *Digital Rights Management (DRM)* systems. (Wagner et al 2013)

Digital Rights Management (DRM) is a term describing any technology preventing unauthorized copying and the use of digital content in unintended ways by the creator or provider, also turning music files into an excludable good (Moreau) (*a good or service is called excludable when it prevents people-consumers from consuming a good or service unless they have payed for it*)

Universal and Time Warner were the first to agree to this deal with Apple and the other majors followed. They agreed on a price of 0.99 Cents per download per song, and this brought to an end of music bundling with CDs. So, consumers instead of buying a full album just to hear a few tracks, now they could choose which tracks they wanted to hear and download them for only 0.99 Cents. (El Gamal 2012)

This is what economic theory would call complementary good, Apple uses a music store to bring music fans into this store and to be able to sell more of their own product. And maybe Apple would not have launched iTunes if the iPod wasn't such a huge success.

The DRM approach had some effective success, however this came with its downsides, of course, the implementation of these systems was costly, inconvenient locks discouraged buyers into buying legal copies and the pirates found a way to bypass these DRM locks. (Sudler 2013)
The music industry gave up on this approach of fighting the piracy by the end of 2007. (IFPI 2008)

The third attempt of the industry to fighting the piracy was closely related to a theory proposed In 2002 by Shuman Ghosemajumder. He proposed a theory known as “Open Music Model”, in which he argued that the only way to combat piracy in the long-term would be a service free of Digital Rights Management (DRM) and with a subscription-based file sharing.

Spotify was founded in April 2006 by Daniel EK and it closely resembled the “Open Music Model” meaning much of the company’s revenues came from subscription-based charges.
Another attempt is a system known “notice and takedown” implemented in several countries. In this system the rights owners discover where illegal music has been used and then notify the host by warning them to remove the content. In 2016, in a total of 1.6 million streams and videos reviewed, half a million of illegal files were removed (IFPI 2017). Website blocking is also proven to be effective in the fight against piracy, from 2012-2014 since a vigorous number of websites were blocked, especially in the UK, a decline of 45% of visitors to BitTorrent sites was reported in the UK (IFPI 2014)

Below is how a Piracy Business Model would function:

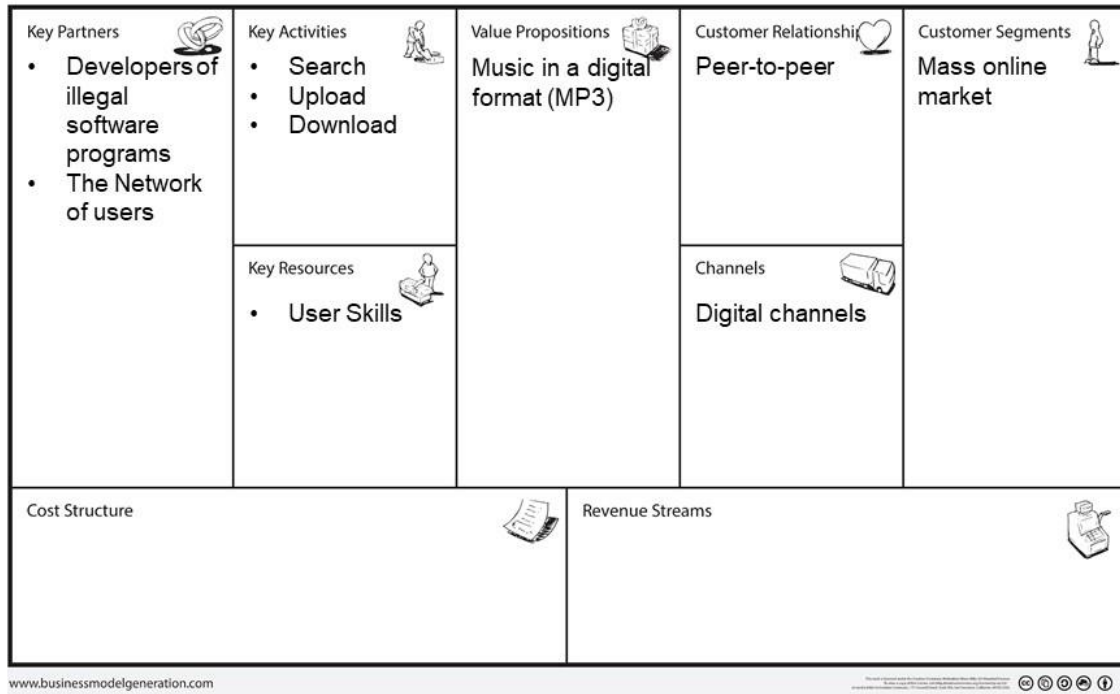


Figure 9 Piracy Business Model

Download to Own Business Model:

Digital stores started emerging by the end of 1990s, such as eMusic, which offered music from the independent labels, but it wasn't a noteworthy market. (Tschmuck 2006) The first attempt to create a legal digital to own model came when Thomas Middelhoff the CEO of Bertelsman AG attempted to convert Napster with all its features into a legal subscription service and maintain control of it. This attempt, of course, failed due to the resistance by the side of the majors fearing that this would monopolize the entire digital music market. (Dolata 2011)

In response to Napster and the attempt of Bertelsman the majors, then focused on developing platforms for digital music consumption. In 2001, MusicNet was a download service created as a joint venture of BMG, Warner and EMI. Parallely followed by another joint venture of Universal and Sony to create PressPlay. However, both of these attempts failed due to the inability of the majors to cooperate with each other and the unattractiveness of the distribution

model therefore making the consumers losing interest and leading to the termination of these services in 2003 (Dolata 2011)

Philip Peltz 2013 pointed out that early online music stores did not fully exploit all the potentials that digital music distribution had, also in the terms of social networking as the pirated platforms often had feedback rooms and chat option in which fans would interact with each other. Tschmuck also mentioned that all the new music distributors entrants emerged from outside of the record industry environment, and the success that Napster and other pirated music sites had led to the conclusion that piracy can be seen as an innovation driver.

In the same year, coming to dominate the digital music market, iTunes was launched. Firstly announced in January of 2001 Steve Jobs was discussing the current state of the music industry about how people followed a process of ripping CDs, transferring music into computers, created playlists and the burned them into other CDs to listen to their favorite songs on the go. He introduced iTunes as *“the worlds best and easiest to use jukebox software”* (Annual worldwide developers Conference).

Apple while being led by Steve Jobs was able to convince the majors of the time to provide their music to iTunes. iTunes was the first service to allow its consumers to download single songs without the need of a monthly subscription. (Wikström 2013) Apple considered the subscription based streaming services of the time to be wrong and offline downloading would get lost in case of consumers not paying the subscription fee, they noted that these models treated consumers like criminals. (Annual worldwide developers Conference)

iTunes followed two main principles. The first was uniform pricing: in which every song in the catalogue had the same price of 99 cents. The second principle was Lock-in: which meant using a copy protection technology (DRM) to prevent further copies of contents, this DRM technology called Fairplay restricted the consumers to switch to other devices besides Apple as they would lose the songs they purchased.(Wikström 2013)

By the end of December a total of 200 million songs were downloaded from iTunes (Apple 2004). This huge success was due to Apple’s marketing campaigns, the vast

catalogue of the major labels as well as the independent labels, the ease of use, and the coupling with iPod. But also due to the need of the music industry to avoid free file-sharing. (Dolata 2011, Wikström 2013)

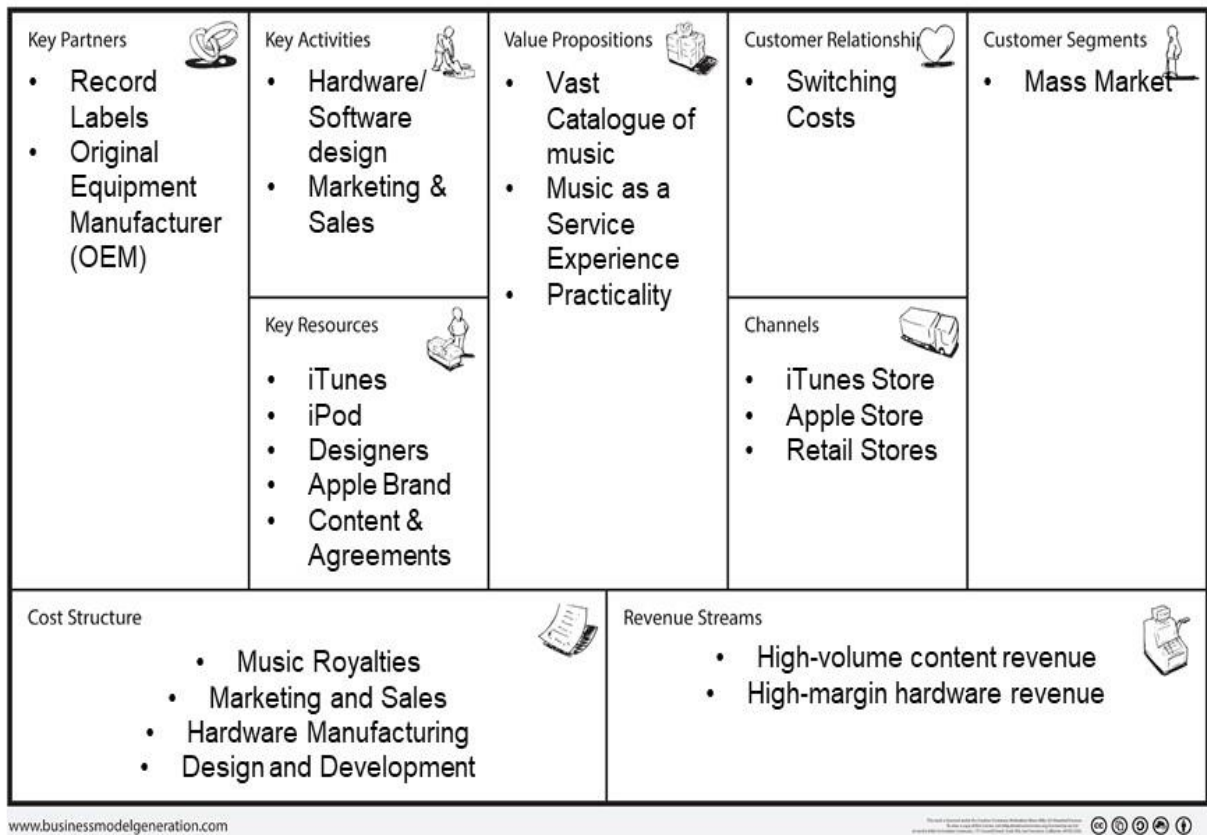


Figure 10 iTunes Business Model

There is also a download to rent business model in which music files are located in the user device, but it is only available to play after a legal online check of these files (mp3 music files etc.). Often comes with a subscription offer in which during the time the users have payed the subscription fee they are able to download and play the songs as often as they want without restriction. DRM's are still included in this model. (Dörr et al. 2013)

Examples of these download to rent models are: “Napster” and “Nokia Comes With Music”. *Nokia Comes With Music* was an initiative to give people who bought certain Nokia Phones, access to a music catalogue for a period of 12 months. (Wikström 2016)

I have not mentioned this an official business model in this thesis as it is similar to the download to own business model, but with the main difference being the monthly subscription instead of a 99 cent per song price. This is a model which acts as a transition in between of the *download-to-own* and the *on-demand streaming* models.

Streaming Business Model

Another online business model is the on-demand streaming model or as mentioned by Wikström the *all-you-can-eat* model. This was different from all the models previously mentioned as, instead of downloading music and storing it into hardware, streaming gave its users the ability to consume a vast music catalogue and with an unlimited on-demand access without the need of downloading and storing. (Wikström 2013). As opposed to non-interactive online radio stations in which users are limited to consume music as selected by the radio broadcasters, the interactive or on-demand streaming gave users the ability to consume music of their choosing, make playlists of their own and also share this content.

With the download-to-own model the music industry was at near zero marginal cost of production and delivery and on a above zero marginal cost to the consumer. (The 0.99 cents per download price). With an unlimited access to all-you-can-eat music, the potential to discover new songs is much higher than that of the download-to-own model. (Bourreau 2019). The streaming business model also shifted consumer behavior from an ownership model, where consumers purchase and download music files and the additional variety is costly, to a free model in which additional variety is free. (Datta et al 2017)

The first platform to become successful in this model was YouTube. While firstly being thought of as a “new kind of dating site” by its cofounders, it soon showed prominent potential as a promotional site (Business Insider). YouTube then became a very interesting platform for the

record labels as well, and they would use YouTube to promote music videos and thus it became widely used as a music streaming app.

Mulligan mentioned YouTube as being the most widely used streaming app on a global scale, but also the most controversial one. The ad-supported revenues (YouTube's business model) seemed profitable at first but with the emerge of the subscription-based streaming services, the mismatch between the value which YouTube extracts from music and the revenue channeled back to the creators and investors in music is growing and this is described as *The Value Gap*. (IFPI 2017) YouTube still remains an important streaming service with a staggering 1.8 billion monthly active users (Wojcicki 2018) and 31% of the content being music videos but with a smaller 21% of revenue (Mulligan 2018).

The *Value Gap* is mentioned by IFPI to be the biggest policy challenge to face the music industry. Comparing YouTube as an online user upload service, with Spotify (on-demand streaming service) the annual revenue per user shows an enormous gap between the two. IFPI estimated that in 2017 Spotify payed \$20 per user to the record companies, while in contrast, YouTube returned less than \$1 per user. User upload services such as: YouTube, Vevo, Dailymotion, Vimeo, etc. have the world largest on-demand music consumers, estimated to be more than 1.300 million users and the revenue paid to the rights owners through these services in 2017 amounts to \$856 million. While in contrast the on-demand streaming services such as: Spotify, Deezer, Tidal, etc. have a smaller number of 272 million users (ad-supported and premium users) and generate \$5,569 million. (IFPI 2018)

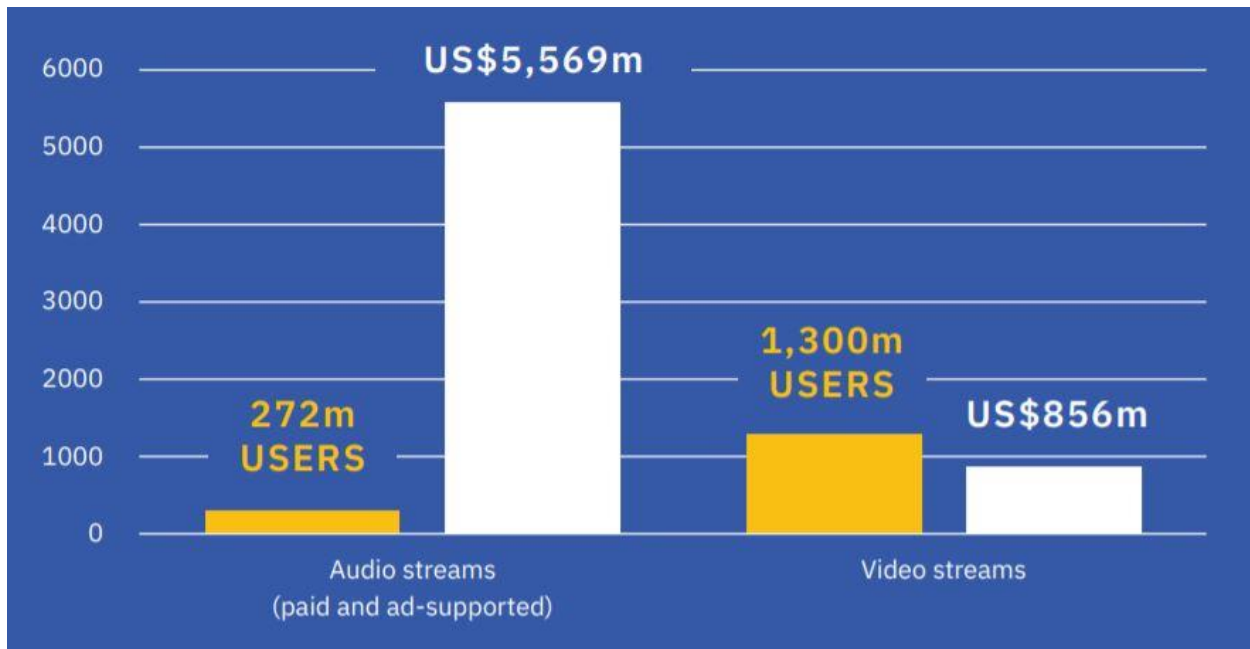


Figure 11 IFPI Global Music Report 2018

One of the most promising streaming services with an access-based *all-you-can-eat* model as mentioned by Wikström is Spotify. Spotify was established by Daniel Ek and Martin Lorentzon in 2006 and was published in 2008.(Wikström 2013). Spotify’s mission was clear, to give people all the music they ever wanted in a secure and legal way, also to give creators and artists the opportunity to live off by their art. (Spotify). However, the opportunity to live off by streaming services only still remains arguable today. Spotify runs on a freemium model and has two possibilities of earning moneys, a free ad-supported subscription, in which its users have access to all the songs they can consume but with restrictions such as: lower quality, ad-interruptions, only shuffle mode and restrictions on downloading to listen offline music. The premium plan, however removes these restrictions and offers an extreme quality of tracks (320kbps), removes ads and adds offline listening. (Spotify). This seems to be an effective approach into growing its user base and it proves that they have done a great job in understanding the psychology of their users. Spotify has had a tremendous growth during the years and at the end of the fourth quarter of 2019 counts for as much as 271 million Monthly Active Users (MAU) of which 124

million are premium subscribers. (Spotify 2019). Other popular on-demand streaming services include: Apple Music, Deezer, Tidal, Pandora, Amazon Music Unlimited, Google Play Music, etc. Some of them offered by Tech Giants which their main objective is not music distribution as compared to the case of Spotify or Deezer but rather use music streaming to boost the sales of their products and services, so this makes it a challenge for streaming services which their main objective is music distribution.

With a total of 75% of all recorded music revenues coming from the streaming platforms, this makes them a dominant force in the music consumption. While it is seen with potential and optimistic view, and said to benefit artists, consumers and the industry in general, a study conducted by (Marc Bourreau, François Moreau et al 2019) showed that the opinion of the artists is somewhat more controversial and they argue that many artists find it hard to make a living from streaming only and they have to focus on other means of revenue while using streaming as an exposure tool.

The recorded music market is a highly concentrated market, and with a total worldwide sales of \$18.8 billion in 2018, nearly 70% is divided within three companies: Universal, Sony and Warner. The domination of the majors is highly important in the streaming market, thus the streaming service's existence depends on the licensing of the majors catalogue. This in turn shifts the bargaining power to the majors as it is shown in one of leaked contracts between Sony and Spotify. The contract signed in 2011 shows that Spotify has accepted to make huge upfront payments to Sony which would be cut back given that Spotify over the amount in the contract year. (Moreau et al 2019). The contract demanded advance payments of \$9 million the first year, \$16 million the second and another \$19 million for an optional third year. (Tschmuck 2017)

Since streaming services are not operating at a profit the majors have agreed to license their music catalogue at a sub-market rate in exchange for an equity share and is reported that the big three own 18-20% of Spotify. (Tschmuck 2017; Hardy 2013)

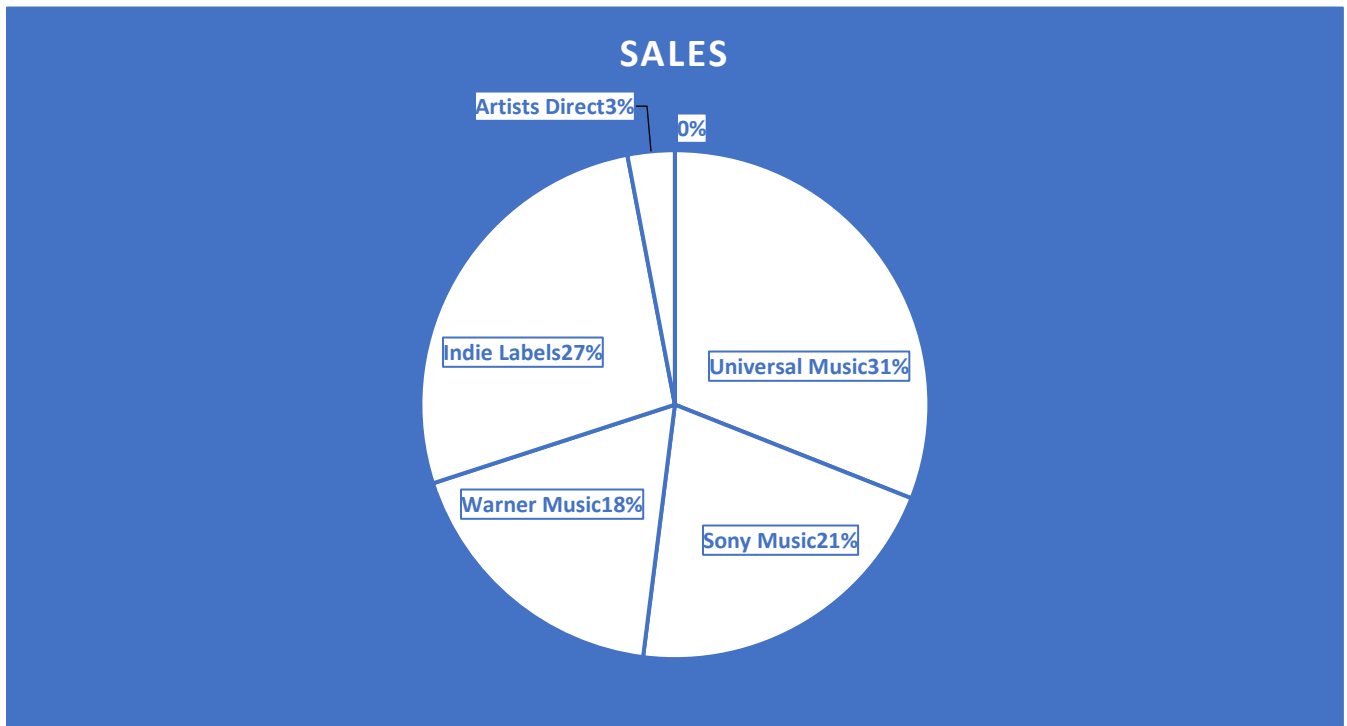


Figure 13 Midia Research

To acquire the content Spotify and other on-demand streaming services would need the copyright of the musical work, and the copyright of the sound recording. Since the sound recording usually belongs to the Labels, streaming services have to acquire these rights directly to the Major Labels as is usually the case. (Tschmuck 2017). But it is different with the Indie Labels as they do not negotiate directly with the streaming service, but have to contact a digital aggregator such as The orchard, Believe digital etc. Therefore, lowering the bargaining power of the Indie labels. (Bourreau et al 2019).

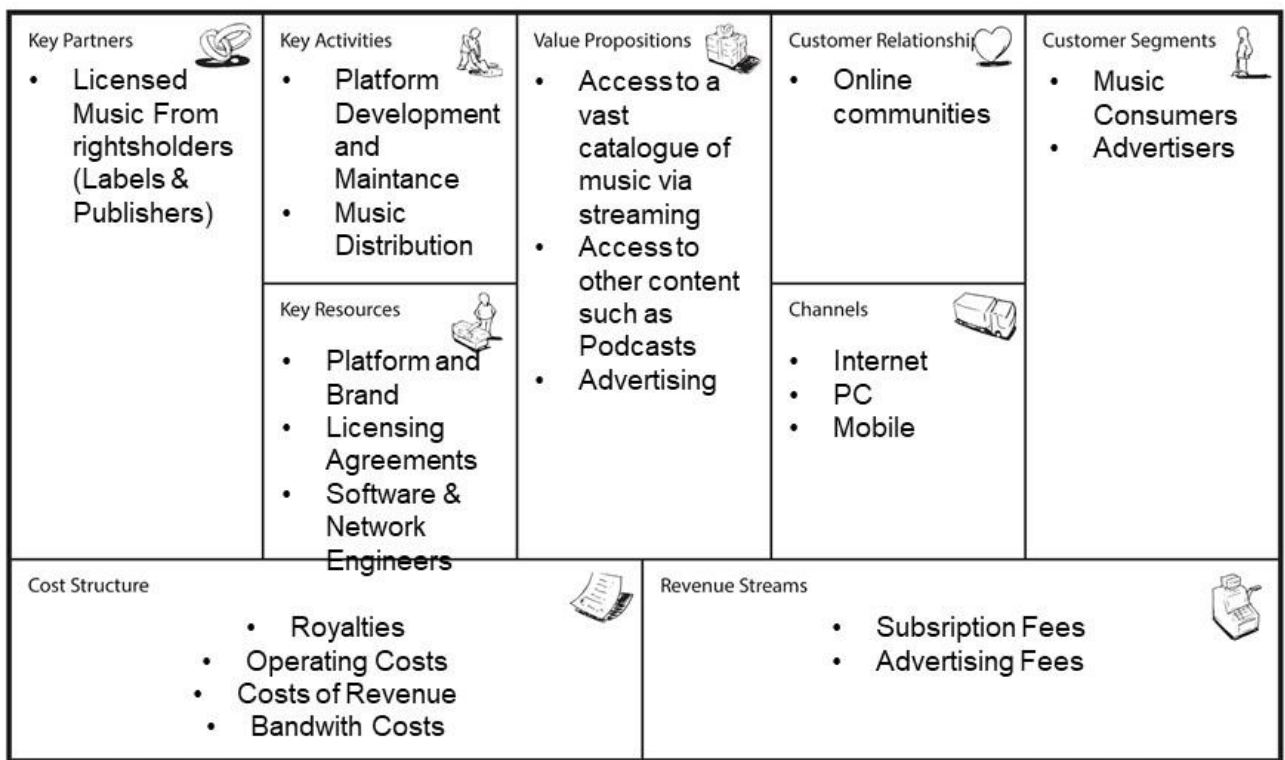
The impact of streaming has been and continues to be positive in the music industry, with also other popular on-demand streaming services such as: Apple Music, developed by the tech giant 'Apple'. Apple Music was launched June 2015 in over 100 countries worldwide. Apple offers similar features as Spotify, with a vast music catalogue for consumers to stream on their devices and also existing curated playlists. Apple Music also offers a radio station *Beats 1*

broadcasting live 24 hours over 100 countries. Apple Music gives new subscribers a 3-month trial for free before it requires a monthly subscription fee of \$9.99 cents or \$14.99 on a family subscription for up to six people and also a student discount price of \$4.99 therefore it does not have an ad-supported model, meaning, once a user has consumed the 3-month free trial they would have to subscribe in order to use the service. Apple Music has 60 million subscribers as of June 2019. (Apple 2019). Amazon music is a streaming service and online music store operated by multinational technology company Amazon. Amazon music was launched in September 2007 and it was the first the first music store to not use DRMs with music from the Big three (Sony, Universal, Warner) and also many independent labels. At first the tracks were sold at 256 kbps (kilobits-per-second) and without DRM or watermarking, however today some tracks do have watermarks. On 2019 Amazon music announced the launch of Amazon Music HD, offering lossless quality music in High Definition. Amazon Music offers two subscription plans, *prime music* and *music unlimited*. Prime music comes for free, with members of Amazon Prime (a subscription service giving access to amazon perks) and has over 2 million tracks to listen to; Music Unlimited costs \$7.99 for amazon prime users and \$9.99 without a Prime membership, and it offers ad-free listening, offline listening, unlimited plays and over 50 million songs as compared to Prime Music. As of January 2020, Amazon Music has 55 million listeners. (Amazon Music 2020). Tidal is another subscription-based music streaming, offering also podcast and video streaming. Tidal was launched in 2014 by the Norwegian public company *Aspiro* and it is currently owned by Jay-Z and it was promoted as the first artist-owned streaming service. Being praised over the high quality but also higher subscription fees, Tidal offers a 30-day free trial period before having to subscribe to a premium subscription of \$9.99 and a HI-FI subscription of \$19.99 with the main difference on the HI-FI being the high-fidelity sound which gives the users the possibility to listen to CD quality music. It also offers a family premium/HI-FI respectively \$14.99/\$29.99 and student premium/HI-FI respectively \$4.99/\$9.99. Tidal is currently available in 57 countries worldwide. (Tidal 2020). Deezer is a French streaming company launched in 2007 in Paris. Deezer is available in 182 countries and offers music from the big four as well as the independent labels. As of January 2019 Deezer provides 56 million tracks and has 14 million monthly active users and 7 million paid

subscribers. Deezer runs on a freemium model, offering a free ad-supported plan with restrictions, only shuffle play, low quality tracks and a premium plan free of ads, higher quality tracks, access to 56 million tracks and offline mode with a monthly subscription of \$9.99. It offers family plan for up to six people with a price of \$14.99 and a student price for a monthly \$4.99. It also offers a HIFI plan with lossless quality for a monthly subscription of \$19.9 (Deezer 2019). Pandora Radio is a streaming service launched in August 2005. It is only available in the US, leading the streaming market along with Spotify and Apple Music. Pandora has a unique style of discovering music as it relies on Music Genome. Music Genome is a project which analyses music in detail and uses a “matching algorithm” as called by the company itself. This algorithm allows its users to find a perfect matching song, one simply needs to type in their favorite artists and a radio station is created playing songs with similar music traits. The user can then provide feedback on the matched songs to rate it positively or negatively. Pandora Radio runs on a freemium, offering a free ad-supported plan, users can then upgrade to Pandora Plus for \$4.99 a month with ad-free listening, high quality audio and podcasts. Pandora Premium has all the above plus the users have no limits in playing offline music and are able to create and share customized playlists for a price of \$9.99 a month. Pandora family plan is also \$14.99 a month and student plan is \$4.99. Pandora has 66 million monthly active users as of first quarter of 2019 and has had a drop 8.7% compared to the first quarter of 2018 and 6.2 million subscribers (Pandora Radio 2019, Casey 2019, Laffey 2020, Dredge 2019). Google Play Music launched in November 2011, it is a music and podcast streaming service operated by google, it also serves as an online music locker (allowing the uploading of the, personal licensed music, on the service to be able to listen on multiple devices). Google play music runs on freemium and offers a free plan with access to 40 million tracks with restrictions and also the possibility to upload 50.000 tracks to a personalized account, and an unlimited (premium) plan by removing restrictions for a monthly payment of \$9.99. Google has tied both Google play music and YouTube Music (which is another music streaming service developed by YouTube) meaning a premium subscription in one of the services gives access to both of the services premium features. Google play music also offers a family plan for a monthly \$14.99. (Google Play Music 2019, YouTube Music 2019, Sanchez 2019). Often overlooked, it’s the Chinese music

market, where Tencent Holdings, parent company of Tencent Music Entertainment, owns three of the biggest music streaming services: QQ Music, Kugou and Kuwo. All the of these three music services attracted as much as 661 million mobile monthly active users in Q3 (third quarter) of 2019 with only 5% of those users paying for a subscription. Yet the company is profitable as it makes most of the revenues from "Social Entertainment Services" for example tipping and other "virtual gifts". Tencent Entertainment announced an equity-swap agreement with Spotify acquiring both around 9% in each other's company. With Spotify being available in 65 countries, but china being not in the list, it is safe to presume that in the future might. (Tencent Music Entertainment 2019, Hu 2020, Ingham 2017).

Below is a streaming Business Model and the main structures as suggested by Canvas Business Models:



www.businessmodelgeneration.com

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Figure 14 Spotify Business Model

Firstly, the unique selling point of the streaming services was the vast music catalogue and the ability to choose from an unlimited number of tracks, now the focus is shifting towards finding the right music for the right person. (IFPI 2015) This backs up one of the most discussed theories proposed by Chris Anderson *The Long Tail* theory.

The Long Tail Theory

The Long Tail theory suggests that with the technological developments and the arrival of the internet, the increase of supply and wide distribution of content, online channels would enable consumers to find and afford products and services more closely tailored to their personal tastes making our culture and economy to shift away the focus from a relatively small number of hits (the head of the curve) to buying more and more individualized successful niche products (the long tail). (Chris Anderson 2004). Technology transforms mass market into countless of smaller niche markets and although these niche markets may be small when combined, the volume of business is greater than the concentrated mass market itself. (Chris Anderson 2006). He suggests that one of the main reasons for this transition is the physical space itself, with not enough shelf space to contain all the CDs or DVDs or Books available, retailers are forced to focus only on the most popular (The hits) and therefore squeezing out the less popular or the niches.

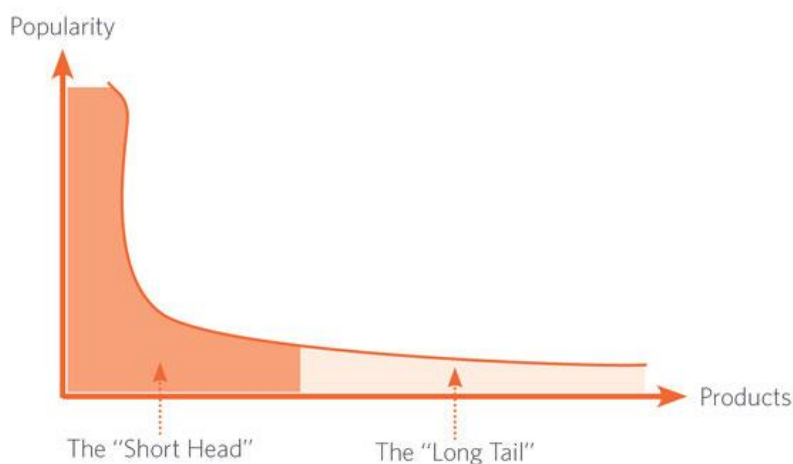


Figure 15 Chris Anderson: *The Long Tail*

Anderson also suggests that the music industry should follow three rules in order to benefit from The Long Tail:

1. Make everything available:

The basic principle of the Long Tail is that all music should be available and as soon as a song is uploaded someone will find it.

2. Lower the Price

Anderson refers to the single download-to-own price as overpriced and since online stores such as iTunes do not sell albums, but single specific songs, the record labels are charging a high price for songs in order to compensate for the drop in revenues in albums. He also states that it is cheaper to sell a song online (see fig. below) than it is physically. Anderson suggested that the pricing should be matched accordingly. He suggests that by lowering the price it would result in more sales and brings up the case of Rhapsody dropping the price in half and increasing sales threefold (Anderson 2004)

3. Help the customers find the music:

By focusing more on what consumers need and fitting their taste through different discovering softwares, online stores could be able to drive the demand down the tail, therefore increasing the sales of products that people would not normally find in the physical world (Anderson 2014). By gathering information on customer purchase patterns the firms would be able to recommend relevant products to other customers with similar taste.

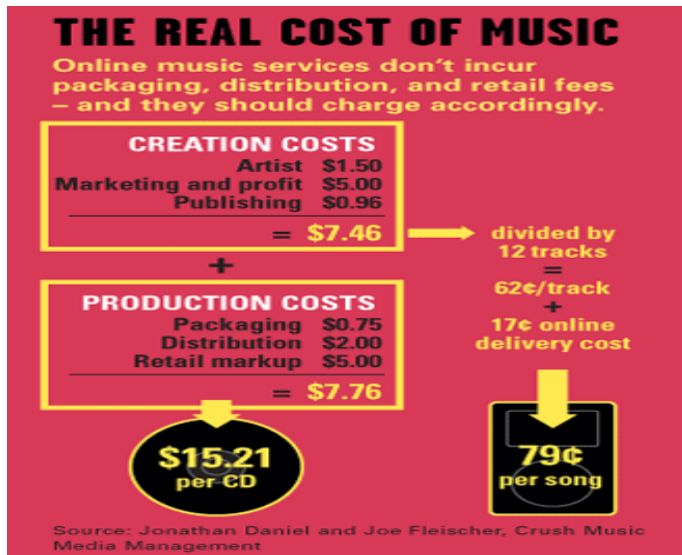


Figure 16 Chris Anderson: *The Long Tail*

And as a study from *Hannes Datta et al 2017* shows that streaming does increase the rate of which consumers discover new music, the wider selection and the free additional music in the streaming services leads to more plays for users and new discoveries. They also mentioned that the shift from ownership-based to streaming-based would benefit independent artists and labels and smaller producers also. (Datta et al 2017). Another study published in 2019 by *Moreau, Bourreau, Tovar and Beauvallet*, in which they used poll-data from surveys in more than 1100 French professional musicians, they found that 70% of the musicians had a positive opinion on subscription-based streaming, and with only 40% of the musicians having a positive opinion on free streaming. They also found out that streaming and especially free-streaming serves as a discovery tool and it is more favorable to the young artists as they value more the opportunity to expand on a long term than to gain revenue in a short term. This supports the Long Tail Theory on the claim that the niche products are getting more attention with the emerge of new technologies, as the example of the on-demand streaming. However, one of the earliest observations on the music industry concerning variety is that a relatively small number of artists or the hits command a large share if not the largest of the revenues. (Datta et al 2017). As Sherwin Rosen mentions in his book *The Economics of Superstars*, he points out that one of two conditions in which superstars emerge is the marginal cost of producing a consumer

experience, for example the cost of producing an additional file being low and in the case of the digital files being zero, this creates a scale economy giving the opportunity of a few sellers to sell or serve many consumers. Krueger (2005) also gives data on the live music sector, he found that in 2003 the top 1 percent of artists got the large slice of the share with 56 percent compared with 26 percent in 1981. Another Research published by Mark Mulligan the founder of MIDiA Research, he points out that the music industry is indeed a superstar economy. By referring to, digital and physical music revenue he discovered that the top 1% of repertoire accounted as much as 77% of all artists recorded music income.(Mulligan 2014) He points out that the opposite of the Long Tail Theory is true due to the two main effects that the rapid growth that the digital music catalogue has. The first effect is *The Tyranny of Choice*: With a vast catalogue of music and growing at an immense rate, this means that however good the algorithms of discovering music there is too much choice that paradoxically means less discovering, leading the consumers to the familiar and easy to find. This is also referred by social scientists as “herding” and is also well documented in academic literature.

And the second effect being *The Dilution of Quality*: Mulligan mentions that the increase of music tracks and the DIY (do it yourself) artists the quality drops, as the labels also served as a filter, finding the best through A&R and filtering out the rest. Meaning out of a typical number of tracks offered today by streaming services being around 25-30 million, about 6 million counts as serious catalogue. Conversely a study by Aguiar and Waldfogel (2016) show that despite the collapse on record industry revenue since the era of Napster, the growth of new music products has raised the realized quality of music. The “superstar” economy is proven also by Elberse, a professor at the Harvard school of business, she shows that most of the entertainment industries have made most of the profit from a small number of hugely popular hits and with the new technology, the importance of Blockbusters is much likely to increase, the same in the record industry in which the top 100 tracks count for as much as 1/6 of the entire market, meaning the music industry relies heavily on the “Blockbuster Strategy”. (Elberse 2013). Although The Blockbuster products and the Long Tail products are opposite sides as management theories, the Long Tail products do not pose a threat to the Blockbuster business model as they are products targeting smaller groups of people, but as mentioned by Smith &

Telang 2016 they believe that Long-Tail processes do pose a threat to the Blockbuster business model. They explain this by focusing on the value that these niche markets provide to consumers and how companies can obtain this value. And on a study conducted back in 2000 by Smith, Telang, Brynjolfsson and Hu, they compare prices at online stores compared to physical stores to book stores and music stores and they did find out that the online access to the niche products does create a huge amount of value for consumers. They found out that the economic value gained from the access of niche products, in this case the obscure books which were either excluded from physical stores due to lack of capacity or just too hard to find, was between 700 million to 1 billion a year back in the year 2000, and the main reason was the new ability to discover these obscure books. (Smith and Telang 2016). They went on explaining how the Long-Tail business models captured this value, business models such as Netflix, give consumers access to a vast variety of content and use: data, algorithms, peer reviews and recommendation engines to help consumers find what they need and consume it when they want, and they pointed out that these long-tail processes will be used to produce long-tail products and Block Buster products as well. (Smith & Telang)

The same seems to be the case in the music industry also, Aguiar and Waldfogel (2016), found that the technological change tripled the number of new products coming into the record industry from 2000 to 2008, this was due to the cost reduction in the new music entry. They also mention that since the year 2000 a growing number of the best-selling works are released by the independent labels (Aguiar and Waldfogel 2016).

Spotify has also done the same on tapping into Long Tail markets. As there are of course a large number of new artists, emerging and producing music, there are niche markets, which have existed in the music industry as people personalize their music taste out of the mainstream. Spotify has a recommendation system in which tries to predict songs consumers might like, but also not heard before. Such a recommendation system is called "Discover Weekly". Spotify has claimed to connect 40 million listeners with roughly 50 billion new songs each year. (Spotify 2019). Spotify offers also another system called "Fresh Finds" which is dedicated to new and emerging artists to help listeners discover new music, most of these artists are totally independent or in small indie labels. Spotify is also attracting small artists directly with their

listeners with “Spotify for Artists” in which artists manage their own profile in Spotify, updating their gallery, writing their bio and uploading their own music (Kuomis 2016, Spotify for artists 2019). Overall, these actions indicate that with the near unlimited consumer choice the Long Tail has indeed an undeniable influence.

Given the literature, it is clear that streaming has had a tremendous impact on the music industry (the recorded industry specifically) and has changed the way the customers consume music and has created new opportunities and market possibilities, but inevitably as in the process of creative destruction has impacted negatively on the old way of doing things (the digital-to-own market and the physical sales).

Digitization in Numbers

The music industry has experienced a continuous decrease in global revenues since the introduction of the internet, as is shown in the figure below according to the latest global music report from IFPI 2019, it clearly shows the decrease of the global revenues up until 2014 and specifically the decline of the physical revenue and the increase of the digital revenue. In the year 2015 the global music report showed an increase of 3.6% (IFPI2016) followed by an accelerated growth of 5.9% in the following year, making 2016 a significant year in which the digital sales accounted for as much as 50% of the global revenue and with the physical sales dropping at -34%. (IFPI 2017). The year 2017 also followed by an accelerated growth of 7.4% globally and reaching a total of \$17.1 billion. (IFPI2018). The year 2018 was also marked as a good year for the music industry and makes it the fourth year of a continuous growth after a gradual decline of nearly two decades, the global recorded music revenues had an increase of 9.7% from the previous year and reaching a total of \$19.1 billion (IFPI 2019). The latest global report of IFPI also showed an increase of the digital sales with 21.1 %, accounting for 58.9% of the total recorded music revenues with the streaming services alone accounting for 47% and the paid subscribers reaching a total of 255 million, streaming revenues are now bigger than the digital download sales ever were (IFPI 2019). Interesting to mention is the growth in Latin

America with +16.8%, making it the highest rate of growth globally, having a decline in physical revenue (-37.8%) and download revenue (-45.0%) but positive growth in streaming (+39.3%). Between the years 2001-2010 the physical sales had a decline of more than 60% and during the same period the digital sales increased from zero to \$4 billion, which it was nothing compared to the loss of the physical sales on an amount of \$14 billion in annual revenues. And according to the report published by IFPI, 2014 was the lowest the music industry experienced, reaching at \$14.3 billion (IFPI 2015) which was almost \$10 billion less than the peak of \$23.8 billion during the CD era.

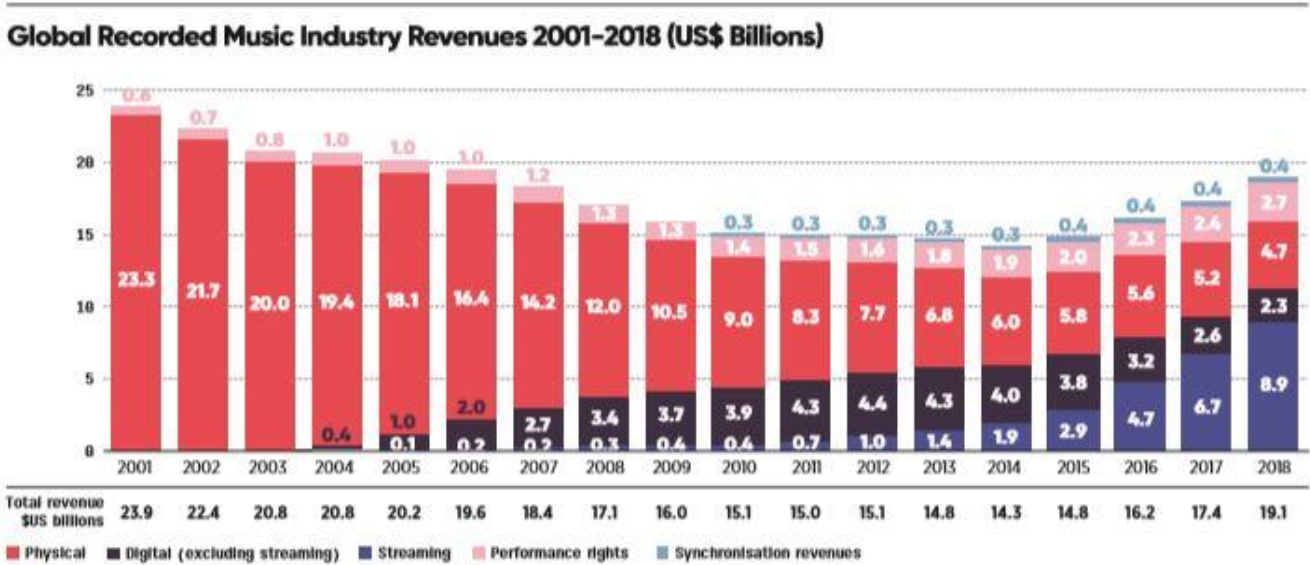


Figure 17 Source: IFPI global music report 2001-2018 (IFPI 2019)

From Ownership-based to Streaming-based (Spotify vs Apple Dispute)

While download-to-own model inaugurated the digital market with countless of other digital service providers emerging over time, as shown in the figure below, we see a decline in the revenues generated from download service providers and the market being tilted towards the streaming model. Digital download revenues reached their peak in 2012 accounting for 70% of the overall digital music revenues, making 2012 a significant year for the music industry as the global trade value increased by 0.3%, which was counted as the best year-on-year result since 1998 (IFPI 2013), digital downloads now count for as much as 7.7% of the total market in 2018 (IFPI 2019). Streaming on the other hand is increasing rapidly from just 13% of the digital revenue in 2011 (IFPI2012) to 47% of the global record revenue in 2018 (IFPI2019).

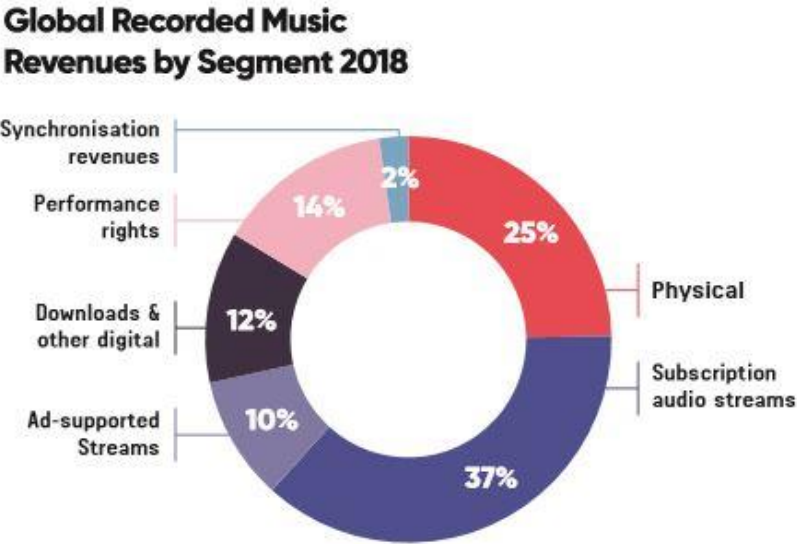


Figure 18 (Source: IFPI global report 2019)

After 2012 the digital download revenues have been in a continuous decline and this is due to a number of factors marking the shift from digital download, to on-demand streaming. These

factors include the development of new technologies most apparent the smartphones and tablets, which change the consumer behavior and stimulate the use of streaming instead of permanent downloads, and the competition that arose from entertainment products leading to a shift of the consumers towards the streaming model (IFPI 2014). Another factor is the bundled partnerships between the streaming services and mobile telecommunication companies integrating paid subscriptions into their client phone billing (IFPI2015). iTunes is the biggest digital download store and not being available on the Android platform, which is increasingly dominant in the market, owning 72.26% of the global smartphone and the tablet market as of 2019, android consumers are not available in the iTunes ecosystem (IFPI2013).

Streaming is seen as a disruptive technology taking over the music industry (Datta et al 2017) therefore rendering the old technology (in this case the download revenue model) obsolete as mentioned by Schumpeter. This has fueled a discussion among researchers about the impact of streaming. Studies conducted on a song-level digital sales by Aguiar and Waldfogel (2015) find the streaming displaces ownership-based downloads. But the IFPI (2015) report shows evidence that streaming is not the only factor in the decline, in Canada download sales declined by 7.7% parallely in the US (-7.2%) despite the absence of streaming services with the arrival of Spotify until late 2014 (IFPI 2015). While Datta et al (2017) comes to the conclusion that streaming does increase the total consumption Aguiar and Waldfogel (2017) argue that the increase of the music industry revenue in total from streaming depends if the additional revenue from streaming offset the decline in revenue from download-models.

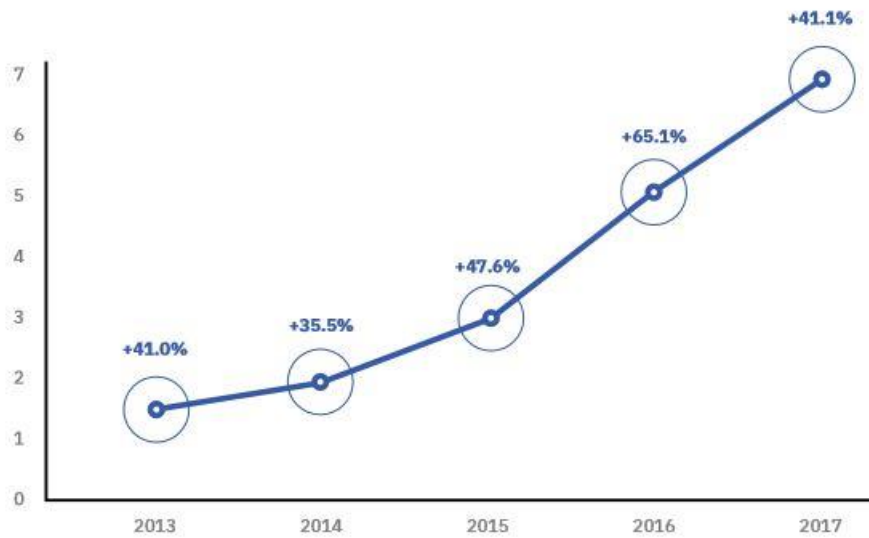


Figure 19 IFPI Global Report 2019

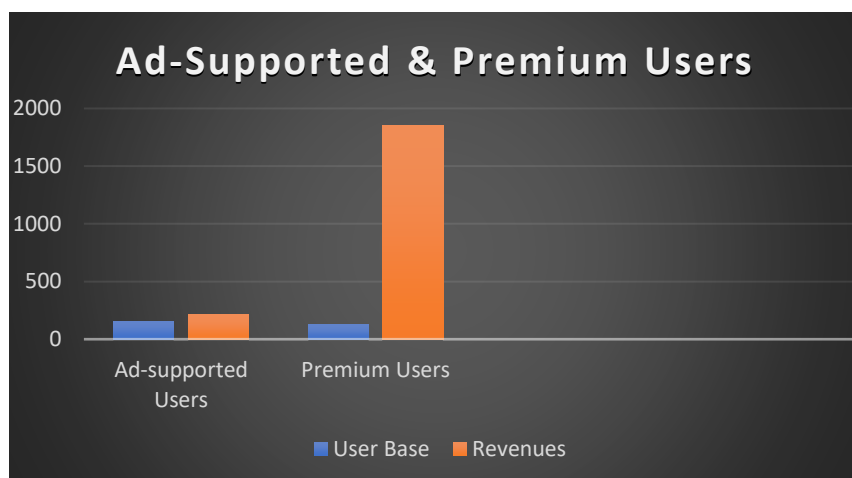
Streaming has grown +34.0 percent in 2018 and now accounts for 47% of the global record revenues (IFPI 2019), with an exponential growth as shown in the figure it is generating positive revenues for the music industry and as the revenues continue to grow, the skepticism seems to be slowly replaced with optimism in the music industry. However, what is also important to mention is the slowdown in the increase of streaming compared to the previous year. The growth in streaming revenues of +34.0 percent in 2018 compares to the growth of streaming revenues of +41.1%. And also the growth of the premium subscribers by 44.9% in 2018 compares to the growth of 57.1% in 2017 (IFPI 2019). However, Streaming has proven to be a successful business model as now it counts for nearly half of the global record revenues.

While the latest report of IFPI shows positive numbers on the industry's growth, another positive news, is the drop in piracy rates. Music piracy has been a problem in many ways and while streaming had a positive impact, therefore dropping the piracy rates, recently stream-ripping has become a dominant force. Stream-ripping is a mechanism reached by using dedicated software, or entering various sites to be able to obtain music from an online source (such as YouTube or Spotify) and storing it on a PC or a mobile phone in mp3 or other formats (Torrent Freak). This form of piracy has taken over the traditional downloading from pirate sites (IFPI 2017). IFPI also showed that 49% of internet user from the age of 16 to 24 admitted to

stream ripping in the first quarter of 2016, which is a 41% increase compared to the the previous year. A number of organizations such as RIAA, IFPI, Music Canada attempted and successfully closed sites with millions of monthly visitors who were a threat to the entire music ecosystem. Sites such as Convert2Mp3, YouTube-mp3 and DBR.ee are now shut down and some will even pay an undisclosed amount as financial compensation. But copyright infringement still remains a threat to the music industry, as published by the latest Music Listening report of IFPI 2019, out of those surveyed, 27% used illegal ways to obtain and consume music in the last month of published date (24th September 2019) and 23% used illegal stream-ripping services. Compared to the previous year the percentage of music pirates we have a positive drop of 11%, going from 38% in 2018 to 27% in 2019. Almost the same is seen with stream-rippers in which we have a drop from 32% in 2018 to 23% in 2019 which is a positive decline in music piracy (IFPI 2018,2019, Torrent Freak)

[The Spotify vs Apple dispute](#) started back in 2015 where Spotify was raising awareness about the so-called “Apple Tax” which takes 30% of the users’ subscription fees when users sign up for services through the Apple Store. Spotify planned to email iPhone customers telling them that it would be cheaper if they would just subscribe to Spotify through the web, so instead of being charged by Apple a higher \$12.99 per month they would just get a normal premium price of \$9.99 through Spotify.com. Spotify has also launched [a web page](#) explaining the distress with Apple and the unfairness from their side. They explain on detailed timeline that Apple won’t allow Spotify to be played in Siri (an intelligent virtual voice assistant), they also say that because Spotify turned of IAP (Apple’ payment system) to get rid of the extra 30%, it was unable to upgrade to premium through the Apple store. Apple’s response, however, points out that Apple has been supportive of Spotify, but mentions that after using the App Store to grow the business Spotify is demanding all the benefits of the App Store Ecosystem without contributing anything and even attacks Spotify saying that they make even smaller contributions to the artists, musicians and songwriters.

However, iTunes and other dependent streaming services such as Google Play, Amazon Music, and YouTube have clear competitive advantage over the independent streaming services such as Spotify, Deezer, Tidal etc. The dependent streaming services are backed up by tech giants in which their main objective is not the distribution of music therefore they are not dependent in the profitability of the streaming services, as Steve Jobs himself mentioned that they did not expect to make moneys from iTunes but it was a good way to make their products more attractive. Nevertheless, given the publicly announced data, Spotify as a leader in the market of independent streaming services, has done a better job in increasing their user base than its “adversary” iTunes, this is due to several reasons, firstly the availability of Spotify in the leading mobile operating system Android but also the two potential income sources: ad-supported and Premium. Spotify combines both sources of income and operates on a freemium model. A freemium model attracts new consumer through their ad-supported tier giving them free access, but with restricted features and gives them the opportunity to access the premium tier with no restrictions but with a monthly payment of usually 10 dollars. The premium tier is of course more profitable for the digital service providers and the value gap between ad-supported and premium is clearly visible as it is shown in the published financial data from Spotify. In the last quarter of 2019 Spotify had 271 million active monthly users, which 124 million of them were premium users and a bigger number of 153 million were ad-supported users. The total revenue was 1.855 million euros, of which 1.638 million euros were revenues from premium users and a much lower revenue of 217 million euros were ad-supported users. (Spotify 2019)



Given the value gap between ad-supported and premium users, from Spotify's perspective this would make premium users the high-end customers as they are willing to pay more in exchange for quality, and the ad-supported users would be the low-end customers as the low-end market would consist of lower priced products (in the ad-supported case, for free) which are suitable for customers who are not willing to spend moneys, this would make the low end market a substitute to the better but more expensive alternative. But, by the same analogy, from the perspective of an artists and that of a record label, high-end and low-end consumers would change as the in the case of a major label things are more complicated as it is comprised of different stakeholders which are parts of the supply chain. By considering the core product the music content and the artist, and by presenting this product in the market for consumers to consume, the possibilities of a label to reap benefits are far greater than that of a digital retailer. Revenues a record label is able to get from their artists and contents include: Recorded Music Sales, Publishing, Streaming, Live music touring with 360 deals including also merchandising. However, from an artists perspective and from a record label perspective, it is hard to specify who are the consumers that are willing to pay more, as Krueger 2005 shows that the total value of recordings in 2003 in the US was \$11.8 billion, while the value of ticket sales was \$2.1 billion, meaning that recordings posed a larger market from a label's perspective, but the for the artists, is much more profitable the live music market. Only four out of the top 35 artists made more moneys from recordings than from touring, and the income from touring exceeded that of recording with a ratio of 7.5 to 1. (Krueger 2005). Tschmuck 2017 also gives data that the top ten artists of 2015 earned from 70% to more than 90% of their total income from touring and live music only. Data from Statista⁴ also shows that in 2019 the average cost of a ticket price was around \$96 dollars. So from an artists perspective, one could consider the consumer willing to buy a concert ticket to be a high end costumer as the alternative would produce less value for the artist, and the low end consumer could choose to not buy the ticket, but rather consume it through alternatives which could be through YouTube, Live streaming or

⁴ <https://www.statista.com/statistics/380106/global-average-music-tour-ticket-price/>

simply listen to the songs in streaming services which in turn produce less revenue as that of a live performance.

AI Music, The Next Creative Destruction?

It sounds like science fiction and might often be disregarded as just an idea, but AI is very real and present in the creative industries and the music industry as well. Behind “AI” as a term is a set of techniques which is able to identify complex structures and use such structures to make predictions and take actions or decisions based on these predictions. (Caramiaux, Lotte and Geurts 2019). Such uses of AI are present in today’s algorithms which predict what songs a person might like, based on large quantities of data gathered by the users of streaming services therefore understanding a pattern and using it for song recommendations. AI has had a growing use in the creative industries and is being used to also create songs. François Pachet is one of the most prominent experts in the use of AI in popular music. He has been hired by Sony since 1997 to develop tools for music creation. He led the music research team at Sony Computer Science Laboratory in Paris, where they released two pop songs, *Daddy’s Car* and *The Ballad of Mr Shadow*, using AI and resembling the styles of great artists such as the Beatles and Duke Ellington. (Ingham 2017). They also created a system called **Flow Machines** to help users compose new songs, the software analyses a source of composition and generates a number of given lead sheets resembling that source of composition which can be a number of composers from different timelines and styles. As of 2017 Pachet is now the director of Spotify’s Creator Research Technology Lab and together with the label Flow records he released an album called [Hello World](#) which is labelled “the first music album composed by artificial intelligence plus artists”. This could mean that Spotify might begin upstreaming AI music into their playlist and this would translate to huge financial benefits as the computer would require no royalties. (Ingham 2017) Dozens of albums have been created since, using the same collaboration AI + artists such as Taryn Southern’s album “I Am AI” in 2017 and Holly Herndon’s album “Proto” in 2019, and other several companies investing in application of AI to music creation such as the

Google's project [Magenta](#), [Aiva](#), specialized in composing soundtracks, Melodrive specialized in creating music in video games and many more. (Sturm et al 2019). This proves that AI is very much capable of making music but what does this mean for the music market, how will the copyright laws affect this, and will AI impact musicians, artists and other contributors and beneficiaries of music, is certainly unclear and there is much to be argued over as this could be the next creative destruction which might revolutionize the economic structure by destroying the old one and creating a new one in Schumpeter's words.

Conclusion

The music industry has gone through a long way, starting as a publishing industry with the main dissemination being the sheet music and evolved through many waves of new technological developments and innovations which over time proved to be sustainable and is transformed into what is today a complex industry with many stakeholders. As described in this thesis, the music industry has been transformed radically by the process of creative destruction. New innovations have left the old ways of doing things behind and have opened many new possibilities and business opportunities in the music market. The sheet music sales were challenged by the phonograph and some viewed it as a threat to the industry at the time, but the invention of the phonograph proved to be successful and thus the recorded industry was born, giving rise to many new business opportunities and prosperity to the societies and companies that adapted those changes. The way that Radio Broadcasting entered the market as a new innovation, challenged the Record industry at the time, and, as the radio broadcasting and the difficulties when, The Great Depression hit at the time, brought the record industry to an all-time low as the sales plummeted losing 92 percent of the sales. But the sales would later increase again, and the music industry evolved by making radio broadcasting a critical part of the industry. The advent of the Internet followed the same pattern of disruption, where the entrepreneurs, taking advantage of the market possibilities brought by new innovations, lead to

the creation of Napster, which brought the Record Industry huge distress. Even with failing to function as a legal business, Napster laid the foundation of the future of music would be, which in turn led to countless other business opportunities in the new digital era. The value chain of the music industry is now changed and the artists seems to have more control over their music, and the bargaining power of the majors is somewhat challenged, as the distribution is taken over by other companies and is no longer part of their vertical integration. Overall, the production of new music has increased and now is easier than ever to create and distribute music as new technologies provide better and more cost-effective tools to all creative minds than older technologies. The destructive force of new innovations caused the music industry a drop from the peak of \$23.8 billion in the CD era of \$14.3 billion in 2014 which was considered the lowest the music industry experienced at the time. However, the numbers show a four year of consecutive growth reaching a total of \$19.1 billion in 2018 mainly from digitization (IFPI 2019). A pattern, where the established companies in the music market view new innovations with skepticism, is clearly visible throughout the development of the music industry in its entirety, but the failure to adapt to these innovations would inevitably lead to their demise. The music industry has proven to be an example of creative destruction as the new innovations brought by entrepreneurs, left the old ways of doing things behind and opened a plethora of new business opportunities, and the adaptation of these new innovations has led to the prosperity of the music market in the long run. How sustainable the current market is to be remains a question of when the next creative destruction will happen.

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