M.Sc. in Applied Economics and Finance (AEF)

MASTER'S THESIS

The Music Industry in the Web 2.0 Era

How the digital world has changed the face of music

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Preface

This thesis is original, unpublished and independent work by the author, Kristinn Sveinn Ingólfsson, and concludes the M.Sc. degree in Applied Economics and Finance at Copenhagen Business School. The supervisor was Liana Razmerita, associate professor, and I want to thank her for all her help and suggestions during the writing of this thesis. I would like to thank my mother, Halldóra Tryggvadóttir, for all her support and assistance with proofreading. Viktor Bragi Brynjarsson also receives my gratitude for his help with proofreading. A special thank you goes to my grandmother, Jóhanna Guðrún Björnsdóttir, for being my inspiration and my biggest supporter through my academic career.

Abstract

The Internet has completely revamped the business world, especially during the later stages of the Internet development called the Web 2.0 era. Every aspect of the business world has been moved onto the web, either partly or entirely. The number of users on the Internet is always increasing and in the end of 2014 over 3 billion people in the world had access to the Internet. This change in business behavior can be both good and bad and it has greatly influenced every industry in the world. The focus of this thesis is the music industry and how it has transformed during the Web 2.0 era. The research questions this thesis will answer are “How has the music industry changed in the Web 2.0 era?” and “How is the music industry adapting to the changes in the business environment?”. The thesis will start of by defining the Web 2.0 concept and then move on to business models and how they have changed following the rise of the Internet. It will then have a historical overview of the music industry for comparison effect. It will look at how it progressed through technological innovations and then see how aspects concerning the industry such as marketing, production and distribution were before the web. The music industry of the 21st century is then addressed and the same aspects considered before moving on to illegal downloading, where court cases, pros and cons and how the fight against illegal downloading has been going are considered. Finally the current status of the music industry is considered and the future is speculated. This thesis is based on books and scholarly written articles regarding the subject, annual reports of music sales released by Nielsen Soundscan and Billboard, as well as official websites of relevant web companies. A survey was also constructed and released to see how people view illegal downloading and the music industry.

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1 Introduction

The music industry has been around for centuries and has evolved over time with technological advancements. When the music industry began the only way to enjoy music was to read it on sheets, play it yourself or see live performances. When the gramophone was invented, the music industry changed fast and physical albums that consumers could listen to at home were created. This was groundbreaking and since then the music industry has been growing and using technological progress to its advantage. The industry grew fast with many technological advancements; the radio, the vinyl LP, the cassette and then the CD who all affected the industry a lot. When each new format of music was introduced the industry was quick to adapt, re-recording old music and recording new music on the new format and then selling to the consumer. The music industry was mainly a recording industry and an oligopolistic situation had formed over the years with few, very large, recording companies controlling the market. When the Internet and illegal downloading of music was introduced to the society, the industry fell behind for the first time in history when it refused to adapt to this technology from the beginning. This would turn out to hurt the industry for a long time.

When the 21st century began, the music industry started to experience a decrease in album sales. Illegal downloading was growing and hurting the industry. The big recording companies realized this, but it was too late. When they finally took down the first big illegal downloading site, Napster, the technology had already been created and the consumers were used to illegal downloading. Physical album sales kept on declining and the lack of effort from the music industry created possibilities for companies to enter the music industry. Apple Inc. was the first company to realize this, opening the iTunes Music Store in 2003 and creating a market for digital music. This was the beginning of the digital age for the music industry and has affected the industry ever since. Total album sales have kept on declining, but the rise of digital music sales has cushioned the blow and generated revenues for the industry that were previously unavailable. The industry has continued to expand and change, with increasing ways of generating revenues. Advertising revenues from online services are increasing yearly and streaming services have been generating increasing revenues since they began in 2008 when Spotify was created. Streaming revenues have been growing ever since and are expected to keep growing for the foreseeable future. During the digital age, the music industry has changed tremendously and especially the ownership of music.

Physical albums were the only available form of music before the digital music file was created. Soon it was clear that consumers preferred to have the music stored in the computer as files and as the technology kept improving consumers started to prefer streaming the music and never owning it. Apart from decreasing album sales the digital era has brought new ways of collecting revenues and that has created a confusion regarding the current state of the industry. New ways of generating revenues are constantly created and revenues are increasing despite decreased album sales. The Internet has brought many positive aspects and has created a wider business environment for the music industry and the decreasing album sales only tell half of the story.

This thesis has two main research questions; “How has the music industry changed in the Web 2.0 era?” and “How is the music industry adapting to the changes in the business environment?”. The thesis will define the Web 2.0 concept as well as look at business models that have been created for the Internet era. Then there will be a historical overview of the music industry. This historical overview is used to look at the advancements and challenges of the industry before the Internet era, which will be further compared to the challenges and advancements of the digital music era to see how the industry handled the situations differently. Illegal downloading and music streaming are a key part of the analysis and those aspects are considered when the current state of the music industry is analyzed. This thesis is based on books and scholarly written articles about the music industry, both historically and in the digital era. Yearly reports from Nielsen Soundscan about the U.S. music industry are used in the analysis to look at album sales and many websites of Internet companies are considered as well. Finally, a survey was released to determine how the society is responding to the changes in the music industry and how music is purchased today.

2 Web 2.0

2.1 The beginning of the Internet and the World Wide Web

The idea of the Internet started to form in the 1950s, when computers were becoming more advanced. In 1962, memos were sent over the Internet, marking the first recorded social interaction through networking. This was the beginning of the Internet and in 1965, Lawrence G. Roberts and Leonard Kleinrock managed to make two different computers talk to each other and consequently they showed that computer networking was both possible and feasible. The Internet began to form and grow fast and users of the Internet were able to start developing applications for the Internet in 1972 and in that same year the E-mail was invented. Following the E-mail, file transfer and remote login were made possible as well as many other applications and with increasing numbers of local area networks the Internet kept growing. In 1985 the Internet had established itself as a community building technology, always expanding and expected to keep on doing so (Leiner, et al., 1997). In 1989 the World Wide Web (WWW) was invented by Tim Berners-Lee, an employee of CERN. He started testing the WWW with his co-workers and by the end of 1990 the first Web page was created. CERN realized the importance of this discovery and thus decided in 1993 that the technology behind the WWW would be available to anyone interested on a royalty-free basis. The creation of the WWW is the most significant factor of the Internet and it was the starting point of the Internet we know today. The key factor in this creation is that the web remains free, open to anyone and that anyone can impact it (World Wide Web Foundation, 2008).

The WWW is now accessible through millions of gadgets, not only personal computers, and the possibilities are endless. With the creation of the WWW the Internet blew up, gaining enormous growth, which ultimately led to the Dotcom crash. The Internet offered something new and this led to investors to be more interested in big ideas than a business model. This created a bubble; investors blindly grabbed every new IPO, which led to huge rise in prices of the Internet companies, who had no plan and no foreseeable way to generate profits. This ultimately led to a crash of the Internet market, which was dubbed the dotcom crash. The dotcom crash was believed to be the end of the Internet and the World Wide Web by many (Investopedia, 2015A).

2.2 The Web 2.0

2.2.1 What is Web 2.0?

Following the dotcom crash, the Web was widely criticized and believed by many to be overhyped. This harsh criticism was widespread despite the fact that many technological innovations experience growth in the form of a bubble and often a crash early in their lifetime. But the Web still had many supporters and in 2005, Tim O´Reilly and Dale Dougherty coined the term Web 2.0, which subsequently led to the beginning of the Web 2.0 Conference held every year. O'Reilly and Dougherty believed that the Web revolution was just beginning and that it would come back even stronger than before, with technological innovation on an unprecedented scale, starting with the Web 2.0 revolution. O´Reilly provides the following definition of Web 2.0:

> *Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering softwares as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation" and going beyond the page metaphor of Web 1.0 to deliver rich user experiences* (O'Reilly, 2007).

2.2.2 Early characteristics of Web 2.0

The transformation from Web 1.0 to Web 2.0 was critical for web companies and those who failed to adapt to the new era experienced hard and difficult times, often leading to the demise of those companies. A key characteristic of Web 2.0 was to view the web as a platform. Google is an example of a company that captured the essence of Web 2.0 quickly. Web servers and browsers turned out to be a commodity and Google, realizing this, delivered the web application in the form of a service instead of packaged software. When using this service, users are paying either directly or indirectly and this service is continuously updating itself instead of having scheduled updates at regular intervals. This shows another key element of Google and Web 2.0, the data set. The data set is constantly updated which leads to the data set growing the entire time. This allows users to get everything they need from Goggle´s service and the results are increasingly personalized to the individual needs of different users. Google also managed to place advertisements on virtually any web page, allowing them to reach the entire market instead of just reaching the center of the population (O'Reilly, 2007). With increased technology, these advertisements have become personalized based on users interests and internet history. These personalized advertisements enable Google and other companies to generate more revenues through advertising as well as increasing the efficiency of those advertisements, leading to happier consumers and advertisers.

Another key characteristic of Web 2.0 was that the service provided should automatically get better the more people used it. This was initially best demonstrated through the peer-to-peer services, most often illegal, where each client is also a server. The files shared between individuals were broken into pieces, enabling many different users from all over the world to collectively share the file, meaning that the most popular files were the easiest to access (O'Reilly, 2007).

Harnessing collective intelligence is also a key characteristic of Web 2.0. Harnessing is greatly dependent on hyperlinking, binding everything that is added to the web together. The best examples of this are the websites of Google and eBay. Google used the hyperlink system to provide better search results, allowing their algorithm to rank pages based on factors like popularity rather than focusing only on the characteristics of each document. The system of eBay is based on the collective activity of all the users, where eBay grows with increased user activity. Closely related to harnessing collective intelligence is the fact that users should be trusted as co-developers. Realizing the effects of users is very important and there are many websites that operate based solely on the input of users. Wikipedia is the most famous example, where every user can add information on any subject and then other users make sure that the information is correct. This places great trust on the shoulder of the average user but to this day, Wikipedia is one of the most popular websites with millions of articles. Open source software is also an example of the trust placed on users, where companies allow users to receive the code for the software and modify it as they please. This leads to the creation of new and improved software (O'Reilly, 2007).

In the Web 2.0 era, data is very important. It is also very important to know who owns the data. For web companies, the most important thing is to own the core data of the applications or services the company provides. This helps to keep competitors from simply licensing the same data. Companies are aware of this and have increasingly managed to license the data of their users. This might be their primary source of competitive advantage and when users accept the terms and conditions of website they often allow the site to use and keep their data. Facebook is an example of this (O'Reilly, 2007).

User interface is something that companies must consider as well. The user must have a positive experience when using the application or service, meaning that companies must continually update their services and try to present them in the easiest and most casual way. The final characteristic of Web 2.0 is that the applications and services must be made available for more than one device. Increasing amount of devices is able to connect to the web, meaning that applications must be able to sync between different devices. One of the first and best examples of this is iTunes by Apple, which allowed users to find songs on their personal computer and then put those songs on their iPod and use on the road. The need for the software to be developed above the single device is steadily increasing and will only become more important, as is evident by the smartphone revolution (O'Reilly & Battelle, 2009).

2.2.3 Development of Web 2.0

Web 2.0 started to gain momentum and through technological innovation and increased awareness the business world started to change. In 2007 the Economist Intelligence Unit, in an attempt to see how Web 2.0 was affecting the business world, surveyed 406 senior executives from all over the world to see how their companies had been affected. They were asked what the biggest impact factors were and what the company had done or would do to adapt to the Web 2.0 era. Companies always aim at increasing revenues and reducing cost and that attitude is the main reason for the increased adoption of Web 2.0. The financial impact is extensive and 30% of the companies surveyed expected the Web 2.0 to cut costs in customer service and support-costs. By having online forums where customers can find the answers to their questions, companies could have fewer employees in call centers and customer services. Advertising and marketing costs were also expected to fall as well as the cost of innovation. At the same time, 70% of companies expected to increase revenue through customer acquisition, more personalized services and through cheaper innovation. Figure 1 shows how the companies surveyed expected to increase revenues and cut costs. Another important factor according to the companies surveyed was the investment in online communities. Communities are crucial for Web 2.0 and 71% of these companies were either using online communities or planning to use them for marketing and product development. These communities are often formed around blogs or wikis and companies try to incorporate the customers as much as possible into these communities. By using comments and suggestions from the customers, companies can reduce the cost of innovation and bring the customers exactly what it is they want. Creating communities within a company can also improve the communication inside the company, allowing employees to work better together (Economist Intelligence Unit, 2007).

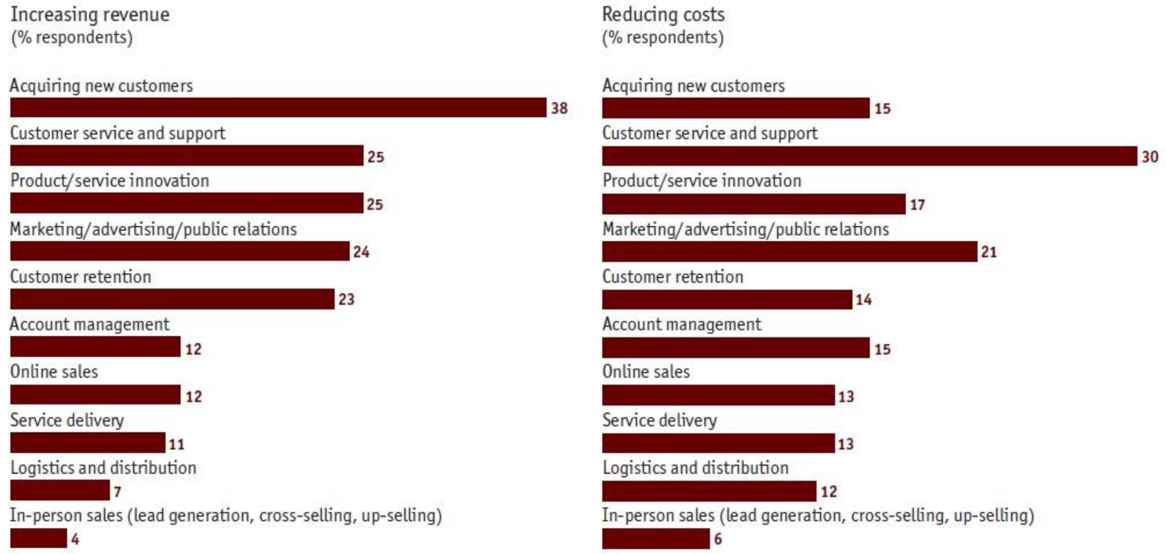


Figure 1: How companies expected Web 2.0 to increase revenues and reduce cost *(Economist Intelligence Unit, 2007)*

When companies started to embrace Web 2.0 they had to change some aspects of their business strategy. One of those aspects was marketing, which has changed to a great extent with Web 2.0. The introduction of the Web influenced marketing and it led to online controllable marketing factors, where marketing divisions of companies advertise on websites. These factors are controllable by companies with increasing accuracy since targeted advertisements are becoming easier to implement, leading to more accurate and productive advertisement campaigns. However, the Web 2.0 era has led to uncontrollable online marketing factors, which are in the form of blogs, social networks and online communities. A simple blog from a person behind a computer was able to reach every web user in the world and even reach the traditional media for further distribution. When reading these reviews, which can be posted by anyone, consumers experience more trust by their peers than the companies producing the product. Consumers are therefore increasingly less trusting towards the traditional marketers. The uncontrollable factors can be managed in some way, and the creation of online communities by companies where they listen to their customer demands and comments have helped the companies to regain some of the control (Constantinides & Fountain, 2008).

The aforementioned considerations by senior executives in the survey by the Economist Intelligence Unit and the changes companies were starting to consider in regards to their business strategy showed clearly that the Web was here to stay. 8 years later, in 2015, there are very few companies that do not operate on the Internet and the list of revenue increasing items and cost reducing items mentioned in Figure 1 have all become integral for companies. The survey, which was conducted in 2007, was very informative and representative for the future, showing both the willingness of companies to adapt the Internet as well as revealing the key characteristics that companies needed to focus on in the future. Successful companies today have most likely adapted each side of Figure 1 successfully and new companies today can use this list, even though it is old, to see what to focus on when increasing revenues and reducing cost.

Five years after Tim O´Reilly had coined the term Web 2.0 he wrote an article with John Battelle, reflecting on those five years and considering the future. In their opinion, the web has been growing faster than they could ever imagine, and that the growth is no longer arithmetic, it is exponential. They now talk about web squared, the next generation of the web. The smartphone revolution has brought the web to the pockets of millions of people and when the tablet was introduced even more gadgets were using the web and all the web applications. When they wrote the article, they talked about how phones and computers were starting to understand people, able to pinpoint locations as well as putting together and creating data sets that are enormous. In their opinion, the Web is now the world and that it has and will open up endless possibilities for businesses (O'Reilly & Battelle, 2009). These predictions have been accurate and today there is a whole digital economy operational, which would not be possible if both previous and new companies had not adapted to the Web 2.0 era and used new business models.

3 Business models in the Web 2.0 era

3.1 What is a business model?

A business model is a concept that has been around the business world from the very beginning. The typical business model has changed over time in accordance with the demands of the society, meaning that a business model is adaptable and can follow the developments and trends of the business cycle. A business model is often used to describe a company and it stipulates how the company will be able to perform and return a profit. Business models can be both very simple as well as very complicated and usually they include a description of the strategies the company intends to use and how the business as a whole functions to show how the revenues and expenses are incurred (Investopedia, 2015B).

3.2 Elements of business models

Business models have evolved over time with technological innovation and it is evident by history that great technological innovations do not necessarily mean great business success, there must be a sustainable business model that follows. Business models help facilitate these innovations by bringing them to the market and create value for both the creator and the society. A well-constructed business model creates value for the consumers, it facilitates a way to generate payments and eventually turn those payments into profits. The elements needed to be considered when designing a business model are depicted in Figure 2. The first thing is to select the new technology and features that the company is presenting and then determine how the consumers will benefit from these new innovations. The company must then identify the market segments it intends to focus on and then confirm that it is possible to generate revenues. Finally the business model must include a design of how the company intends to capture the value it has created. Keeping these elements in mind, a company must continuously update the business model to keep up with all technological innovations and changes to the market. There are many examples throughout history of companies that have failed to update their business model and as a result fallen behind in their respective businesses. It is clear that business models are crucial for companies and innovators, and many great ideas have suffered because the creators lacked a viable business model. This is still true today, and today it has become even more important for companies to create a business model that is hard to imitate and subsequently gives the company a competitive advantage (Teece, 2010).

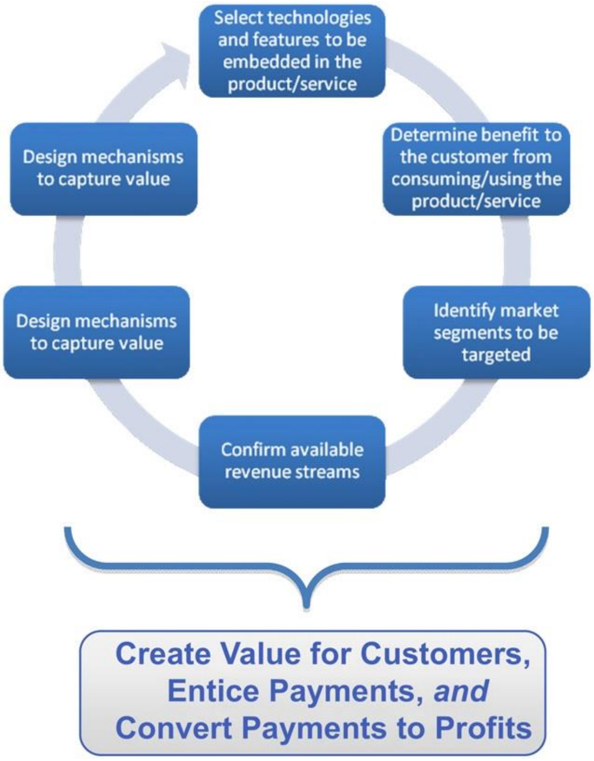


Figure 2: Elements considered when designing a business model *(Teece, 2010)*

Once a company has a clear and concise business plan that proves to be successful, that is not the end of the story. Other companies can adopt that business model, either within the same industry or adjust it to another industry. As a result, successful business models are often shared, at least to some degree, within industries. Strategy analysis is therefore crucial when creating a competitive business model because companies want to have effective and efficient business models that are hard to copy. From the outside, most business models seem to be easily copied but there are ways to create a unique business model. First of all, it is sometimes possible to protect a description of a business model through copyright, as well as having a patent of some parts of the model, although that is not likely to keep out competitors. Beyond the copyright and patent protection, companies must try to make the parts of the business model complicated. Having complicated systems, processes and assets can be very helpful when trying to keep out competitors, as well as having the implementation of the model complicated so that competitors do not understand how to adjust the model to their operations. The right business model is almost never found in the first attempt. It has to be adjusted and tweaked in order to find the right model. Once the right model has been found, finding ways to create a competitive advantage becomes the key target. Once a company has found a business model that is unique and delivers value to both the consumers as well as the company, the business model becomes a competitive and sustainable model and the company benefits. However, the most important part of a business model is to be continuously focused on updating it and adapting it to new changes in the business environment. Companies that capture the essence of business model creation and keep on updating it as time goes by are most likely to succeed (Teece, 2010).

3.3 Business models on the Internet

Because Web 2.0 kept gaining popularity and became a worldwide phenomenon with constantly increasing numbers of users it became clear that the traditional business models of the economy had to undergo radical changes. With Web 2.0, communities started to form on the web. Communities like social networking, Online Encyclopedias, Folksonomies and Web logs. These communities greatly affect the traditional business models and they led to both changes in the old business models as well as the creation of new and improved business models (Hoegg, Martignoni, Meckel, & Stanoevska-Slabeva, 2006). Some early adapters of the Internet thought that the Internet should be about publishing, failing to see that the Internet should be about participation and that the power was with the consumers and not with the advertisers. In the Internet era, a fundamental characteristic is that software is delivered as a service. This change in attitude towards software led to radical changes in the business models of Internet companies. Now companies must make operations a core competency, meaning that they must update their software regularly to avoid the software becoming obsolete and unusable. Companies must also treat every user as a co-developer. This can be done by temporarily adding new features in the software regularly and monitoring the responses of users. If they accept the changes, they are made permanent, otherwise they are eliminated and the process starts again (O'Reilly, 2007).

The rise of the Internet has greatly empowered consumers and that has led to increased differentiation in business models and product service offerings. The Internet brought many challenges for every industry, especially the information industries. Information has always been difficult to price and now, with the web, consumers have many different ways of obtaining certain types of information (as well as many other products) without paying. The key factor the Internet companies must keep in mind when designing a business model is figuring out how to generate revenues. This has been easier said than done and the Internet has changed many revenue generating models, especially the advertising model, and making it difficult for companies to adopt established business models and use them on the Internet (Teece, 2010). Many business models were easily adapted to the Internet. The classic retailer mode could be transferred on to the Internet and the broadcasting business model would remain similar. At the same time there were many business models reinvented and adapted to the new era. These include the auction model, which has expanded and is now applicable to the entire Internet, and the subscription model has also been increasingly used. Apart from adapting old models to the Internet, many new business models have also been created and companies are increasingly combining business models, both new and old, to create a unique mixture. The Internet brought on new challenges for the business world and further emphasized the importance of having a competitive and concise business model (Rappa, 2010).

3.4 New business models for Web 2.0

Because of the characteristics of the Web 2.0 where the user is both the consumer and the creator of content and because the essence of Web 2.0 is that it is an open and free culture, business models have undergone great changes. Business models have adapted and today there are a lot of opportunities to generate revenue online and many companies have done so successfully. There are a lot of different types of business models; Brokerage Models, Advertising Models, Infomediary Models, Merchant Models, Manufacturing Models, Affiliate Models, Community Models, Subscription Models and Utility Models. All those categories have a lot of different business models within them that have all been changed so they can be used on the Internet (Rappa, 2010). Following is a list of new business models (BM) and a brief description of their characteristics:

- **Beyond Advertising BM** is designed for traditional media and print companies. This new model is designed for online use and it focuses on facilitating a strong, trusted relationship between customers and partners. With this model, advertisers do not tell customers what to buy. Users can provide feedback and reviews and share with other users, contributing to this trusted customer relationship. This model changes the cost structure of these firms and revenues will come from facilitation fees and commissions from retailers. Facilitation is the key element in this model (Thaesis B.V., 2010)

- **Community Funded BM** is designed for entertainment and publishing companies. The community is the key in this business model. The customers are divided into believers, supporters and buyers. Believers use the online community to become members, suppliers create the products with the support of the believers and then the buyers purchase them. Products can be both physical as well as digital. To market and sell these products the entertainment companies must partner with media companies and distributors (for the physical products). Revenues come from product sales and user subscription fees (Thaesis B.V., 2010).
- **Long tail BM** is designed for internet companies. In statistics, long tail means having a large share of the population far from the mean. It has been said that products that for example have low sales can all in all have a larger market share than the most popular products, if the store is big enough (Investopedia, 2004). This model is used by many of the most successful internet companies since they can sell physical goods and have also very small marginal costs. Companies like Amazon.com and Netflix use this business model (Intel Corporation, 2012).
- **Low-budget Innovation BM** is designed for co-creation. This model allows companies to develop new products with the help of customers. This process takes place online where the company can create a community for their customers, where the customers can leave their observations, their ideas for new products and suggestions for improvements of older products. By including the customers in the innovation process, the companies become experts in customer behavior and can therefore create products that the customer wants instead of creating what they think the customer wants (Thaesis B.V., 2010).
- **Markets are Conversations BM** is designed for product-focused professional service firms. The key feature of this model is that firms need to understand that markets can be viewed as conversations and interactions, meaning that these companies must convert non-engaged customers into engaged customers. This means replacing product development with customer relations and conversations. This is most often done with social networking, allowing customers to take part in online conversations and help with product and service improvement, not unlike the low-budget innovation model.
- **One-off experience BM** is useful for social media companies. The idea of this business model is that social media companies use their online community to promote products. These companies must work with other companies, such as retailers and event organizers, to promote their products or specific events on the social media sites. This means that the retailers and event organizers reach out to the social media community and get the attention of the users. The social media experience remains free and the products get promoted and purchased separately. The revenues in this model stem from the outside companies, paying the social media for the promotion where the price

for this service increases as the social media site increases in popularity (Thaesis B.V., 2010).

- **Online auction** is a business model that websites like eBay use. The online auction model has removed all the physical aspects of auctions and allows users to sell, bid and purchase products all over the globe. The revenues from this model come from the transaction fees of every purchase made (Intel Corporation, 2012).
- **Subscription BM** are increasingly popular in the modern society, especially in the entertainment industry. There are a lot of different types of subscription models being used and the market is always finding new ways to improve and change the subscription models. Most notable versions of the subscription models are either a free version with revenues coming from advertising or a paid subscription, often generating higher revenues (Rappa, 2010). Subscription models have been extremely successful in the entertainment industry, with the rise of streaming services for movies (e.g. Netflix), music (e.g. Spotify) and video games (e.g. PlayStation Now) making the old and classic business models for these industries obsolete in many ways.
- **Unlimited Niches BM** is similar to the long tail model and low-budget innovation model. This model is divided into two parts; the first one is based on the long tail model and the second on the low-budget innovation model. Combining these two models allows companies to create a model with unlimited niches, with the cost including the creation of a platform for users and the revenues come from low sales of unlimited items (Thaesis B.V., 2010).
- **Twisted Freemium BM** is designed for many companies, in particularly software companies. The idea behind the model is to offer users free open source software which they can develop on their own and customize. The users who are not interested in that aspect and want their product to be constantly updated by someone else can pay for a professional subscription (Thaesis B.V., 2010). This model is a combination of the **Freemium model** (where users get a product or service for free, but have to pay to get the advanced functionality) and the **Premium model** (where the user pays for high-end products, used to discriminate customers). The revenues are generated from the users paying subscription fees to the services (Intel Corporation, 2012).

4 History of the music industry

The Music industry is one of the cornerstones of the entertainment industry along with other entertainment industries such as movies, television and radio. The music industry includes many different companies and individuals who all share the fact that they make money from music one way or the other. The list of people who are involved in the music industry is long and apart from the artists themselves includes managers, agents, publishers, producers, distributors, retailers and those who are involved in presenting live music to name a few. This list is far from being complete and since the music industry has evolved over time with the progress in technology, new ways to participate in the music industry and generating revenues are constantly being created. This chapter will be about the history of the music industry and how it has evolved over time.

4.1 Early history of the music industry

The music industry is very old, with written and printed music being traced back to the 15th century. Until the end of the 19th century it was not possible to record music which meant that people had to attend concerts to hear the sound of music. During this time the music industry only consisted of printed sheet music and live performances. This changed in 1877 when Thomas Alva Edison created the first device that was able to record music, the phonograph. With the introduction of the phonograph, recording of sound and music was possible and the sounds were recorded and imprinted on spinning wax cylinders that could then be replayed on the phonograph. The creation of the phonograph was a huge leap forward for the music industry and it enabled the music industry to start following technological advancements and further grow with the society. The first step was to improve the recording process which led to the use of zinc discs, offering better sound quality and making the manufacturing process faster and more effective. Classical music was much faster to adapt to this new technology than the so called popular music but even though recorded music sales increased almost every year, sheet music remained the most sold format of music until 1925 (Chanan, 1995).

Before the First World War the foundation for broadcast radio was laid and when the war ended both North America and Europe were able to establish broadcast radio. Radio stations began their operations and rapidly gained popularity, threating the music recording industry. The recording industry began using electrical sound recording, as a way to improve the sound quality to counteract the rise of the radio stations and for many years the record industry and the radio stations clashed repeatedly because of copyrights and royalties. Despite these differences the recording industry and the broadcasting radio were beneficial to the music industry by offering new ways of generating income for musicians as well as new ways to present and market music (Chanan, 1995).

After the radio revolution the industry experienced great hardship following the great depression when album sales fell from 150 million in 1929 to 10 million in 1933. The Second World War came shortly after the great depression, further increasing the difficulties of the industry. During this time the industry was controlled by few and large companies, called ASCAP. They controlled the industry with strict rules regarding royalties and radio play time, sometimes resulting in them banning certain music from radio stations. This enabled their rivals, BMI, to represent music that had not been accepted by ASCAP, paving the way for new music and musicians. This meant that African American artists and artists that were previously unknown were able to enter the music industry and it also helped the industry to further improve and grow. When the Second World War ended the industry had started to evolve and the foundations for the modern music industry were being laid (Miller K. , 2003).

4.2 The beginning of the modern music industry

The history of the music industry can be divided into three growth periods. The first one was before the First World War, the second happened before the Great Depression and the third and final one began a decade after the Second World War ended. Shortly after the war ended the Vinyl LP was invented and when the Vinyl LP had been established as the most popular format of music, the third growth period began in the late 1950s. The following two decades were a period of rapid growth in album sales as well as a period of many new inventions that influenced music. The car disc player was invented along with the compact cassettes and microcassettes. However, in 1979 the nearly three decades of constant growth in album sales ended and a 5 year downturn in album sales began (Burnett, 1996).

The beginning of the 1980s was very important for the music industry. In 1981, the television station MTV was launched and it was an instant hit. The station focused on playing music videos and hosting television shows where the most popular songs and videos were revealed. MTV became a widely popular station amongst artists, offering them a new venue to play their music videos to promote their music and reach new audiences. The consumers also enjoyed it since it allowed them to listen to a wide area of music in a new and convenient way that they liked. A year later the Compact Disc (CD) was invented and it has often been, and rightly so, labeled the savior of the industry. It took the CD some time to become popular, like every technological innovation, but when the introduction period finished the CD took the industry by storm and the golden age of album sales began.

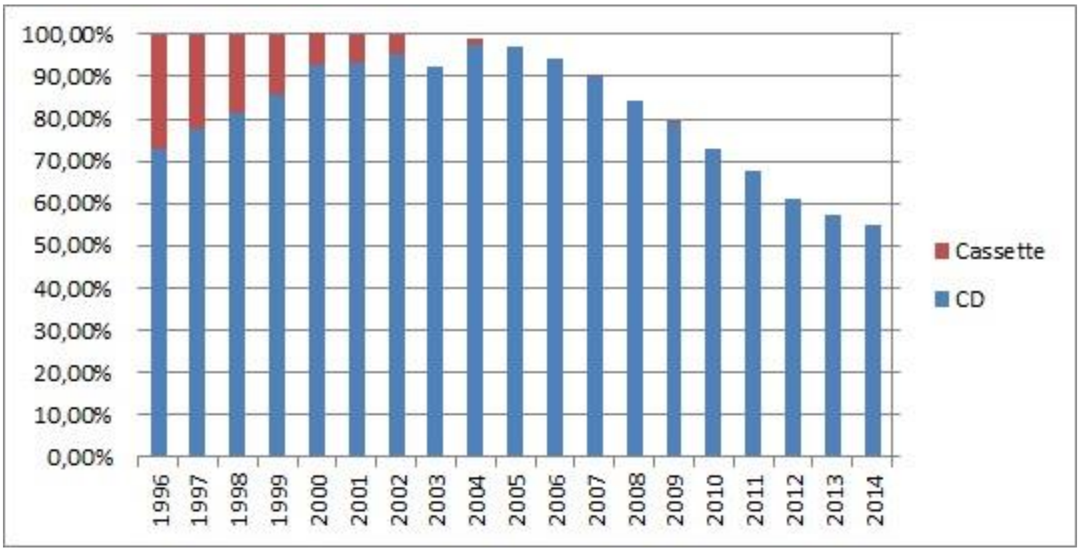


Figure 3: Graph showing the percentage of total album sales attributed to CDs and Cassettes in the U.S. *(Nielsen, 1996-2014)*

In 1990 the sales of Vinyl LPs started to drop while the sales of both CDs and Cassettes were rising, a trend that had been persistent over the last decade in the U.S. This trend was replicated in the rest of the world and the rising sales of both CDs and cassettes continued in the early 1990s. In 1992, when looking at worldwide album sales, cassettes were by far the most popular format, constituting 49.1% of all sales. CDs were, at the same time, 36,4% of all sales while Vinyl LPs had fallen to 4% (Burnett, 1996). This would turn out to be the best year for the cassette tape with sales falling fast in the years to follow while the success of the CD would continue. Figure 3 shows the percentage of total album sales in the U.S. attributed to CDs and Cassettes from 1996 to 2014. Sales of cassettes were falling fast and have been nonexistent since 2004. Meanwhile, the CD kept on taking the industry by storm and represented increasingly bigger part of total album sales. In 2004 and 2005 the CD sales were roughly 97% of all album sales, but since then the numbers have gone down, going down to less than 55% in 2014. This decline of CDs follows the trend of total album sales which have been declining in the 21st century. This decline of physical album sales is directly correlated with the technological advancements that began in the mid-1990s and have continued into the 21st century (Nielsen Yearly reports, 1996-2014).

4.3 The 21st century music industry

The music industry of the 21st century can be traced back to 1995, when the MP3 file was invented. The MP3 music file was a format for audio that was compressed but still offered the music in CD quality. The MP3 file was therefore much smaller, only 1/10 to 1/20 of the size of a normal audio file, meaning that it was easier and faster to transfer the audio files between individuals and computers. When the MP3 was invented computers were increasingly popular and people had started using computers to listen to music, as well as making copies of music files. The creation of the MP3 made such actions much easier and it led to the foundation of Napster in 1999, a company that has widely been credited for the rise of illegal downloading of music (Alexander, 2002).

Napster was a Peer-to-Peer company focusing on distributing music online, where Peer-to-Peer means that people were both sharing and downloading the music. This means that as more and more people download and share the song, the faster users are able to download it. Napster was widely criticized and received constant lawsuits leading the company to file for bankruptcy 2 years after its foundation. Since then a huge amount of P2P companies have been established and there are still countless numbers of illegal downloading sites in 2015 (Alexander, 2002). When MP3 files and P2P services were gaining momentum, Apple Inc. announced two new creations in 2001. Apple introduced the iPod and iTunes music software. The iPod became a worldwide phenomenon with its ability to host a huge amount of music and allowing customers to easily listen to music on the road while the iTunes program offered users a digital jukebox to enjoy on their computer. Both of these products would further develop in the coming years and keep influencing the music industry, but both were seen by many as a threat to the industry. These two products were considered to be encouraging illegal downloading of music. Apple would respond to this criticism 2 years later, introducing a new method to purchase music that would change the industry (Apple Inc., 2010).

Apple introduced the iTunes Music Store in 2003. The iTunes Music Store offered consumers a way to easily purchase music online, either single songs or entire albums, and it became a huge success. Over 50 million songs had been purchased in the iTunes Music Store within the first year and by the end of 2004 over 200 million songs had been purchased (Apple Inc., 2010). Following the iTunes music store the music industry further developed to benefit from the internet. In 2005 YouTube was founded, a website where every user can upload any video they want. This webpage gained enormous popularity and soon musicians began to use this site to their benefit. Today, YouTube has replaced television stations such as MTV and musicians use it to allow consumers to both see their music videos and listen to their music, leading many artists to reach audiences they never would have before the Internet. The website was bought by Google and has developed even further and the popularity of YouTube has continued to grow (YouTube, 2015a)

The music industry was starting to follow technological advancements again and in 2007, when Apple released the first iPhone, the era of the smartphones began. The first iPhone has been credited as the first smartphone that integrated the web, music, videos, photos and the abilities of the normal phone elegantly enough for the consumer (Apple Inc., 2015a). The iPhone inspired other phone manufacturers and smartphones started to be an essential part of the modern life. The smartphones were constantly connected to the Internet, with increasingly faster and better connectivity, and with every phone offering people space to store and listen to music, the smartphones were increasingly used to listen to music on the road. In 2008, Spotify, an online music streaming service was established. Taking advantage of the fact that the smartphones were constantly online, Spotify allowed users to listen to music on the road without having to take up space on their phones. This allows users to access the entire music library of the streaming services whenever they are connected to the Internet. This new technology took some time to gain momentum, but it is becoming more and more popular every day. Today there are many streaming services available but the rise of streaming services has been controversial. Every streaming service must independently reach an agreement with publishers and artists regarding royalty payments and since every service has a different business models and different ways of collecting revenues, publishers and artist in many cases claim to be unfairly paid. Despite these hardships and criticism, the streaming services are gaining popularity and seem to be the best plan of action for the industry, at least for the foreseeable future.

4.4 Distribution of music and production

Prior to the Second World War, the music industry in each country was mainly domestic in every way. The music was composed and oriented towards the domestic market and the production companies did not see fit to distribute the music overseas or expand their business by having foreign subsidiaries and business partners. There were still some profits from sales abroad, but those were very small and the music companies did not focus on nor depend on those revenues (Burnett, 1996).

Increased technology after the Second World War made the distribution of music between countries easier and revenues from foreign markets started to grow. The distribution process consisted of a number of participants, starting with the artists. The artists would compose the music, then the record company would produce it and give it to the distributor, who would supply the retailers with the product and then the product would arrive into the hands of the customer (Graham, 2006). The internationalization of music meant that everyone in the music industry was now looking for the next top hit and artists were now trying to make music for every single market, instead of only focusing on the domestic market, which led to the so called popular music. Following this new era the recording companies started to merge, leading to the creation of the Big Six record companies. In the mid-1990s the Big Six – Sony, Warner, Polygram, EMI, BMG and MCA – were responsible for more than 90% of US album sales and between 70% and 80% of the worldwide album sales through partnerships with foreign companies, their own sales or as licensers. The distribution of music changed enormously in the time between the Second World War and the turn of the century, with more than half of the revenues of music companies coming from foreign sales during the last years of the 20th century. This would change even further with the technological influences in the 21st century (Burnett, 1996).

The distribution model of the music industry had to undergo tremendous changes when the 21st century began. Music was increasingly enjoyed on the road which limited the need for physical copies of music in the forms of CDs, cassettes or Vinyl LPs. This changed the traditional distribution model of the music industry. Figure 4 shows how the distribution model of the industry changed with the introduction of the Internet. As depicted in Figure 4, with the introduction of the Internet the middle layers of the traditional model have been cut out with the artists using a more direct distribution. These changes that were made did not come overnight and have been both bad and good for the industry as a whole.

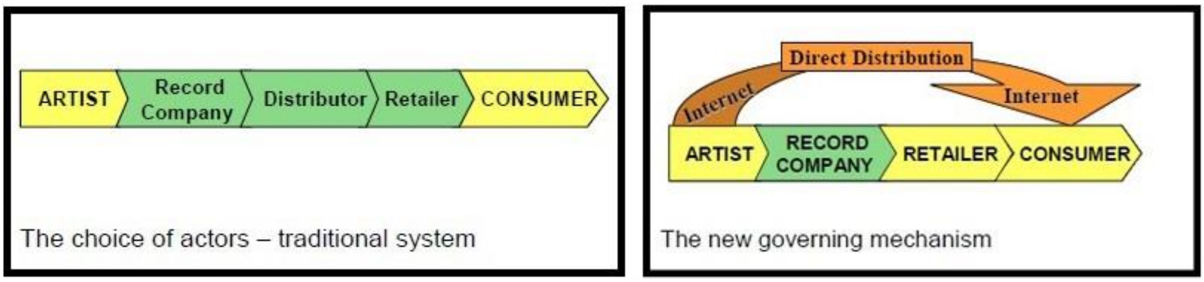


Figure 4: The traditional and the new distribution systems of music *(Graham, 2006)*

The digital distribution of music was born through illegal downloading of music that started with the foundation of Napster. The Peer-to-Peer network that was created, along with increasingly improved Internet connection, personal computers and the creation of MP3 files clearly showed that the industry should start using digital music distribution. The Recording Industry Association of America (RIAA) fought against illegal downloading by taking legal actions against Napster, culminating in the bankruptcy of Napster, but these actions of RIAA only encouraged the unauthorized Peer-to-Peer networks to find new ways of distributing music illegally. However, the success of illegal downloading proved that people were willing to own music as files on their computers instead of having physical copies of the music and it paved the way for a legal digital market for music. The start of the legal online distribution was the foundation of the Apple iTunes Music Store (iTMS). The iTMS sold both individual music tracks as well as full albums that users were able to purchase and download to their personal computer, which could then be put on either an iPod or other portable mp3 players and the songs were protected using digital rights management (DRM) (Klym, 2005). The iTMS was a success with sales rising fast. This led to other services offering digital music, such as Amazon, as well as many smaller retailers selling music online. The sales of online music rose from 5,5 million albums in 2004 to 118 million albums in 2012 before falling down to 106,5 million in 2014 (Nielsen, 1996-2014).

When the globalization of music started to evolve music became a cultural phenomenon, which meant that producers had to create a model for the production of culture. This model focused on six parts; the technology used for production, the different markets available, different laws and regulations in every market, the industry structure, the organizational structure and the occupational careers of the people involved. These six parts all work in unison to shape the production of music for every market, focusing especially on the characteristics of every market as well as copyright laws applicable to each and every market (Burnett, 1996).

This model for the production of culture is helpful in shaping the production system of the music industry. The production procedure revolves around three key aspects. The first one is the artistic creation of music, which is made by relevant parties such as song writers, artists and musicians. The second is the material production, which involves participants such as recording companies and producers, retailers, distributors, promoters and live performance production. Every member of the first two steps has the ultimate goal of reaching the consumers and the consumption of music is therefore the third aspect. Consumption of music can occur in different ways with listening, attending concerts, exposure through media, gratification and the purchase decision also affecting consumption of music (Burnett, 1996). This production system is still used today, although the rise of the Internet has changed some aspects within the model. The artistic side has remained the same. Artists, song writers, musicians and studio engineers are still the integral parts needed to create music, although the process may involve more technology than before. The production of material however has changed a lot with increased use of the Internet. The increased technology has made mass production of music easier as well as making it easier for the independent music producers to enter the market. The other factors of material production have increasingly been moving towards the Internet. The promotion of music is now mostly on the Internet as well as using other entertainment aspects such as movies, television shows and video games. Distribution and retailing was slow in adapting the Internet but online purchases are used more every year. The consumption of music has also changed with consumers using the Internet for every aspect of the model, including live concerts that are sometimes aired live over the Internet.

4.5 Marketing and publishing of music

Marketing of music has always been a key factor for music companies. The available media for the music companies to market their music has been called the gatekeepers and consists of radio stations, television, films, newspapers and other advertising agents. Since radio stations became successful after the First World War they have been the biggest gatekeeper, with fierce competition between artists for airtime. Radio stations kept this competitive advantage until the Music TeleVision station (MTV) was founded in 1981. For the rest of the 20th century, MTV would be recognized as the most influential gatekeeper, greatly affecting the buying behavior of 12 to 34 year olds. Movies have also been a consistent form of promotion for music since the first soundtrack from a movie was released in 1937. Ever since, tie-ins between books/movies/songs have been increasing and in 1986 there were seven different movie theme songs in the American Top 40 charts. This trend has continued and since then the biggest selling albums of the year have often been soundtracks from movies. The marketing of music has followed the technological advances and is constantly evolving, trying to reach as many people as possible in the easiest way. Although marketing changed tremendously during the 20th century, the rise of the Internet would prove to change marketing on an unprecedented scale.

The Internet has revolutionized marketing as a whole, not just the marketing and publishing of music. The traditional model of publishing has been transformed and advertisers are constantly using new ways to reach the public. Historically, the media has been the best source of publishing, with advertising companies using newspapers, radio stations, television, movies, flyers and other such media tools to reach the consumers. These marketing methods were domestically based and published in the media that was viewed by every demographic group in the community. Specialized advertisements that reach the intended demography were hard to implement, the best way of doing so was to advertise in media programs that were already specialized, such as TV shows or magazines that specialized in certain topics. Today, marketing is an entirely different concept. With the touch of a button, a marketing strategy can be viewed by every computer in the world and reach millions of people within seconds. The Internet changed the face of marketing by allowing marketers to access the entire globe, but the biggest change has been the collection of information. What customers do on the Internet is increasingly documented and web companies like Google, Twitter and Facebook for example are sitting on a mountain of information regarding every single user. This has created a special marketing tool called "behavioral targeting" which is commonly used today. Behavioral targeting has good and bad qualities for consumers. The bad qualities involve the privacy of individuals and the ownership of the information people put online. Social media sites like Facebook own everything a person puts there and can use the information as they want, while sites like Google collect information about individuals through their search results and what websites they visit. The benefits of behavioral targeting are that consumers get better service as well as fewer and more concise advertisements. This saves both time and money for consumers as well as the advertising companies. Facebook, Google, Twitter and Amazon are among the top users of behavioral targeting, sending out offers regarding products that users are interested in as well as specializing advertisements published on their sites (Picker, 2009).

These changes in marketing have had huge effects on the music industry. In the 21st century recording companies have created specialized divisions that are constantly searching for new areas to advertise. Behavioral targeting has helped artists a lot, with ads now aimed at consumers that have shown interest in them. Advertisements for live shows, new albums and other things relevant to a certain artist now pop up when their fans are browsing the Internet, increasing awareness and boosting sales. The historically successful movie soundtracks have also opened up new avenues for musicians in recent years, with publishers looking beyond the traditional model of publishing. Movie soundtracks specially made by a certain artist are increasingly used and soundtracks from television shows have also been successful. The newest addition to this sector is video games. Soundtracks specially created for video games have been successful and many videogames also use a collection of songs from various artists as a promotion. The rapper Jay-Z did this with a video game series called NBA 2K, where he put together a list of songs and the game was advertised accordingly, mentioning Jay-Z and his soundtrack, which promoted both him and the other artists involved in the soundtrack (Vary, 2015). Specialized websites have also created a huge playing field for artists. YouTube has replaced the television stations for promotions of singles and music videos, with live videos often posted there to increase demand for tickets to live shows as well as interviews and other things the artists are involved in. Most musicians today also have a Facebook page, Instagram account and a Twitter account that they use to post pictures of their everyday live, advertisements for live shows, new albums, new singles and everything related to them that the fans can then follow and see every day. The use of YouTube, Facebook, Twitter and Instagram has helped both established artists as well as struggling new artists. By using the Internet, artists now have new ways of promoting themselves, reaching millions of people and creating a name and building a fan base, sometimes resulting in a deal with a record company. These new methods have proven to work well for musicians and have often led to successful stories about both new and unknown artists as well established artists (Global Entertainment and Music Business Program, 2013).

The many aspects of the music industry have changed a lot since the recording of music began. The industry has faced many challenges along the way, with the Great Depression, the Second World War and the downturn of album sales in the 1970s hitting the industry hard. However, the industry has faced a continuous and difficult challenge from the beginning regarding copyright and royalty payments. When the music industry was mostly domestic royalty collections and copyright protection were in the hands of the recording companies. Every time an album was sold, a song was played on the radio or performed live the recording companies collected royalties. The internationalization of the industry created problems, making it extremely hard to carry out the royalty collection since it now involved transfers of money between countries. This led to increased copyright infringement. With the internationalization there were also technological innovations that enabled the consumers to make illegal duplications of copyrighted material. Laws and regulations were further specified and enforced to counteract this development, leading to the creation of many different organizations within each domestic market that keep track of music playbacks on both radio stations and television stations. These organizations are then in charge of collecting royalties (Burnett, 1996). These royalty and copyright problems were solved for the time being, but the 21st century brought them back on an unprecedented scale when illegal downloading of music provided the biggest challenge the music industry has ever faced.

5 Illegal downloading of music

In 1997 the foundations for illegal downloading were laid, which would turn out to be the biggest challenge the music industry ever faced. The creation and increased popularity of the MP3 music file as well as increased ownership of computers for the average consumer led to enormous changes in the music industry. A popular MP3 music player, Winamp, was released in 1997 which further increased the popularity of MP3 files and later that same year MP3.com, a website enabling users to download music from independent musicians, was founded. This laid the foundation for Napster, a peer-to-peer (P2P) service that was released 2 years later, completely catching the music industry off guard and changing it. This was the first time the music industry had fallen behind the consumers in adapting new technology, and it paid the price.

5.1 The creation of Napster

The idea for Napster was born in 1998. Shawn Fanning, 18 year old teenager, saw the increased usage of MP3 music files amongst his fellow students and realized that they had no place to share the music in a convenient way. Thus, the idea of Napster was engraved in his mind and he subsequently started working on creating a website enabling people to share music files. The idea was that people would be able to register their music on the Napster service, with the music never leaving the original computer, and other users could then download a digital copy to their own computer. The Napster service would simply act as an intermediary, never touching the music and only connecting different users from around the globe who would then duplicate the music. Due to the fact that making digital copies of MP3s did not result in reduced quality of the music and the increased popularity of this new technology, Shawn was convinced that he had stumbled upon an idea that would start the golden age of music.

Shawn continued to work on Napster and recruited both his friend Sean Parker as well as his nephew John Fanning. In 1999, Shawn dropped out of school and moved to Silicon Valley to work full time on Napster with his partners. Finally, in June 1999, Napster was officially released. Shawn and his friends advertised Napster on chat rooms on the Internet, mainly a chat room called IRC, and introduced the service to their former university. The Napster service was met with enthusiasm by university students and word quickly spread between students, increasing the popularity fast. Napster was groundbreaking, not only creating a service enabling people to reach music for free, but also creating a community. Within the Napster servers, users could talk to other users they had met through shared interest in music. This enabled users to easily discover new music and laid the foundations for future social media networks like MySpace and Facebook. Napster continued to gain popularity and in December in 1999 they had 30.000 active users and the size of the music library available on Napster was unprecedented. The library did not only consist of new music and high profile artists, but also rare bootlegs and a lot of unknown artists and non-commercial music. Never before had so much music been available online and the amount kept on increasing as the number of users increased. From December 1999 to May of 2000 the popularity of Napster became staggering. The word had spread far beyond the universities as newspapers and magazines were starting to notice Napster and write articles about the service. The publicity surrounding Napster increased tremendously, leading to the number of users skyrocketing from 30.000 active users to 20 million in only 5 months. The popularity of Napster was largely due to the simplicity of the service. Napster offered amazing consumer experience, more selection than had ever been seen and greater convenience for users who didn´t seem to care that this process was illegal. The success of Napster did not go unnoticed by the music industry. The industry was slow to react, but when it realized how bad the situation was it started to fight back, beginning in December 1999 (Winter, 2013).

5.2 The Napster lawsuits

Until the rise of the personal computer, MP3 files and the Internet, the music industry had always been faster than the consumers in adapting to technological advancements. Every time a new format became available, from Vinyl LP to Cassettes to CDs, the music industry had been on top, reselling old music on the new formats and enjoying the profit. Artists were dependent on the big recording companies, having to prove themselves to the companies in order to sign a contract and it was a clear sign of a good artist that he had a contract with a big recording company. When the Internet and computers started to be available commercially, instead of trying to change the business model, the industry wanted things to remain the same and paid the price. While the service Napster offered was illegal, resulting in people downloading music for free instead of purchasing it from a retailer, Napster showed that people preferred convenience and were clearly moving towards collecting and listening to music on their computers instead of purchasing physical copies of albums. However, since the industry was not quick enough, people became accustomed to illegal downloading through Napster, as evident by the tremendous increase in users. The music industry did not see Napster as a great threat at first but it was seen as an increasing threat to the industry, with the recording companies planning how to stop the service. Universities started to fight Napster as well since users were primarily university students and the usage of Napster put a strain on the Internet connection of many universities. This led the University of Indiana to publicly ban Napster on the school network. This led to students protesting all over America, showing that illegal downloading was becoming a youth revolution. When the CEO of RIAA, Cary Sherman, finally realized how big the Napster threat was he showed the record labels the number of users and active downloads on the Napster servers and they were shocked. Actions had to be taken swiftly, leading to the lawsuit in December of 1999 (Winter, 2013).

The lawsuit from RIAA focused on copyright. RIAA claimed that Napster was enabling users to exchange copyrighted material without paying for those rights, stripping artists of the ownership of their own creation. One user could purchase a CD legally, than upload that CD to his computer, register the songs on Napster and then everybody could make a copy without the artist receiving any revenue for his creation (A&M Records, Inc. v. Napster, Inc., 2001). The lawsuit took some time to process, giving both sides time to prepare for court. In July 2000 the case was picked up by the District Court for the Northern District of California. Napster pleaded that they were simply a mediator, breaking no laws and that they were only facilitating relationships between anonymous users. The music industry however showed evidence of the massive amount of music that was trading hands on the Napster servers, the continuously increasing number of users and the revenues they were foregoing because of these operations. When faced with the evidence, the court was reluctant to rule in favor of the music industry because they did not want to kill the technology. The court also claimed that the profiteers should adapt to the new environment. Despite this, a single e-mail between founders of Napster, where the word “Piracy” was found became the most crucial evidence, showing that the founders realized they were breaking laws. This e-mail eventually led to the lawsuit falling against Napster. The lawsuit cost Napster dearly, leading to massive downsizing, moving to smaller headquarters and the company fixating on the court case. The initial decision was appealed and the appeal was considered in October 2000. When handling the appeal, the judges were hard on the opponents of Napster, not willing to deprive the public of this technology and when the court adjourned it was unclear what the decision would be. However, on February 12th in 2001, the San Francisco court ruled against Napster and decided that they were indeed breaking copyright laws. The court ordered Napster to take down every song that originated from the major recording labels, limiting the songs available on Napster.

While the lawsuit of RIAA was being processed, more and more people began attacking Napster, with the American rock band Metallica leading the charge. The members of Metallica noticed Napster when unreleased songs from their new album were available on Napster, as well as every other song the band had ever recorded. The band traced back the songs on the Napster servers, identifying 260.000 users in the process who illegally shared music made by Metallica. The band then went to Napster headquarters with the names of these users printed on paper and handed them to executives of Napster, requesting that these users would be blocked from using the servers. The executives at Napster were very adamant that their users remained anonymous and when failing to comply with the request made by Metallica, the band filed a lawsuit against Napster that coincided with the RIAA lawsuit. In March 2001, a month after the San Francisco court had ruled in favor of the RIAA, the federal district court ruled in favor of Metallica, forcing Napster to filter out every song by Metallica from their servers. Other musicians followed Metallica's precedent and Napster was now losing both songs and users every day. This ultimately led to the end of Napster as a free downloading site and the 50 million members of the website had to leave the service. Napster then filed for bankruptcy on June 3rd in 2002. This was a great win for RIAA and the artists in the U.S., but did not have the effects anticipated. Despite shutting down Napster, the technology was out there and in a continued youth revolution, free downloading sites now spread like wildfire throughout the community. These free downloading sites continued to harm the music industry and it was clear that Napster would continue to influence the industry for the foreseeable future (Winter, 2013).

5.3 Continued fight against illegal downloading

The fall of Napster did not stop illegal downloading. The technology was available and people had become accustomed to the convenience of having the music on their computers and accessing it on the web. Despite this, the music industry was still reluctant to re-evaluate their outdated business models and kept on pursuing the people involved in illegal downloading. The focus of RIAA was to keep commercial piracy out and the association intended to do so through both legislations and lawsuits. The first legislation was set in 1998, called the Digital Millennium Copyright Act (DMCA), signed by Bill Clinton. The DMCA stated rules against illegal sharing of music and other media files, and it involved a lot of laws protecting online copyright of music. DMCA implemented two legislations from the World Intellectual Property Organization (WIPO) held in 1996, and when signed enabled the participating countries to protect copyrighted material from other countries that also emphasize the WIPO legislations (U.S. Copyright Office, 1998). Napster believed they were operating under the DMCA, never touching the music files and simply operating as a business, but the courts disagreed. Based on the success of Napster, RIAA focused on improving the DMCA as well as getting other countries more involved in the fight against illegal downloading. The Copyright Arbitration Royalty Panel set royalty rates for music sent out over the Internet in 2002, a deal which was considered bad since the rates were far too low. This still showed some flexibility and willingness on behalf of the music industry to start adapting to the Internet. During this time the European Union was developing their own version of the DMCA which was first implemented in 2002 and implemented by all countries in 2005. Other legislations were also implemented, such as the Digital Media Consumer's Rights Act, aimed at protecting users who circumvent DMCA due to just causes (The Berkman Center for Internet & Society at Harvard Law School, 2003). With increased legislation, the RIAA and other institutions around the globe were able to focus on bringing down P2P services but that was increasingly difficult with P2P services operating from foreign countries that did not oppose sharing music online. Kazaa, a P2P company established during the downfall of Napster managed to escape lawsuits from the Netherlands by operating from Australia and made things very troublesome for the U.S. when trying to file a lawsuit against Kazaa (Smith, 2003).

When having difficulties filing lawsuits against P2P services, the RIAA turned to individuals. By tracking down user names on P2P servers, the RIAA started gathering names of individuals who shared music illegally on those servers and file lawsuits. In 2003 the association began pursuing individuals by filing lawsuits against four university students that had implemented search engines in their respective universities that enabled other students to look for and download music. Each of these students agreed to a settlement between $12.000 and $17.500. For the RIAA, this was just the beginning. The association made monthly announcements regarding their lawsuits until early 2006, and by that time the number had reached 18.000 individual lawsuits. Since then there have been even more lawsuits, although the final number is unknown it was believed to be more than 30.000 in 2008. In most of the cases there was a settlement agreement for between \$3.000 and \$11.000, which often was the cheaper option for individuals. This step by the RIAA was met with great hostility from the community and did nothing but push individuals from the process of purchasing music legally, fuelling the youth revolution that Napster had started (Winter, 2013).

While the focus of the American music industry was on the individuals instead of the big P2P websites, the websites grew even stronger. By the end of the first decade of the 21st century there were 2 websites that were responsible for most of the illegal downloading in the world. The music industry went after the first one in 2009, a website called The Pirate Bay, located in Sweden. In 2009, the Swedish court ruled that each of the four co-founders were guilty of violating copyright and helping the illegal distribution of media files. Each of the founders was sentenced to one year in prison and the whole group also received a 3.6 million dollar fine. A year later the fine was increased to \$6.95 million and the jail time was reduced. Since then, The Pirate Bay and its founders have been through various legal actions, where they have been ordered to take down the website, governments have seized their domains and in 2012 the courts denied their appeal. Despite all this, The Pirate Bay has managed to stay online for most of the time and is still active in 2015, despite still being attacked by the music industry and it is a perfect example of how hard it is to shut down P2P services (BBC, 2014). During the lawsuit against The Pirate Bay another site started to grow enormously, a P2P site called Megaupload. Megaupload was founded in Hong Kong in 2005 and was mostly based there for the beginning. Megaupload caught the attention of the U.S. in 2011 when the Motion Picture Association of America placed the website on their watch list. The site was brought down fast and when it was shut down in the end of January 2012 the assets of Megaupload had been frozen and all the equipment had been seized, even though the lawsuit had not been finalized. 2 and a half year later, the seizing was deemed illegal even though the founder was found guilty. When Megaupload was shut down, nearly 40% of all illegal downloading went through their servers and 2 to 3 percent of the total volume of the Internet (Sidenius, Jensen, Tommerup, Magdalena, & Jensen, 2012). The fight against illegal downloading is still going on, with lawsuits being filed regularly and investigations of many different P2P sites ongoing, but this attacking approach seems to deliver very little results. The P2P network is hard to stop, since for every website that is shut down at least two more appear, rendering the fight virtually impossible.

5.4 The benefits of illegal downloading

Illegal downloading is without a doubt, as the name suggests, stealing and it has been shown to be hurting the industry. However, the music industry has been inclined to count every single download as a missed album sale, which is not the case. Illegal downloading has been bad for the industry, but there are also some benefits that are worth mentioning, that minimize the harm caused by the downloading activities of individuals. As mentioned before, the music industry failed to see the potential in the computer age which led to the success of illegal downloading from the very beginning. This again led to illegal downloading being socially acceptable, even though it is stealing. Among the benefits of illegal downloading for the individual is of course that the music is free, as long as you are not caught by the authorities, and the selection of music available illegally on the Internet is far more than is available legally. This leads to the massive amount of illegal downloading, even though people know this ultimately hurts the artists who might end up leaving the industry because they are not receiving fair payment for their work (Miller M. , 2012). In 2004, Martin Peitz and Patrick Waelbroeck tried to figure out whether the music industry was really losing due to illegal downloading or if the industry could in fact be gaining from it. Their study considered that individuals were in fact using illegal downloading as a way of sampling music, trying the product to see if they like it before they go out and purchase it. The conclusion of this study was that, under certain parameters, consumers were in fact often using illegal downloading to help them make a more informed purchasing decision and were in fact increasingly willing to go out and purchase the product even though it was available to download for free. The music industry later adapted this technology and more often than not a preview of albums is available online, with 30 second bits of songs available for free listening, to help the consumer in making their purchasing decisions (Peitz & Waelbroeck, 2006).

When the founders of Napster were defending their case before a judge, they often spoke of their service as being a way for users to sample music before they went out and purchased what they like. This became increasingly hard to justify with album sales starting to fall due to illegal downloading and other factors however. Despite this, many musicians praised the work Napster had been doing for the smaller artists in the music industry. In a documentary about Napster, there was an interview with a small band called Dispatch. The members of this band were trying to show the other side of illegal downloading they experienced. Coming from the east coast of the U.S. they had never been to the west coast, never played in the radio there nor been there to promote their music. Despite this, when they started touring the west coast, they had sold out shows night after night with people singing along with almost every song. They had gained popularity through illegal downloading which they benefitted from with increased income from concerts. They are an example of how downloading can benefit less known artists, who are trying to gain more fans and publicity (Winter, 2013). While illegal downloading is clearly hurting the industry, it is clear that the math is not so simple that every single illegal download represents a missed sale by the industry. Sampling of music by consumers is often used before purchase and smaller artists can greatly benefit from illegal downloading and it is also clear that the process of illegal downloading has shaped the modern music industry and helped the industry in meeting the demands of the society when creating a legal alternative to illegal downloading.

5.5 Illegal downloading today

The fight against illegal downloading has been producing some real results in recent years. For most countries there were two different paths available, setting laws against illegal downloading and pursuing the individuals responsible or enabling more legal ways of obtaining music through deals between local record companies and music services from around the globe. In an article published in 2014, by Adrian Adermon and Che-Yuan Liang, the authors looked at the effects of anti-piracy laws, focusing on Sweden. A copyright protection reform was implemented in Sweden in 2009, a reform that was intended to reduce illegal downloading by prosecuting the individuals responsible. The research in this article revealed that the anti-piracy laws were extremely successful during the first 6 months, reducing Internet traffic by 16% and increasing music sales by 36%. Despite that, the effects of this reform vanished completely after the first six months for Internet traffic and physical sale of music. The reason for this quick effect of the reform given by the authors is the fear of being prosecuted for illegal downloading. However, when the prosecution of individuals turned out to be a lengthy process, with many of the cases from 2009 being settled in 2014, and because the authorities did not enforce the reform effectively, people stopped believing in this reform. This again led to the reform being ignored and the effects were minimized. In the long run the reform was good for the industry in Sweden. It increased the demand for legal music, and the demand kept on increasing even after the reform stopped affecting individuals. Similar stories come from neighboring countries, with this kind of reforms being effective at first, but it has been hard to enforce them effectively which ultimately leads to their demise. Even so, these reforms show the willingness of people to purchase music legally if it is offered to them in a convenient way, a fact that is crucial for the future of the music industry (Adermon & Liang, 2014).

The other way to decrease illegal downloading has been to make it easier to access music online legally and create more convenient ways for individuals to purchase music. The first step was the creation of the iTunes Music Store, but that was not enough. Even though the store was selling a lot of songs, it was only a fraction of what the industry needed. With increased technology, it became clear that people did not necessarily need to own a copy of the music. People were increasingly willing to simply stream the music, without ever owning it. This was an opportunity for the music industry, to create a streaming service that would be convenient and efficient and charge customers for their usage of the service, or have advertisements to gain revenue. This has been done efficiently and today the biggest streaming service is offered by Spotify. According to Spotify officials, the introduction of Spotify in a country delivers a decrease in illegal downloading for 55% of individuals aged between 18 and 29 when they are offered a free legal alternative. People that are between 16 and 30 are the most active in illegal downloading, so this is a great success for the music industry. At the same time Spotify says that 40% of individuals between 30 and 64 pirate less when offered the same alternative. This shows clearly that offering convenient ways of listening and purchasing music is the most crucial factor in decreasing illegal downloading (Spotify, 2015). A survey released for this thesis revealed even better results. As Figure 5 shows, when asked if illegal downloading of individuals had been decreasing, 76,32% of people between 16 and 30 said their illegal downloading was decreasing while 5,26% said they had never illegally downloaded music. This is a substantially higher number than Spotify released and shows that the industry is on the right track in fighting illegal downloading. Streaming services were clearly a crucial factor in the decrease in illegal downloading, as Figure 6 shows. A little over 63% of individuals between 16 and 30 now use streaming services instead of using illegally downloaded music, while nearly 53% use the Internet to legally listen to music. During the survey, more than 46% of these individuals even said they have completely stopped downloading illegally, meaning that nearly half of the people of this age are now using legal ways of obtaining music. These numbers are great news for the industry, showing that the younger generation is clearly looking for legal ways to obtain music and as long as the industry is able to offer it to them in a convenient way people will move to the legal side (Ingólfsson, 2015).

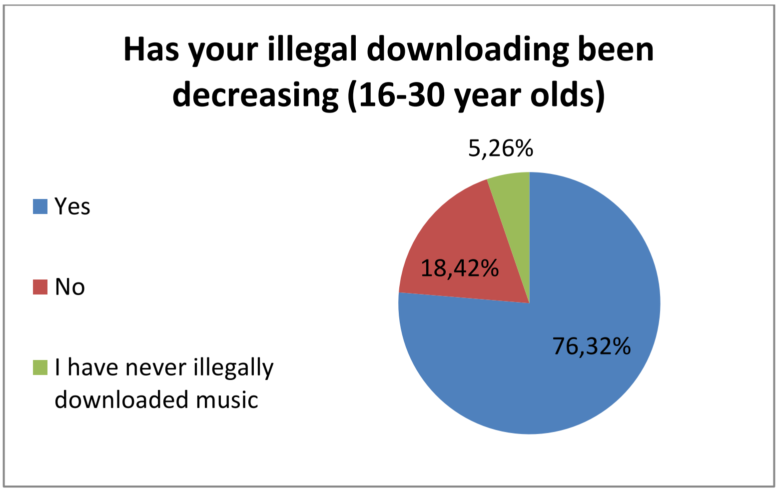


Figure 5: Shows if illegal downloading has been decreasing for individuals between 16 and 30 years old *(Ingólfsson, 2015)*

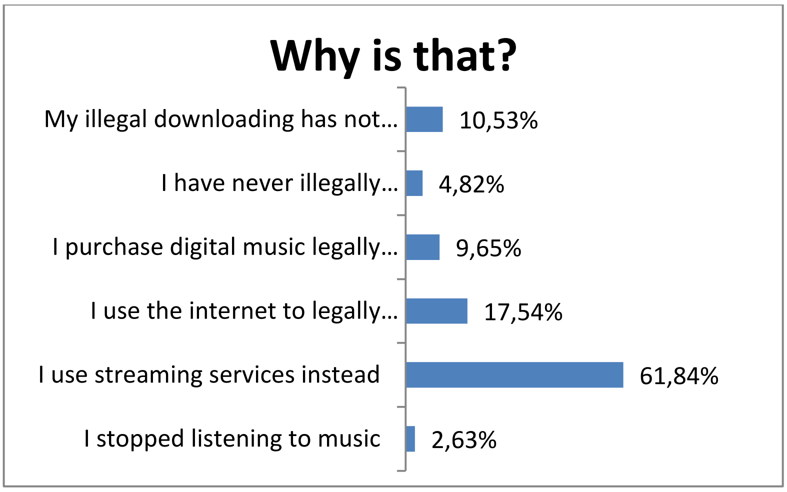


Figure 6: Shows why illegal downloading has been decreasing for individual between 16 and 30 *(Ingólfsson, 2015)*

When looking at every answer given to the survey, with a total of 270 replies, the results are similar. 73,7% of people have experienced reduction in their illegal downloading, with 46,67% of them claiming that they stopped downloading music illegally. Of these individuals, 60% use streaming services and 54,4% use the internet to legally listen to music. Digital music purchases are very far behind, with 11,11% of respondents purchasing digital music (Ingólfsson, 2015). It is clear that the fight against illegal downloading is on the right track and the new and legal responses from the music industry are resulting in a significant reduction in illegal downloading. This is especially true for people under 30, the most important age group where a high percentage of people are students with limited income. Illegal downloading is clearly decreasing and the industry finally looks to be on the right path.

6 Music industry today and in the future

The present music industry has taken shape and the question is whether the current state of the industry is an improvement or if further changes are needed. The biggest changes have been in regards to the business models used in the industry as well as how individuals pay for music, especially in regards to ownership, which affects album sales tremendously.

6.1 New business models for the music industry

As mentioned before, when Napster was introduced to the community, it was the first time that the music industry had fallen behind the technological advancements in music. In a 2013 documentary about Napster, named Downloaded, there were several interviews with people from the music industry. They all said that during the rise of illegal downloading of music they noticed that the current business models of the music industry were outdated and needed to be reinvented (Winter, 2013). When reinventing business models it is important to see how the market is developing. Companies must use any changes that are occurring in any particular industry to their advantage, which for the music industry was the introduction and presence of illegal downloading. This change brought opportunities for new entrants to exploit the situation, as was evident by Apple introducing the iTunes Music Store. By exploiting the market changes before the industry itself had adapted, Apple managed to enter the business of selling music in a clear and concise way, bringing with it further changes to the industry (Porter, Kim, & Mauborgne, 2011). The traditional business model of the music industry had only been about the big record companies. They had complete control and when the Internet started to affect the industry the record companies were reluctant to use it because it meant giving up control of the market. The record companies were manufacturing the product, distributing it to retailers or selling them at concerts and reaping the benefits of every sale. It was clear from the beginning of the web 2.0 era that these business models needed to change, and the only way for the industry was to start experimenting with new business models to find out which is the best for the new technology. Throughout the 21st century this has been done regularly, with record companies, websites and even the artists themselves trying out new business models and new ways of obtaining revenues. A great example of an experiment and risk in developing a new business model is the band Radiohead, who released an album online, where everyone who downloaded their album could choose how much to pay for it. 2/3 of the people who downloaded the album paid for it, 4 GBP on average, giving the band a net revenue of about 2,67 GBP per every download. This was far more than the band would have had under their normal contract with a record company, making it a successful experiment (Chesbrough, 2010). Today there are a number of business models that have proved to be effective in today's society, all of which made up new ways for musicians to generate revenue through retailers, websites and other services that surfaced in the 21st century.

6.1.1 Listening to music for free

Offering music for free is not new. Radio stations have been doing this since they were originally created. This way of offering music is great for artists who want to reach a broad audience. Under this business model the radio stations and other services rely on advertisements to generate revenues and pay out royalties. This business model has been growing since the Internet became popular and today there are countless ways of enjoying music for free online. Radio stations now broadcast over the web as well, extending their availability to consumers. Apart from radio stations music is now available on a large number of websites, some of whom have millions of people checking in every day. Soundcloud.com, Pandora.com, Grooveshark.com and Rdio.com are just a few examples of large websites employing this business model, but the biggest of all is Youtube.com. YouTube was groundbreaking in using this business model, constantly applying new innovations in advertising. YouTube is owned by Google, and with the added benefits of personalizing advertisements based on both location and preferences of each individual users, the revenues generated from advertisements have never been higher for YouTube. By allowing artists to register themselves as artists on YouTube, musicians from all over the world are able to collect revenues from YouTube, based on popularity and views of each music video. YouTube is the largest website offering to listen to music for free with the only cost for users being that they have to watch commercials before they can view the videos they want to see (YouTube, 2015b). This kind of service is extremely popular and in the survey released for this thesis, over 25% of participants predominantly use this kind of service to listen to music (Ingólfsson, 2015)

6.1.2 The improved traditional business model of the music industry

Retailers of music have been transitioning from brick and mortar stores to online stores. Today, the largest sellers of CDs and Vinyl LPs are online, although the traditional business model still has a vintage appeal. While the traditional sellers of music have been disappearing from the society, a select few still remain for those who prefer to purchase music over the counter. This applies more to the older generation, who is slower in adapting the new technology. With the constantly improving convenience of online shopping, where the product can be ordered and purchased from your own house and delivered to the front door immediately, the appeal of over the counter purchases of music has been disappearing. The biggest sellers of music today are Amazon.com, which offers physical albums as well as digital, and iTunes Music Store, which only offers digital music. Physical albums have been decreasing in sale in the 21st century, while the digital album sales have kept on growing. This is largely due to the convenience in owning digital music that consumers are increasingly enjoying. This business model is not new. It is based on the traditional business model of the music industry. However, the key difference here is the number of players and the increased number of options consumers face when purchasing music. Now there are much more ways of obtaining music, with independent musicians and sellers being able to offer their music at large online music stores such as iTunes Music Store and Amazon.com, as well as offering their music on their own websites or small retailers of their choice. This business model also enables users to purchase digital albums as a whole, or purchase individual tracks for a fraction of the fee. This option of being able to choose any single song and purchase has been met with great enthusiasm, since it was only possible to buy single songs that had been pre chosen by the record companies in the past. With this new and improved traditional business model the power of the large record companies has been minimized, offering new ways of purchasing music, an update of the traditional model that was so desperately needed in the beginning of the 21st century.

6.1.3 Subscription business model

The subscription business model is a business model predominantly used by streaming services in the music industry. This model has enjoyed enormous success in recent years with technological progress fuelling the growth. Consumers are increasingly willing to pay a subscription fee for music, letting go of the ownership of the music, and simply listen to the music they want anywhere and anytime by streaming it. When using this business model, streaming services usually charge a monthly fee for their services, but there are different versions of this model however. Two of the biggest streaming services in the world, Deezer and Spotify, both use a freemium version of this business model. That is a two-tier model, where there is one free tier with limited functionalities and a premium version where users get access to the music without any limitations. The limitations faced by users usually mean that they have to listen to advertisements as well as reduced functionality. The arguments for offering the free-tier is that over time, users tend to change from the free service to the paid version, when they service offered becomes a part of their everyday life and they want to enjoy it without the limitations. Some streaming services only offer paying subscriptions, which results in higher revenues generated by each user. The best example of this is Tidal. On June 8th, Apple Inc. made an announcement in regards to their very own music streaming service called Apple Music. There Apple has added a new element to this subscription model, where they offer a monthly fee for individuals and then a family deal, where up to 6 users can enjoy the service for a slightly higher monthly fee than the individuals. This is the most active business model in the modern music industry and with the number of users and available streaming services always increasing, music streaming is the fastest growing part of the music industry today (IFPI, 2014).

6.1.4 Other ways of generating revenue

Using online services and retailers is one way for musicians to generate revenue as has been said before. However, for many artists, the revenues from these services are only a small fraction of their total revenues. Musicians are increasingly becoming products themselves, often lending their names to commercial commodities and appearing in commercials. Many even step beyond this and become business icons instead, with the best example being the rapper Dr.Dre. In 2014, Dr.Dre was the highest paid musician, collecting $620 million before taxes, largely because he sold a company that he co-founded, Beats, to Apple. In fact, Dr.Dre has been one of the highest paid artists in the last decade, without ever headlining a concert tour or even releasing an album since 1999, all due to his great business sense and smart work. In 2014, of the top 10 highest paid artists, only 4 released an album during 2014. The biggest earners collected most of their revenue through successful concert tours, with some generating millions of dollars per performance (Forbes, 2014). The live performance is the most important revenue stream for artists, with live performances increasing album sales and general awareness of musicians. With the Internet and increased globalization, creating awareness of artists has become increasingly effective and allowed many smaller artists to perform for larger audiences and at bigger stages throughout the world. This has created a big opportunity for concert holders, who have become more aggressive in the 21^{st} century, with many artists going on tremendously large tours that often go on for months at a time, every show always becoming bigger and some have even started streaming live shows online to increase the income from the shows. This has led to many record companies entering the concert business, further increasing the size of this particular business model (Koster, 2008).

Even though the traditional business model of the music industry is still used, it is decreasing every year and it has gone from being the primary business model to having a vintage appeal that certain people like. The new and improved business models have helped shape the music industry of today and have been helping the industry get back on track after experiencing a bad period of decreasing album sales and lost revenues. Technological advancements help to make sure that every year there are possibilities for new business models and new ways of generating revenue, with the music industry doing the best it can in keeping up.

6.2 Streaming services

The idea of music streaming had been developing for many years before it finally gained momentum. The founder of Napster had an idea for a legal music streaming service during the end of the Napster trials and started working on the idea. However, as often is the case, the society was not ready for music streaming during the first years of the 21^{st} century and neither was the technology. When legal downloading began to blossom with the release of the iTunes Music Store in 2003, it was clear that people were thinking differently about owning music. Instead of having it in physical form, people were happy with files on their computer and half a decade later, the first big music streaming service was launched when Spotify began in 2008. Employing a subscription model, Spotify charged users a monthly fee for listening to all the music available on their servers. The difference was that users only borrowed the music, they simply listened to every song they want without ever owning a copy of the music.

The rise of streaming services was a lengthy process. Before launching in different markets, streaming services must reach agreements with record labels and artists as well as agreements with relevant agencies within those markets. However, the rise of streaming services is now booming and is at an all-time high. In 2013, the music streaming revenues grew 51.3% and the growth has been even more in 2014, with streaming increasing more than 54% and user numbers blowing up. Figure 7 shows how revenues of streaming companies have been growing from 2009 to 2014, with subscription based revenues growing substantially, reaching more than 1,5 billion dollars in 2014. Despite being relatively far behind, ad-supported streaming revenues are also growing every year, both with increased user numbers as well as improved and more targeted advertisements. The advertisement revenues are expected to grow even faster in the coming years. Today, subscription revenues from streaming services account for 23% of global digital music revenues, while the ad-supported streams income represents 9% of the global revenues. These numbers are expected to grow fast in the coming years as well (IFPI, 2015).

Figure 7: Growth of streaming revenues from 2009 to 2014 *(IFPI, 2015)*.

Figure 8 shows that when asked if they use streaming services, more than 80% of individuals use them to listen to music, with nearly 35% being paying users (Ingólfsson, 2015). Paying users have been steadily increasing, further enhancing the strength of the streaming service, with paying users rising from 8 million in 2010 to 28 million in 2013. The success of streaming services has led to a decrease in illegal downloading and has revived the music industry in many countries over the world. In 2014 and 2015 the streaming services have been expanding and increasingly reaching more markets over the globe, with Spotify now being offered in 55 markets and other services increasing their availability as well. These added markets further increase the number of both active users and paying users, which then again leads to increased revenues for musicians all over the world and royalties paid out from streaming are always increasing. Despite a rocky start, streaming services are helping the industry and with increasing user numbers and increasing revenue every year, it could very well be saving the industry (IFPI, 2014).

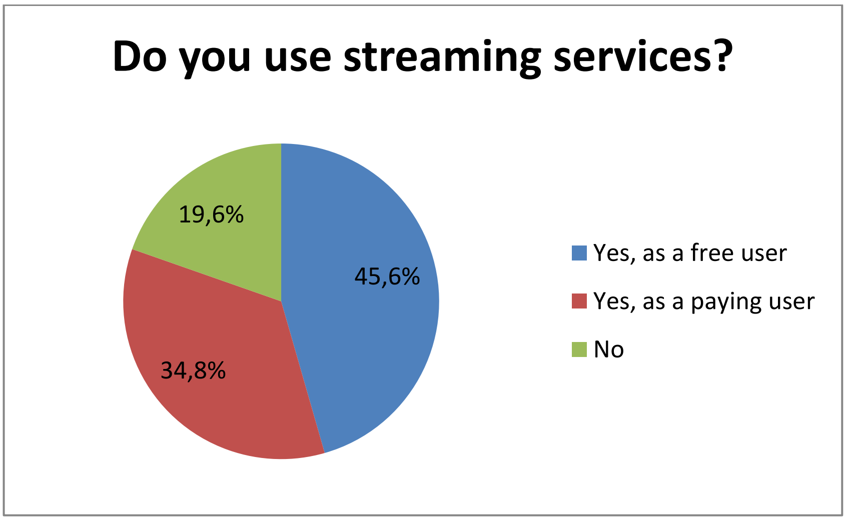


Figure 8: How people use streaming services *(Ingólfsson, 2015)*

6.2.1 Spotify

6.2.1.1 History of Spotify

Spotify is the biggest streaming service available in the world. Founded in 2006 and launched in 2008, Spotify was intended to give people the option of listening to music wherever they want, whenever they want. The founders of Spotify saw it as an opportunity to further enhance the music business as well as an alternative to illegal downloading. As well as being the biggest in the world, Spotify was also the first streaming service to gain widespread popularity. Being the first company meant that Spotify had a head start on other companies, being able to reach agreements with record companies as well as getting new users and perhaps locking them in as permanent customers before competitors were even established. Other companies still benefit from the launch of Spotify, being able to mimic their activities and business model to build a successful competitor.

Figure 9: The rise of both active and premium users of Spotify (Spotify, 2015).

With the founders of Spotify well aware of this, Spotify has been constantly updating their agreements with record labels and authorities of different countries to make their service available in as many countries as possible, as well as having the best selection of music available. This has been very successful and at the end of 2014 Spotify was available in 55 different markets and as Figure 9 shows, the number of active users has been improving fast. In May 2014 there were 40 million active users, with 10 million of them being premium subscribers, and by the end of 2014 there were 60 million active users with 15 million of them being premium subscribers. This enormous growth has helped Spotify increase their revenues and 2014 was their biggest year. While increasing revenues, Spotify has also increased the value of each and every user of Spotify, with every user now generating $41 per year, an average number for active users (premium users and free users). This has further enabled Spotify to pay out over $1 billion in royalties in 2014 alone and overall Spotify has paid over $3 billion in royalties. These royalty payments of Spotify have been met with mixed feelings. Many argue that this is money that the record companies would never see if not for Spotify because the customers of Spotify would simply download the music illegally otherwise while others argue that the business model of Spotify is too lenient and does not generate enough revenue, and by default not generate enough royalty payments. Spotify stands firmly behind this business model and intends to further expand to new markets in the future to keep on increasing the number of users and increase their revenues subsequently (Spotify, 2015).

6.2.1.2 The business model of Spotify

The biggest criticism against Spotify has been in terms of the business model. Spotify collects revenue from two different sources. They offer a free version of Spotify, where revenues are collected through advertisements that users must listen to, and a premium version of Spotify where users pay a monthly subscription fee. Those who sign up for the free service can listen to music on their personal computers, but have to listen to advertisements regularly throughout each listening sessions. The free version is also available for mobile use, where users are also subject to advertisements as well as only being able to shuffle the music they listen to and can only skip a certain amount of songs every day. The free version of Spotify therefore greatly decreases the enjoyment of listening to music with disturbing advertisements and other limitations. The premium users do not face any limitations and can listen to the entire music library of Spotify on every device applicable without any advertisements. The bulk of Spotify's revenue comes from the premium users, with the revenues following a similar pattern as presented in Figure 7. Therein lays the criticism, that Spotify could generate much more revenues by eliminating the free version and focusing on the premium users and then pay out more royalties to artists (Spotify, 2015).

Artists are increasingly complaining about low royalties from Spotify and other streaming services, even though the royalties paid out by the streaming services grow every year. For Spotify, once Spotify collects the monthly revenues, they keep 30% for themselves and the remaining 70% get paid out as royalties to artists. Figure 10 shows how the payout process works for Spotify. Step 1 is collecting the monthly revenues. In step 2, Spotify takes the total number of streams from a certain artist and divides it by the total number of streams on Spotify. This way, the more popular artists get higher royalty payments. Then in step 3, Spotify takes its 30% share and the remaining 70% go to the owners of the music. How much each artist then gets depends on the deal the artist has with his record label, the artist's royalty rate. Once this has all been calculated the final number is the artist payout. In July of 2013, a global hit album would be paid as much as $425.000 and a top 10 Spotify album would receive around $145.000. In future plans, Spotify aims at getting to at least 40 million paid subscribers, and by calculating the numbers from July 2013 based on 40 million subscribers a global hit album would receive $2.1 million in royalties. Spotify has over 20 million paid subscribers in June 2015, up from only 6 million in July 2013, showing the tremendous growth of Spotify. The royalty payments are therefore always increasing as well. This business model of Spotify is something they are very proud of and they stand firmly behind it, claiming that it is the best way to go and that free users of the streaming service they offer are increasingly moving from the free service to the premium subscription. They stand behind this business model and intend to use it to further enhance their dominance on the streaming market, despite what at the critics say (Spotify, 2015).

Figure 10: An overview of how Spotify pays out royalties

In the survey released for this thesis, 45,6% of participants were free users of streaming services as shown in Figure 8, while 34,8% were paying users. The majority of free users claimed to have experienced a decrease in their illegal downloading of music with 69,11% of them saying that they use streaming services instead and 60,98% use the Internet to legally listen to music. This is exactly what Spotify claims, that having free users is helping the fight against illegal downloading while creating some revenues through advertisements. But how many of the free users would continue to use the service if they eliminated free services? When asked if they would continue to use streaming services if they stopped offering free services, 63,9% of the free users claimed that they would stop using the service if they were charged for it (Ingólfsson, 2015). If these findings are applied to the number of users for Spotify in January 2015, the revenue model changes. In 2014, total revenues from streaming services in the world were $1,6 billion from subscription and about $630 million from advertisements. This means that 72% of the revenues come from subscriptions and 28% from advertisements. Spotify has 45 million free users and 15 million subscribers in January 2015. If we hold these numbers fixed for 2015 and use the same revenue ratios the industry experienced in 2014, the revenues of Spotify in 2015 can be seen in Table 1. Total revenues for 2015 would amount to just over $2,5 billion and every active user would generate $41,74 on average over the course of the year. However, if Spotify would eliminate the free service and only have premium subscriptions, based on the survey for this thesis, the number of active users would fall from 60 million down to 31,26 million users. At the same time, every single one of those users would pay the full price for the year, or $120, giving Spotify revenues of more than $3,75 billion. Thus, by eliminating the free service, Spotify could enhance their revenues by more than $1,2 billion.

Spotify	**Number of users**	**Revenues in 2015 with ads**	**Users without ads**	**Revenues in 2015 without ads**
Free Users	45.000.000	704.347.826	16.260.504	1.951.260.504
Subscribers	15.000.000	1.800.000.000	15.000.000	1.800.000.000
Active users	**60.000.000**	**2.504.347.826**	**31.260.504**	**3.751.260.504**
	Revenues per user	41,74	Revenues per user	120

Table 1: Revenues of Spotify in 2015 with and without free services and advertisements, amounts in dollars

The numbers presented in Table 1 are speculative. These numbers are based on a small survey, with 270 participants, and also based on a lot of factors remaining constant throughout 2015. Spotify has already established plans of improving advertising revenues in 2015 through more personalized ads and emphasizing how effective those advertisements really are. Spotify also aims at increasing their user numbers through constant expansions to new markets, and do believe that they will experience even more transitions of free users into premium subscriptions. Those are all things that have been held constant in the calculations in Table 1, but Spotify could very well change them drastically and improve the year-end revenues without eliminating the free service. In the survey performed, 71% of those who would leave streaming services when they are forced to pay used them instead of illegal downloading of music, meaning that many of them are likely to go back to illegal downloading or some other form of getting the music, very likely decreasing the revenues gained from their listening. This gives rise to the arguments made by Spotify for their business model, they want to fight illegal downloading and monetize as much of the music industry as possible. The ratio of premium subscribers to active users has been 20% for the last years, but in June 2015 it has been growing and is well above 20% now. This indicates that Spotify is on the right track and if Spotify can increase their advertising revenues and keep getting more people to move from the free service into the premium service, they could very well keep this business model going.

6.2.1.3 Impact on the industry

Spotify has had tremendous effects on the music industry. Music streaming is an increasingly big part of the global digital revenues of the music industry and that is largely because of the pioneering work done by Spotify since it was founded. With increased music streaming around the globe, illegal downloading of music has been decreasing rapidly and consumers who were once active in illegal downloading are now increasingly lowering their illegal downloading or even stopping it altogether. The foundation of Spotify was laid out by the owners because they wanted to monetize the modern way of listening to music, and through that their controversial business model was created. They believe that by getting free users to use their service, those users are generating at least some revenues through advertisements instead of using illegal downloading that generates no revenue at all.

This controversial business model has created much debate in the music industry, with some artists leaving Spotify to gain more revenues elsewhere, most famously Taylor Swift. Many compare the business model of Spotify to the business model of Netflix. Netflix has a streaming service with movies and TV episodes, where the only possible way is to be a subscriber, and despite that Netflix has over 62 million subscribers in 2015. Netflix offers movies and TV episodes, but not on the immediate release day. They have a delay on their premiers, often premiering series a year after they were originally aired. They also offer their own material, creating Netflix Original TV series, many to critical acclaim (Netflix, 2015). Spotify has begun doing something similar, often releasing live albums, or so called Spotify sessions, where artists perform their music live exclusively for Spotify. However, most often the albums appear on Spotify the day they are released, certainly diminishing possible album sales on the release day. Spotify however argues that their users are not likely to purchase albums even if they were not released on Spotify from the first day.

The changes that have been made in the music industry in the last 5 years can be largely attributed to Spotify, despite their flawed business model. When asked how they predominantly listen to music, 41,9% of individuals use streaming services predominantly when listening to music, showing how big those services have become (Ingólfsson, 2015). The rise of streaming services is expected to continue and become an even bigger part of the global digital revenues of music. This has given competitors an added incentive and recently the competitors have gotten more aggressive and bigger than before, with new deals being signed with record labels that could greatly benefit the artists, and potentially hurt Spotify.

6.2.1.4 Competitors of Spotify

The music streaming environment is becoming more and more competitive. With many artists complaining about low royalty payments, there has been increased pressure on generating more revenues resulting in new streaming services rising with improved business models. One of the biggest rivals of Spotify is a streaming service called Tidal. The initial idea for Tidal came from the rapper Jay-Z, who is the founder of Tidal alongside many of his fellow artists. The founders were angry about the royalty payments they were receiving from streaming services and as a result created Tidal. Tidal offers 2 subscription plans and no free usage is available. Almost every user of Tidal is using the less expensive plan, with the more expensive subscription only offering songs in higher quality and no new content or extra features. Tidal was launched in the end of October in 2014 and has been growing steadily. In May of 2015, according to founder Jay-Z, Tidal had 770.000 paying subscribers, compared to the 15 million paying subscribers of Spotify. Despite this, Tidal claims to have the highest royalty payments of any streaming service available. Tidal has secured deals allowing them to build a music library of 30 million songs, falling short of Spotify, but closing the gap and constantly reaching new deals. Tidal also offers music videos and a huge amount of exclusive material released by the founding artists. Every streaming service must reach independent deals with those who own the music, and in spite of the willingness of artists to move from Spotify to Tidal, they might not be able to move their music if those who own their music do not reach an agreement. Tidal is for example now struggling to reach an agreement with Sony for the rights of their music. This dispute might lead to the removal of many artists from Tidal, including Beyoncé and Daft Punk, who are co-founders of Tidal. If Tidal and other streaming services do not reach agreements with the record labels, they do not get the music available on their service and have a harder time competing on the market. However, the founders of Tidal are confident about their service and if they successfully negotiate deals with record companies, they might eventually reach Spotify and increase the royalty payments made by streaming services even further (Tidal, 2015).

There are a number of other competitors available on the streaming market and new competitors rise regularly. In mid-2014, Apple Inc. purchased Beats, a headphone company and a streaming service, for $3 billion, laying the foundation for an Apple streaming service. On June 8 2015, Apple officially announced its very own streaming service that will launch on June 30th 2015, called Apple Music. Apple music will be available in 100 countries when it is officially launched with over 30 million songs. The music service will be automatically featured in every iPhone that upgrades to the newest software release from Apple that coincides with the launch of Apple Music. Apple Music introduces some new things to users that are intended to increase functionality and user experience but the business model of Apple Music is also an updated subscription model. There will be the standard subscription fee of the streaming industry of $10 per month, but Apple Music also introduces a new plan called a Family plan. With the Family plan, which will cost $15 per month, the service will be available for up to six users at a time. This improved subscription model is interesting and it will be exciting to see how this will work for Apple and how it will affect the music streaming industry (Apple Inc., 2015)

The third big competitor of Spotify is the music streaming service called Deezer. Deezer is the most widespread music service, available in more than 180 different countries and with more than 35 million music tracks available. The service of Deezer is always increasing and the user numbers keep on rising. Now Deezer has 6 million paying subscribers and 16 million active users, where Deezer employs the same business model as Spotify. The service is expected to keep on growing and Deezer could very well be the biggest contender of Spotify for the throne of music streaming (Deezer, 2015). There are other streaming services available but currently Spotify and Deezer are the biggest with Tidal and Apple Music considered the biggest rivals in the nearest future. However this rivalry ends, it is clear that music streaming is an up and coming business that will keep on growing, both in terms of users as well as revenues and if the streaming services play their cards right, the foreseeable future of the music industry might rest heavily on their shoulders.

6.3 Album sales

When looking at how the music industry is doing, album sales are always the focal point. This focus on album sales remains even though there are other ways of obtaining revenues through online activity and live performances. The players within the industry, record companies and artists all focus on album sales and the missed revenues that stem from illegal downloading. The different formats of albums have changed the music album environment, with digital albums rising, cassettes disappearing, vinyl albums making a comeback and CD sales falling drastically. The sale of physical albums in the U.S. has been declining since it peaked in the year 2000, with 785 million albums sold as Figure 11 shows. The red vertical line in Figure 11 shows when Napster was launched, marking the beginning of the illegal downloading age. Although the effects were not immediate, with album sales increasing in the year 1999 and 2000, the effects began to influence physical album sales early in the 21st century. The decline continued until 2003, when the iTunes Music Store was released, as indicated by the green line in Figure 11. As evident by the figure, physical albums experienced a rise in sales from 2003 to 2004, something that might be explained by the launch of the iTunes Music Store or it might also have been a random event. After 2004, the decline of physical albums kept going, making the music industry both angry and nervous, despite the physical albums increasingly being replaced by other formats of music. When Spotify was introduced in 2008 and marking the beginning of streaming services, as indicated with the purple line in Figure 11, it did not have a positive effect on physical albums and they have kept on declining every year since then. From the high point of little less than 785 million physical albums sold in 2000, the physical albums sold in 2014 were only 150 million. This is a huge drop and the physical album sales are only a fraction of what they were, but that is not the only part of the story (Nielsen, 1996-2014).

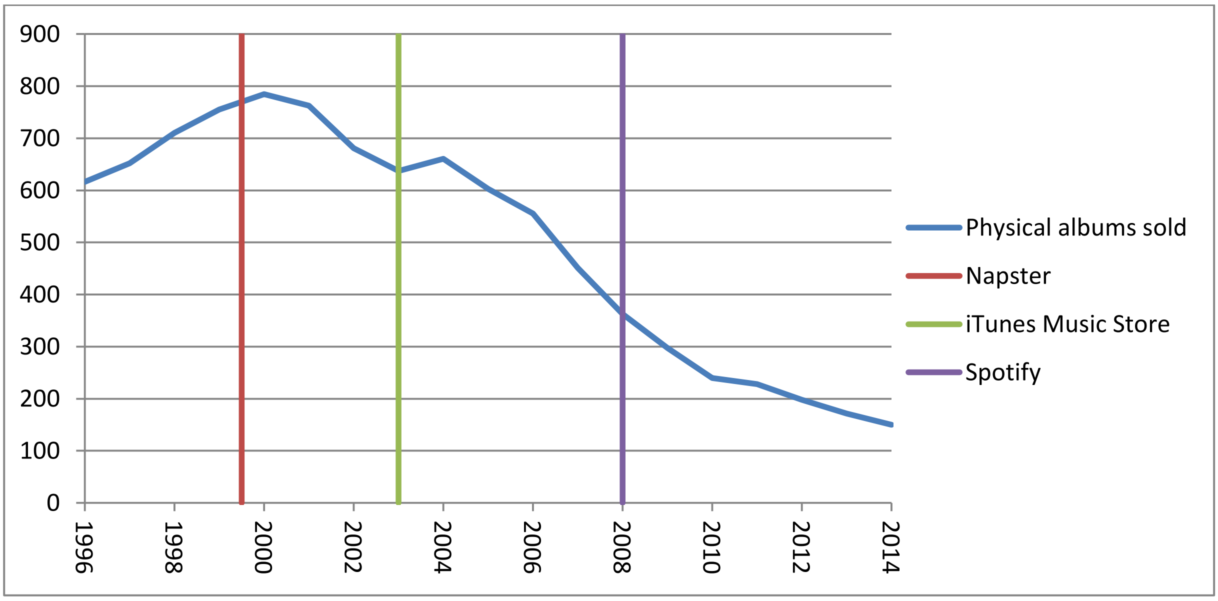


Figure 11: Physical album sales from 1996 to 2014 (in millions) *(Nielsen, 1996-2014)*

The drastic decline in physical albums presented in Figure 11 does not tell the whole story of album sales in the 21st century. When the music industry began accepting the technology and changed the way people could purchase music, beginning with the launch of the iTunes Music

Store, new formats of music started to generate revenues. Figure 12 shows the total album sales in the U.S. from 1996 to 2014 when every format is taken into account. When the iTunes Music Store was founded, represented by the purple line in Figure 12, the digital album was first recognized in sales figures. The business model created by iTunes Music Store enabled users to purchase either an album as a whole or purchase individual tracks. When looking at album sales, there is a formula that counts every 10 individually purchased songs as an album purchase, called a Track Equivalent Album (TEA). In Figure 12, the green line represents all TEA albums, every digital album and every physical album purchased. The green line is higher that the red line, which represents only physical albums, showing that the digital music sales cushion the blow to the music industry in regards to album sales. Despite this, the industry still experienced a decrease in album sales until they grew a little in 2011. The light blue line in Figure 12 shows when Spotify was founded and 3 years after that the industry experienced an increase in total album sales and TEA. However, after that the industry started experiencing a decrease in sales again. But with the introduction of streaming services, there were also payments from those streaming services. This led to a formula that calculated streams into album sales, called Streaming Equivalent Albums (SEA). When SEA is taken into account, it yields the dark blue line in Figure 12, which again increases album sales and leads to an increase in total album sales in 2013, but a small decrease in 2014 (Nielsen, 1996-2014).

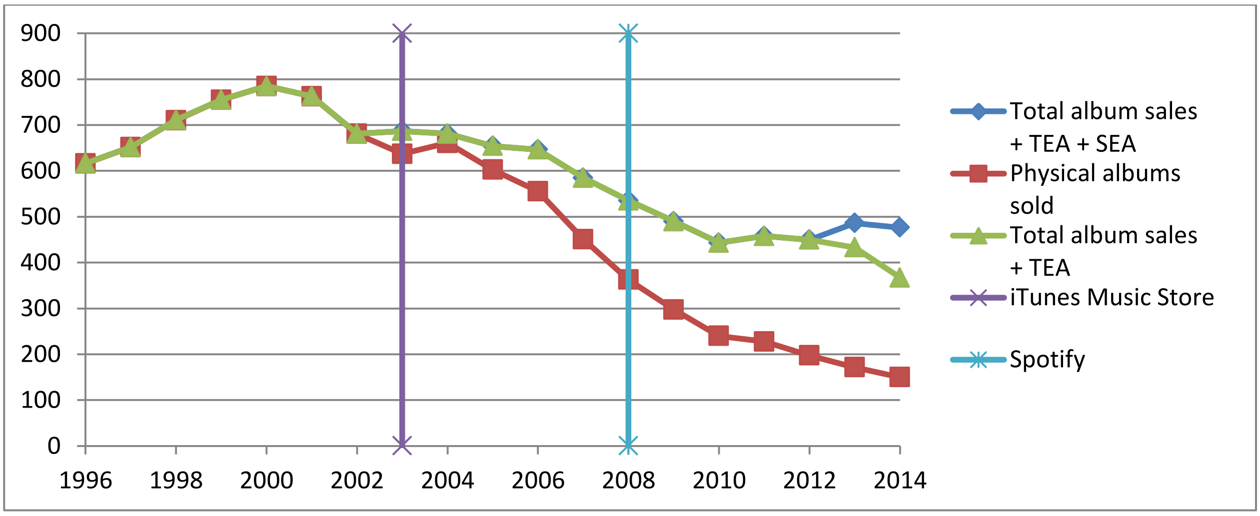


Figure 12: Album sales with every format included(in millions) *(Nielsen, 1996-2014)*

It is clear from Figure 12 that the music industry has been struggling with decreased album sales. However, the new formats have been helping and even giving the industry an increase in sales in some cases. In 2014, 46% of the music industry revenues come from physical album sales and 46% from digital sales. This is the first time that this has happened and the digital portion of the revenues is expected to be higher than the physical in 2015 (IFPI, 2015). TEA was first introduced in 2004, yielding 14,1 million albums. From there the number of TEA increased yearly, peaking at 133,6 million albums in 2012 before falling down to 110,25 million albums in 2014. Digital album sales follow the same trend, increasing every year from 2004-2012 before falling in 2013 and again in 2014. The fall in both digital albums and TEA can be largely attributed to the rise of streaming services. In 2012, SEA amounted to 40 million albums, reaching 53 million albums in 2013 and culminating in 2014 with 109,3 million albums. Although the industry has been hit by a huge decrease in album sales during the 21st century, the future does not look too bad. Digital album downloading is still dominant in the digital music industry, representing 52% of the global digital revenues in 2014, but this might decrease in the coming years due to the popularity of streaming services. Streaming services are collecting more and more revenues every year, with user numbers increasing almost by the minute and other music services, such as YouTube.com, are also generating higher revenues every month with better advertising and increased user numbers. These new methods of generating revenues for musicians are crucial and if they continue their success and if the music industry adapts along the way, the industry is going to benefit greatly. Although the album sales have likely peaked, new measures will take their place and the industry will rebalance. The industry might even experience increased album sales, with SEA as a key factor, but the revenues of the music industry will grow in the foreseeable future and new ways of obtaining revenues will keep on coming (IFPI, 2015).

7 Data analysis

7.1 Survey design

This thesis is about the business environment of the modern music industry and how the music industry has changed as a result of Web 2.0 and the Internet. First came the definitions of Web 2.0 and business models in the Web 2.0 era and then a historical overview of the music industry was considered. Then the modern music industry was discussed as well as the biggest challenge the music industry has ever faced, illegal downloading of music. In order to better understand how the music industry has been adapting to the technological advancements of the last 20 years a survey was constructed and released. The aim of the survey was to see how people behave in the modern music industry, how people purchase music as well as if they are illegally downloading music and if that behavior has changed recently. In order to see this, participants were asked 11 different questions regarding the music industry. 2 of the questions were open-ended, where participants could choose as many answers as they wanted from a list that was provided, while the remaining 9 questions only allowed one answer. The questionnaire was constructed using Google Docs and was then published on the Facebook page of the author. Through Facebook the questionnaire reached a large population and was shared further by other Facebook users, ultimately resulting in 270 responses.

By using Facebook as a method of reaching respondents, the answering rate cannot be calculated. Anyone who wished to participate was able to do so, while the list of people who chose not to answer is non-existent. After collecting the 270 responses, the answers of participants were broken down in order to analyze the responses further. This survey was released to see how the population has reacted to the changes in the music industry during the 21st century as well as to see how illegal downloading has been developing in recent years. The majority of responses came from people that were between 16 and 30 years old, making that age group the target group of this thesis. This age group was the most exciting one, since the illegal downloading revolution that began with Napster became a youth revolution. The results of this survey show big changes for this age group in recent years and shows that the music industry is finally on the right track in handling the challenges the Internet and illegal downloading brought to the business environment. This thesis uses a nominal scale in this survey, using age as a way of grouping respondents into three different categories; <15, 16-30 and >30.

7.2 Survey analysis

This survey was constructed so that it would be possible to create different variable groups based on the answers provided. These groups were then used to further analyze the data to answer the research questions. The first question asked about the age of the participants. With 270 responses the majority of participants were between 16 and 30 years old (84,4%), making that age group the primary variable used to analyze the data and answer the research questions. The results from the first question can be seen in Table 2 and those results will be further categorized into three different age groups for the rest of the questions; <15 (0,7%), 16-30 (84,4%) and >30 (14,8%).

Age?		Question 1
Answer Options	Response Percent	Response Count
<15	0,7%	2
16-20	5,6%	15
21-25	42,6%	115
26-30	36,3%	98
31-35	7,0%	19
36-40	2,6%	7
41-45	2,6%	7
45-50	1,1%	3
51-55	0,7%	2
56-60	0,4%	1
61-65	0,0%	0
>65	0,4%	1
Answered Question		270
Skipped Question		0

Table 2: Data from Question 1 of the survey

When looking at the gender of respondents the numbers are similar within each age group, but the males are still the majority in the 16-30 age group (54,8%) as well as in the >30 group (57,5%). In the youngest age group the two respondents were both female and when looking at the total number of responses 54,8% were male and 45,2% were female. Results are depicted in Table 3.

When comparing occupation with age, the results are not surprising. For people under 15 years of age, 100% of respondents are students as expected. For the second age group, 16-30, the majority of respondents are students (56,5%) and the second largest occupation is full-time employment (36,4%). For people aged over 30, the majority of respondents are full-time employees (65%), with part-time employment being the second largest (17,5%) and only a few are students (12,5%). Table 4 shows the results. When looking at all the responses, a little over half of the respondents are students (50,4%) with the rest being mostly full-time employees (40,4%).

Gender?					Question 2
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Male	0% (0)	54,8% (125)	57,5% (23)	54,8%	148
Female	100% (2)	45,2% (103)	42,5% (17)	45,2%	122
Answered question					270
Skipped question					0

Table 3: Data from Question 2 of the survey

Occupation?					Question 3
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Student	100% (2)	56,5% (129)	12,5% (5)	50,4%	136
Unemployed	0,0% (0)	2,2% (5)	2,5% (1)	2,2%	6
Full-time employee	0,0% (0)	36.4% (83)	65,0% (26)	40,4%	109
Part-time employee	0,0% (0)	4,8% (11)	17,5% (7)	6,7%	18
Retired	0,0% (0)	0,0% (0)	2,5% (1)	0,4%	1
Answered question					270
Skipped question					0

Table 4: Data from Question 3 of the survey

The fourth question was an open-ended question asking respondents how they acquire music. The purpose of this question was to see how the younger generation accesses music now and also to see if the older generation has been adapting to the changes made in the music industry. Respondents were able to choose more than one method, since there are many different ways to obtain music both legally and illegally. Table 4 shows the results of this question for the different age groups. For the group of 16-30 year olds, 86% of the respondents use legal services to listen to music for free, while 40,8% of them illegally download the music. These two methods are the dominant methods for this age group, with only 22,8% of respondents purchase music in a physical form. Digital music purchases are only used by 10,1% of respondents, 15,8% have a paid subscription to music streaming and 5,7% use other methods. The respondents who are over 30 show similar results, with 77,5% of them using legal services to listen to music for free. However, 32,5% of them purchase music in physical form while only 20% of them use illegal downloading to acquire music. This age group, with the majority being full-time employees with steady salary, is more inclined to purchase music. In all categories involving paying for music, the >30 age group dominates the younger age group, while illegal downloading is relatively low for this age group. The overall results show that legal services that offer music for free are most popular, with 84,4% of respondents using them to acquire music and illegal downloading then follows with 37,4% of respondents using that method to acquire music.

How do you acquire music? Check every box that applies					Question 4
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
I buy CD/Vinyl online or from a retailer	50,0% (1)	22,8% (52)	32,5% (13)	24,4%	66
I buy digital music using online music stores (e.g. iTunes etc.)	0,0% (0)	10,1% (23)	17,5% (7)	11,1%	30
I use legal services (e.g. Spotify, YouTube etc.) to listen to music for free	50,0% (1)	86,0% (196)	77,5% (31)	84,4%	228
I have a paid subscription to a music streaming website	0,0% (0)	15,8% (36)	17,5% (7)	15,9%	43
I illegally download music	0,0% (0)	40,8% (93)	20,0% (8)	37,4%	101
Other	0,0% (0)	5,7% (13)	2,5% (1)	5,2%	14
Answered question					270
Skipped question					0

Table 5: Data from Question 4 of the survey

When asked how they predominantly listen to music, respondents were only allowed one answer and the results were very different between age groups. Table 6 shows the results. For the 16-30 group, the most popular method was streaming services (45,8%) with websites like YouTube being the second (26%). For this age group, the radio is used by 15,9% and it is more popular than illegal downloading, with only 9,7% of respondents using illegally downloaded music files. These results show that the music industry in on the right track in fighting illegal downloading and that generating revenues from streaming services is of great importance for the industry. For people over 30 years of age, the most popular method to listen to music is the radio (40%) while websites like YouTube are in second place (22,5%). Nobody in this age group uses illegally downloaded music and 20% of those respondents use streaming services. When looking at all the answers, without comparing different age groups, only 2,2% of respondents predominantly use physical albums to listen to music while 42% use streaming services and 25,7% use websites. This is a clear sign of the changes in the industry, with digital music dominating the physical sales and illegal downloading falling with only 8,2% of the respondents using illegally downloaded music.

How do you predominantly listen to music?					Question 5
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
On the radio	0,0% (0)	15,9% (36)	40,0% (16)	19,3%	52
Using websites such as YouTube	50,0% (1)	26,0% (59)	22,5% (9)	25,7%	69
Using CDs or Vinyl's	0,0% (0)	1,3% (3)	7,5% (3)	2,2%	6
Using streaming services (e.g. Spotify, Tidal, etc.)	50,0% (1)	45,8% (104)	20,0% (8)	42,0%	113
On the TV	0,0% (0)	0,4% (1)	5% (2)	1,1%	3
Using illegally downloaded music files	0,0% (0)	9,7% (22)	0,0% (0)	8,2%	22
Using legally purchased music files	0,0% (0)	0,9% (2)	5,0%% (2)	1,5%	4
Answered question					269
Skipped question					1

Table 6: Data from Question 5 of the survey

The sixth question was asked to see if and how respondents use streaming services. The majority of respondents use streaming services, with 80,4% of all using streaming services either as a free user or as a paying user. 45,6% of all respondents are free users of streaming services, 34,8% are paying users and 19,6% do not use streaming services. 83,7% of individuals between 16 and 30 use streaming services, with 51,1% free users and 32,6% as paying users, while the numbers are 45% and 27,5% respectively for people over 30 years of age. These results show that streaming services are very commonly used and are clearly important for the future of the industry.

Do you use streaming services?					Question 6
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Yes, as a free user	0,0% (0)	46,1% (105)	45,0% (18)	45,6%	123
Yes, a s a paying user	50,0% (1)	36,0% (82)	27,5% (11)	34,8%	94
No	50,0% (1)	18,0% (41)	27,5% (11)	19,6%	53
Answered question					270
Skipped question					0

Table 7: Data from Question 6 of the survey

The seventh question was asked in order to be able to compare different business models of streaming services. The free usage of streaming services has been widely criticized, as it generates much lower revenues than the paying subscription. When asked if they would continue to use streaming services if they would disable free services, 49,1% of individuals said yes while 33,8% said no. These results suggest that streaming services would lose approximately 1/3 of their free customer base if they would disable free services. These numbers are high, but as was shown earlier in this thesis, it would benefit the streaming services to disable free services. Despite fewer numbers of users, the revenues generated would be much higher. However, by eliminating free services, many of the free users would return to their previous behavior in regards to purchasing music which would very likely lead to an increase in illegal downloading again. The free subscription business model allows streaming services to have a higher number of users, but in order to justify the continued use of this business model, those streaming services must be able to generate higher advertising revenues. The streaming services offering free subscriptions all have plans to increase the advertising revenues and claim that this model results in more paying subscribers as time goes on. This business model is under scrutiny and when the results of this survey are used, that scrutiny is justified, but only time will tell if this model turns out to be the better option for streaming services.

If streaming services would disable free services, would you continue to use them? Question 7					
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Yes	50,0% (1)	51,1% (116)	37,5% (15)	49,1%	132
No	50,0% (1)	32,6% (74)	40,0% (16)	33,8%	91
I do not use streaming services	0,0% (0)	16,3% (37)	22,5% (9)	17,1%	46
Answered question					269
Skipped question					1

Table 8: Data from Question 7 of the survey

The results from Question 8 show how influential the Internet can be. Despite the criticism the Internet has received from the music industry in the 21st century, it has enabled users to discover new music and when asked, 74,8% said that the Internet has helped them very much in discovering new music and 22,6% said it has helped a little bit. Only 2,6% claim that the Internet has not helped them in discovering new music, showing that despite its flaw, the Internet can be beneficial for musicians, especially the lesser known artists.

Has the Internet helped you in discovering new music? Question 8					
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Yes, very much	50,0% (1)	75,9% (173)	70,0% (28)	74,8%	202
Yes, helped a little bit	50,0% (1)	21,9% (50)	25,0% (10)	22,6%	61
No	0,0% (0)	2,2% (5)	5,0% (2)	2,6%	7
Answered question					270
Skipped question					0

Table 9: Data from Question 8 of the survey

When respondents were asked if they have ever illegally downloaded music, the majority had done so at one time or another (89,7%). For the different age groups, 30% of people over 30 had never illegally downloaded music while only 7% of people between 16 and 30 had never done so. However, 50% of people over 30 have illegally downloaded music before but have stopped it now and only 20% of them still download music illegally. For people aged between 16 and 30 the results were different, with 46,9% still illegally downloading music and 46,1% claiming to no longer be illegally downloading music. These results are good for the music industry, with nearly half of the people asked (46,7%) no longer downloading music. The results are depicted in Table 10.

Have you ever illegally downloaded music?					Question 9
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Yes, and still do	50,0% (1)	46,9% (107)	20,0% (8)	43,0%	116
Yes, but not anymore	50,0% (1)	46,1% (105)	50,0% (20)	46,7%	126
No	0,0% (0)	7,0% (16)	30,0% (12)	10,4%	28
Answered question					270
Skipped question					0

Table 10: Data from Question 9 of the survey

Directly related to the previous question, respondents were asked if they had experienced a decrease in their illegal downloading of music. The results, represented in Table 11, show that illegal downloading is decreasing in the society. 76,3% of individuals between 16 and 30 claim to have experienced a decrease in their illegal downloading, with only 18,4% saying that they had not experienced a decrease. For people over 30, the results were similar, with 62,5% experiencing a decrease in their illegal downloading and only 12,5% not experiencing a decrease. When looking at all the responses, it is clear that illegal downloading is decreasing, with 73,7% of respondents experiencing a decrease in their downloading with 18,2% saying they have not experienced a decrease. When looking at the results from Question 9 and Question 10 it is clear that the music industry is on the right path in the fight against illegal downloading, with the majority of respondents experiencing a decrease in their illegal behavior.

Has your illegal downloading of music been decreasing?					Question 10
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
Yes	0,0% (0)	76,3% (174)	62,5% (25)	73,7%	199
No	100% (2)	18,4% (42)	12.5% (5)	18,2%	49
I have never illegally downloaded music	0,0% (0)	5,3% (12)	25,0% (10)	8,1%	22
Answered question					270
Skipped question					0

Table 11: Data from Question 10 of the survey

The last question of this survey was another open-ended question where participants were asked why their illegal downloading had been decreasing. This question was asked to determine what factors are the most influential in the fight against illegal downloading and to see how the music industry can improve on those factors. Participants were free to check as many possibilities as they wanted and the results are presented in Table 12. For people aged between 16 and 30, streaming services and the legal services offered on the Internet were the biggest reasons for the decrease in illegal downloading. 65,5% of this age group use streaming services instead of illegal music files and 54,5% uses the Internet to legally listen to music. Digital music purchases are only used by 10% and 10,9% said that their illegal downloading had not changed. For people over 30 years of age, the Internet is the biggest reason for decreased illegal downloading, followed by streaming services. 66,7% of this age group use the Internet now to listen legally to music and 46,2% use streaming services. Digital music purchases are used by 20,5% of these respondents with the same percentage saying they have never illegally downloaded music. When looking at the entire sample, streaming services are now used instead of illegal downloading by 62,1% of participants and the Internet is used by 56,3%. These results show how the ownership of music has changed, with people increasingly choosing to listen to music using the Internet or streaming services. The numbers for digital music purchases in Table 12 are low, showing that the music industry needs to focus further on improving the revenues generated from both streaming services and the Internet, since these two methods of listening to music are increasingly used by the consumers. These new and improved ways of listening to music are decreasing illegal downloading and increasing the revenues generated for the industry and for the industry to keep on growing the main focus must be on increasing the revenues generated from these new methods of listening to music.

Why is that? Check every box that applies					Question 11
	Age				
Answer options	<15	16-30	<30	Response percent	Response count
I stopped listening to music	0,0% (0)	2,7% (6)	2,6% (1)	2,7%	7
I use streaming services instead	0,0% (0)	65,5% (144)	46,2% (18)	62,1%	162
I use the Internet to legally listen to music	50,0% (1)	54,5% (120)	66,7% (26)	56,3%	147
I purchase digital music legally now	0,0% (0)	10,0% (22)	20,5% (8)	11,5%	30
I have never illegally downloaded music	0,0% (0)	5,0% (11)	20,5% (8)	7,3%	19
My illegal downloading has not changed	50,0% (1)	10,9% (24)	0,0% (0)	9,6%	25
Answered question					261
Skipped question					9

Table 12: Data from Question 11 of the survey

8 Discussion

The introduction of the computer into the model home and the rise of the Internet were far from being the first technological advancements that influenced the music industry. From the late 19^{th} century and through the 20^{th} century, there were a number of technological advancements; the creation of the phonogram, creation of the radio, the Vinyl LP, the cassette and the CD that all affected the industry. The key element that these technological advancements shared was that the music industry was always the first to adapt them. Greeting these new inventions with open arms, the big record labels of the music industry managed to keep their tight hold on the rights to produce and sell music, where they would record and package the albums and then deliver them to retailers who sold them to the consumers. The record companies also managed to resell a lot of the old music again when every new format was presented. This meant they had complete control of the industry and were reaping the benefits of this oligopolistic situation they had created.

This all changed when the Internet came and gained popularity, as well as the MP3 music file. That was the first time that the music industry and recording companies fell behind the technology. The community took advantage of this situation and ever since the Peer-to-Peer company Napster was created, illegal downloading of music has been a huge part of society. The illegal downloading of music quickly gained momentum through Napster, starting as a youth revolution and then evolving into the entire society, and now illegal downloading is socially acceptable by consumers of music. The record companies initially responded by ignoring Napster and this new idea, but it was soon clear that people enjoyed owning music as MP3 files on their computers and especially enjoyed getting the music for free (even if it meant stealing). When the recording companies saw how big the problem really was they turned on Napster and filed numerous lawsuits, eventually leading to the demise of Napster, but it was too late. The technology was out there and people liked it.

For the next few years the recording companies refused to recognize this new opportunity that was threatening their traditional business model and kept on fighting both illegal downloading sites as well as individuals that were active in illegal downloading, filing what is believed to be more than 30.000 lawsuits. This was a lengthy process and it yielded little results. However, when the iTunes Music Store was established in 2003, it marked the beginning of digital album sales and digital track sales and a new era for the music industry. The launch of the iTunes Music Store turned out to be a better response to illegal downloading than the endless fights against downloading sites because every time a site was put out of commission at least 2 other appeared. The first streaming service was then introduced in 2008, catching up with the latest technological advancements and offering people a way to listen to the music library of the service wherever they went. This turned out to be an even bigger success in the fight against illegal downloading, with Spotify reporting that 55% of people between 18 and 29 are downloading less when they can use Spotify. A survey released for this thesis found those numbers to be even higher, with 76,32% of people in that age gap downloading less today, and 63,16% of them using streaming services instead of illegal downloading.

The fight against illegal downloading was only a part of the story for the music industry. The business models of the traditional music industry had to be updated as well and the recording companies had to come up with new ways to offer people music and collect revenues. This was evident by physical album sales that were dropping fast. New players started to emerge, with iTunes Music Store being the first big one to introduce the music industry to this new technological age. Soon after other companies followed suit, creating more websites enabling people to purchase digital music files. 5 years after the iTunes Music Store the streaming services began their march to success with the foundation of Spotify. Today streaming services are the fastest growing part of the music industry, with the number of different services available increasing steadily and the number of users is increasing almost every minute. These new players that threatened the big record companies all employ new versions of the traditional business model of the music industry. It started with iTunes offering consumers to download of whole albums or individual songs for a fraction of the price, greatly increasing the choices consumers had. The streaming services are employing a subscription based business model with different approaches for every streaming service, some offering a free version as well as a paid version while others only offer a paid version. Then there are other services, such as YouTube.com, that collect revenues only through advertisements and pay royalties with those revenues. These new business models have generated new ways for artists to collect revenues and have greatly improved the modern music industry.

There are many who criticize the free subscription model that some streaming services employ, because of the low revenues the free users generate. While holding many factors constant, the calculations performed in this thesis show that streaming services like Spotify could greatly improve their revenues by eliminating the free service. This is based on both prior years and the survey released for this thesis, but by eliminating this free model, it is likely that illegal downloading would start to increase again, since many of the free users that would disappear from the streaming services used them as substitutes for illegal downloading. All the streaming services have also announced plans to expand to more markets as well as getting in more revenue through increased user numbers and better advertisements, hopefully resulting in a better performance of this business model. At the same time, by counting a certain amount of streams as an album sale and certain amount of indivudally purchased tracks as an album sale, the music industry has been coming back from continuously decreasing album sales. Some of the recent years have shown growth in album sales when Streaming Equivalent Albums (SEA) and Track Equivalent Albums (TEA) are taken into account.

During the rise of the Web 2.0 the music industry has changed enormously. The former big recording companies have had to relinquish their oligopolistic control of the music industry, paving the way for new players in the market. Every aspect of the music inustry has been moved to the Internet, including marketing, publishing, distribution, music videos, live performances as well as the selling and purchasing of albums and songs. The ownership of music for consumers has changed as well, with people increasingly choosing to simply stream the music instead of owning it or purchasing it digitally, which has resulted in great downfall in the sales of physical albums. The recent changes made in the music industry, with the rise of streaming services and increased was of obtaining revenues has helped the industry to stop the downfall and start rising again. These new revenue streams, such as streaming services and digital music sales, have helped the industry to regain some of its lost glory, but there is a lot of work left. The industry fell behind the technological advancements in the 21st century, the first time it ever failed to seize the opportunity of new inventions, and it is still paying the price. However, consumers have proven that they are willing to pay for music if the music industry finds the right way to offer the music to consumers and charge them fairly. The future of the music industry rests on the shoulders of the streaming services and the Internet for the time being. All the different services offering music both on the Internet and as a streaming service have plans to increase their revenues in the future and new ways of genearting revenues and improving revenue models are constantly being created. The music industry needs to stop focusing completely on album sales and look to other ways of generating revenue, where the industry has been doing quite well for some time. The revenues of the industry are increasing every year and are very likely to improve in the future, although album sales might continue to struggle. The fact is that album sales are not the only measurement available and if they are overlooked, the industry has adapted well to the Web 2.0 era and has a bright future.

9 Conclusion

After a successful growth period through most of the 20th century, the music industry fell behind the technological advancements when the 21st century began. Refusing to adapt to the new technology and losing out to illegal services that were offering the music online for free, the music industry has been suffering for the biggest part of the 21st century. However, since the launch of the iTunes Music Store, the industry has been rising again and been constantly improving for the last few years. New services offering digital music purchases online as well as streaming services offering subscription plans for users have further increased the percentage of people who now pay for music instead of illegally downloading it. Although total album sales have been declining almost every year of the 21st century, which is mostly true about physical albums but not digital. Both digital album purchases and streaming services have minimized the downfall of album sales, but the increase in those album purchases do not completely offset the decrease in physical albums. This has the music industry worried, but today there are far more ways of generating revenues from music than album sales and live performances. Web sites, streaming services, online purchases, online radios and many other methods are available, all now reaching the entire globe in seconds instead of being mostly domestic. Today there are also more participants in the industry, moving it away from the oligopoly that was dominant in the 20th century and making the industry bigger, stronger and more competitive. Since these new revenue streams are not considered when looking at album sales it is not ideal to measure the shape of the music industry solely based on that. Despite the rocky start, the music industry has adapted well to the Web 2.0 era and consumers have shown that they are willing to pay for the music, just not in the way they used to. If future plans of streaming services to increase revenues are successful, the music industry might be looking at a new golden age of music. It will never be the same as it was, but the industry looks to be on the rise and the future is both bright and exciting.

10 Bibliography

A&M Records, Inc. v. Napster, Inc. (Ninth Circuit Court of Appeals February 12, 2001).

Adermon, A., & Liang, C.-Y. (2014). Piracy and music sales: The effects of an anti-piracy law. *Journal of Economic Behaviour & Organization*, 90-106.

Alexander, P. J. (2002). Peer-to-Peer File Sharing: The Case of the Music Recording Industry. *Review of Industrial Organization*, 151-161.

Apple Inc. (2010). *Apple*. Retrieved April 21, 2015, from https://www.apple.com/pr/products/ipodhistory/

Apple Inc. (2015, June 8). *Introducing Apple Music - All The Ways You Love Music. All in One Place*. Retrieved June 9, 2015, from Apple Press Info: https://www.apple.com/pr/library/2015/06/08Introducing-Apple-Music-All-The-Ways-You-Love-Music-All-in-One-Place-.html

Apple Inc. (2015a). *Apple*. Retrieved April 21, 2015, from http://www.apple.com/pr/products/iphone/iPhone.html

BBC. (2014, June 2). *BBC News*. Retrieved May 28, 2015, from BBC - Technology: http://www.bbc.com/news/technology-27663839

Burnett, R. (1996). *The Global Jukebox: The International Music Industry.* London: Routledge.

Chanan, M. (1995). Repeated Takes: A Short History of Recording and Its Effects on Music. In M. Chanan, *Repeated Takes: A Short History of Recording and Its Effects on Music* (pp. 1-20). London: Verso.

Chesbrough, H. (2010). Business Model Innovation: Opportunities and Barriers. *Long Range Planning*, 354-363.

Constantinides, E., & Fountain, S. J. (2008). Web 2.0: Conceptual foundations and marketing issues. *Journal of Direct, Data and Digital Marketing Practice*, 231-244.

Czerwinski, S., Fromm, R., & Hodes, T. (1999). *Digital Music Distribution and Audio Watermarking.* Berkeley: University of California.

Deezer. (2015). *Deezer - Company*. Retrieved June 9, 2015, from Deezer: http://www.deezer.com/company

Economist Intelligence Unit. (2007). *Web 2.0 goes corporate.* New York: The Economist.

Forbes. (2014, December 10). *The World's Highest-Paid Musicians of 2014*. Retrieved June 6, 2015, from Forbes.com: http://www.forbes.com/sites/zackomalleygreenburg/2014/12/10/the-worlds-highest-paid-musicians-of-2014/

Global Entertainment and Music Business Program. (2013). *Rethink music.* Valencia: Berkley College of Music.

Graham, G. (2006). The transformation of the music industry supply chain: A major label perspective. *International Journal of Operations & Production Management*, 1087-1103.

Hoegg, R., Martignoni, R., Meckel, M., & Stanoevska-Slabeva, K. (2006). Overview of business models for Web 2.0 communities. *In Proceedings of GeNeMe 2006*, (pp. 23-37).

IFPI. (2014). *IFPI Digital Music Report 2014.* IFPI.

IFPI. (2015). *IFPI Digital Music Report 2015.* IFPI.

Intel Corporation. (2012). *Intel Corporation*. Retrieved March 1, 2015, from http://ideation.intel.com/techlab/biz01-02.html

Investopedia. (2004). *Investopedia*. Retrieved March 1, 2015, from http://www.investopedia.com/terms/l/long-tail.asp

Investopedia. (2015A). *Investopedia*. Retrieved March 3, 2015, from http://www.investopedia.com/features/crashes/crashes8.asp

Investopedia. (2015B). *Investopedia*. Retrieved February 28, 2015, from Business Model: http://www.investopedia.com/terms/b/businessmodel.asp

Klym, N. (2005). *Digital Music Distribution.* Cambridge: Cambridge University.

Koster, A. (2008). The Emerging Music Business Model: Back to the Future? *Journal of Business Case Studies*, 17-22.

Leiner, B. M., Cerf, V. G., Clark, D. D., Kahn, R. E., Kleinrock, L., Lynch, D. C., et al. (1997). The Past and Future History of the Internet. *Communications of the ACM*.

Miller, K. (2003). *Music Industry*. Retrieved April 3, 2015, from Encyclopedia.com: http://www.encyclopedia.com/doc/1G2-3401802800.html

Miller, M. (2012, September 19). *Que*. Retrieved June 2, 2015, from Que Publishing: http://www.quepublishing.com/articles/article.aspx?p=1946755

Netflix. (2015). *Netflix - Overview*. Retrieved June 8, 2015, from Netflic: http://ir.netflix.com/

Nielsen. (1996-2014). *Nielsen Music U.S. Report.* New York: Nielsen.

O'Reilly, T. (2007). *What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software.* Sebastapol: O'Reilly Media.

O'Reilly, T., & Battelle, J. (2009). *Web squared: Web 2.0 five years on.* Sebastapol: O'Reilly Media.

Peitz, M., & Waelbroeck, P. (2006). Why the music industry may gain from free downloading - The role of sampling. *International Journal of Industrial Organization*, 907-913.

Picker, R. C. (2009). *Online Advertising, Idendity and Privacy.* Chicago: The University of Chicago.

Porter, M. E., Kim, W. C., & Mauborgne, R. (2011). *HBR´s 10 must reads ond Strategy.* Cambridge: Harvard.

Rappa, M. (2010, Jan 17). *Digitalenterprise.org*. Retrieved June 18, 2015, from Business models on the web: http://digitalenterprise.org/models/models.html

Sidenius, K., Jensen, M., Tommerup, E., Magdalena, F., & Jensen, B. (2012, May 21). *Rudar.* Retrieved 28 May, 2015, from Roskilde University Digital Archive: http://rudar.ruc.dk/handle/1800/7515

Smith, S. (2003). *From Napster to Kazaa: The Battle Over Peer-To-Peer Filesharing Goes International.*

Spotify. (2015). *Spotify explained*. Retrieved June 3, 2015, from Spotify Artists: http://www.spotifyartists.com/spotify-explained/

Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 172-194.

Thaesis B.V. (2010, March 21). *Slideshare.net.* Retrieved March 1, 2015, from http://www.slideshare.net/oukearts/10-new-business-models-for-this-decade

The Berkman Center for Internet & Society at Harvard Law School. (2003). *Copyright and Digital Media in a Post-Napster World.* Cambridge: Harvard Law School.

Tidal. (2015). *About Tidal*. Retrieved June 9, 2015, from Tidal: https://support.tidal.com/hc/en-us/sections/201053161-About-TIDAL

U.S. Copyright Office. (1998). *The Digital Millennium Copyright Act of 1998.* U.S. Copyright Office.

Vary, A. B. (2015, January 18). *Entertainment weekly*. Retrieved May 4, 2015, from http://www.ew.com/article/2012/07/31/jay-z-nba-2k13-tracklist

Winter, A. (Director). (2013). *Downloaded* [Motion Picture].

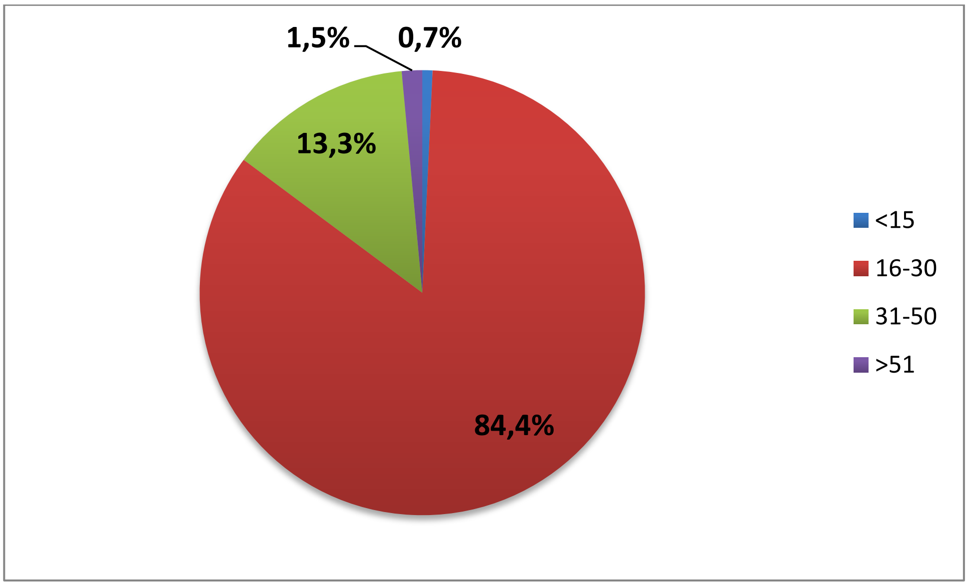
World Wide Web Foundation. (2008). *World Wide Web Foundation*. Retrieved March 3, 2015, from Webfoundation.org: http://webfoundation.org/about/vision/history-of-the-web/

YouTube. (2015a). *YouTube*. Retrieved April 21, 2015, from https://www.youtube.com/yt/about/

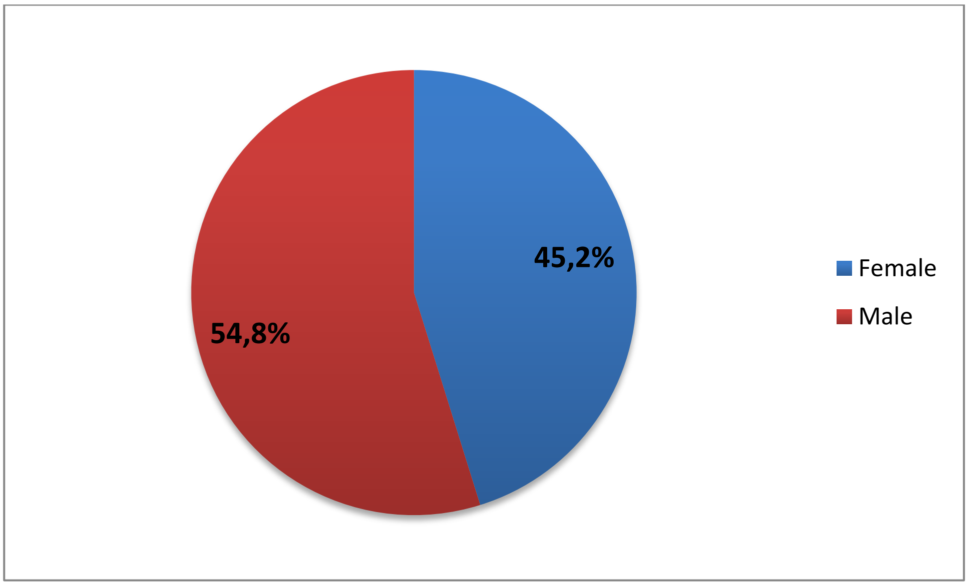
YouTube. (2015b). *YouTube: Entertainment and Media*. Retrieved June 6, 2015, from YouTube.com: https://www.youtube.com/yt/brand/entertainment.html

Appendix A: Survey questions

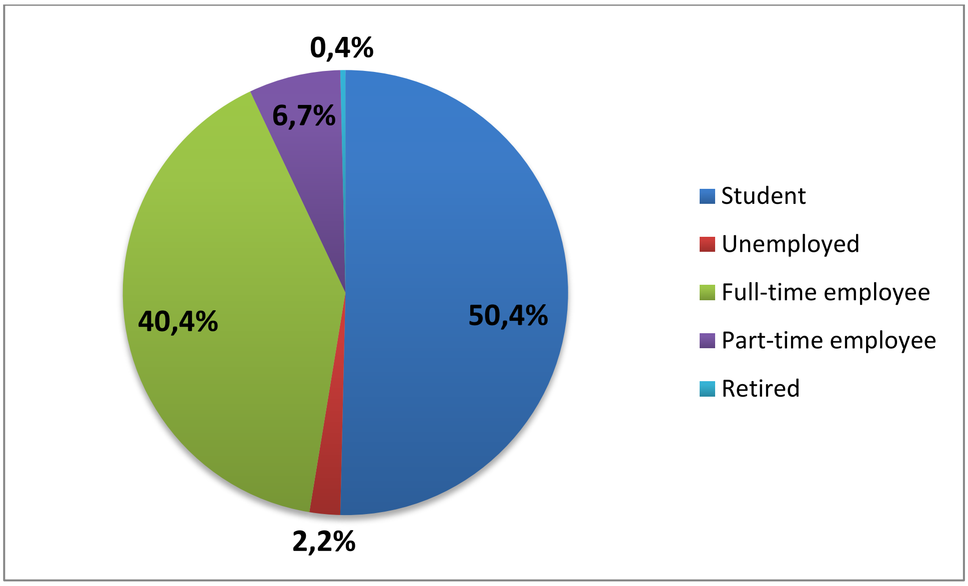
1. Age?



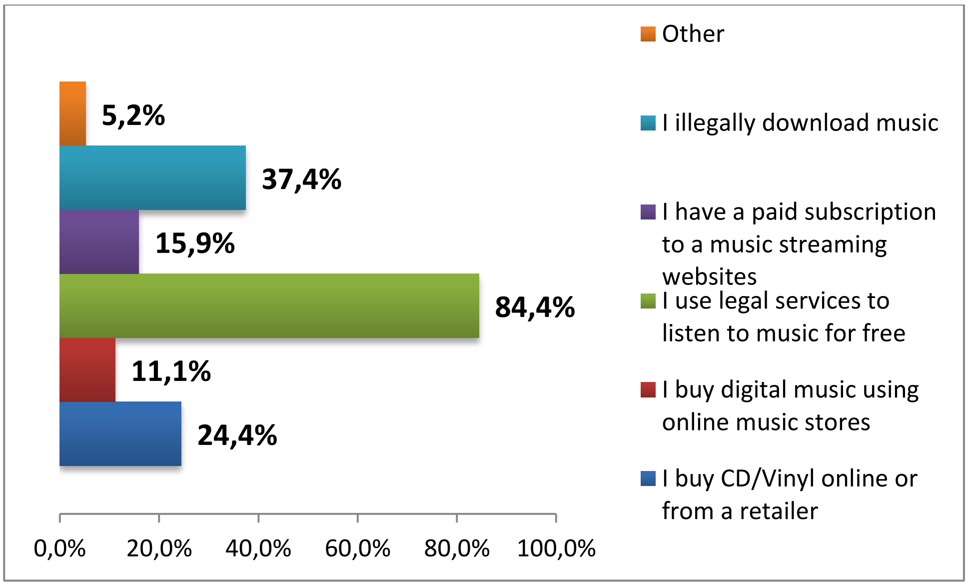
2. Gender?



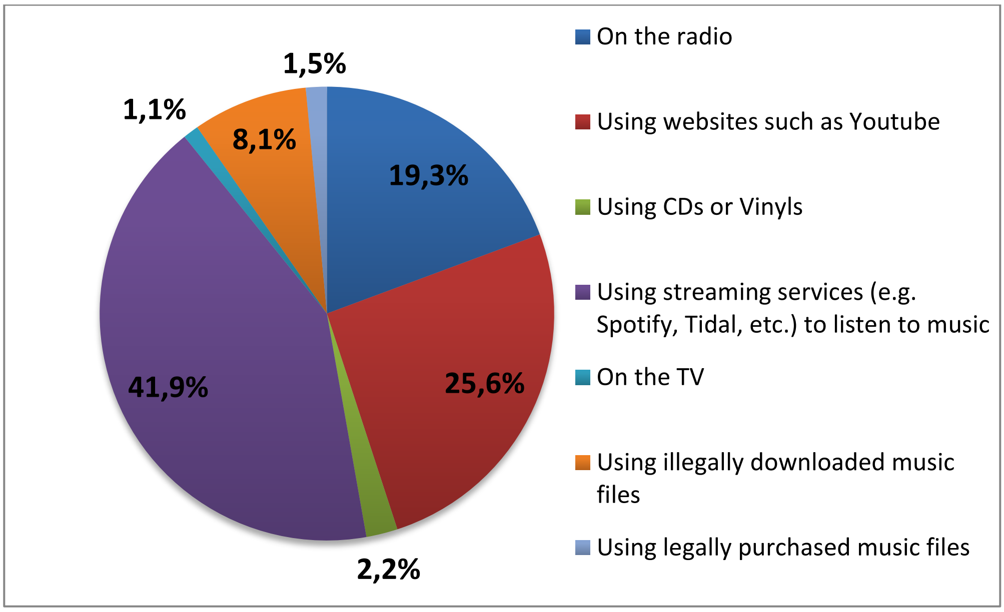
3. Occupation?



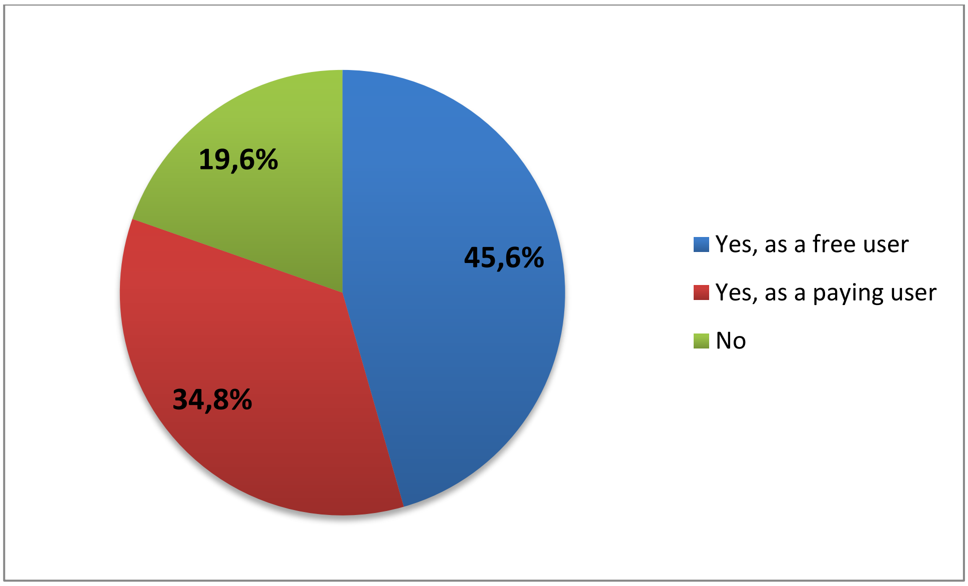
4. How do you acquire music? Check every box that applies.



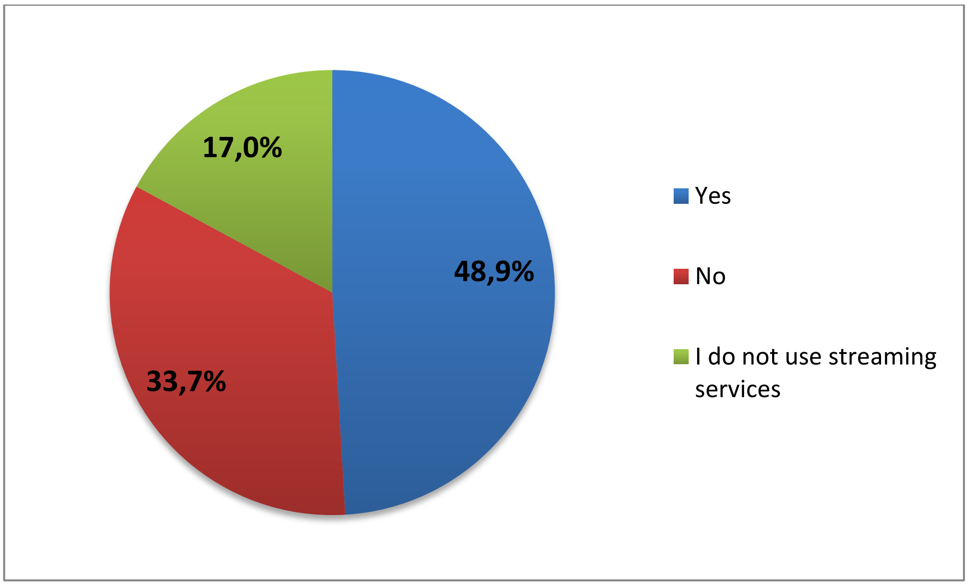
5. How do you predominantly listen to music?



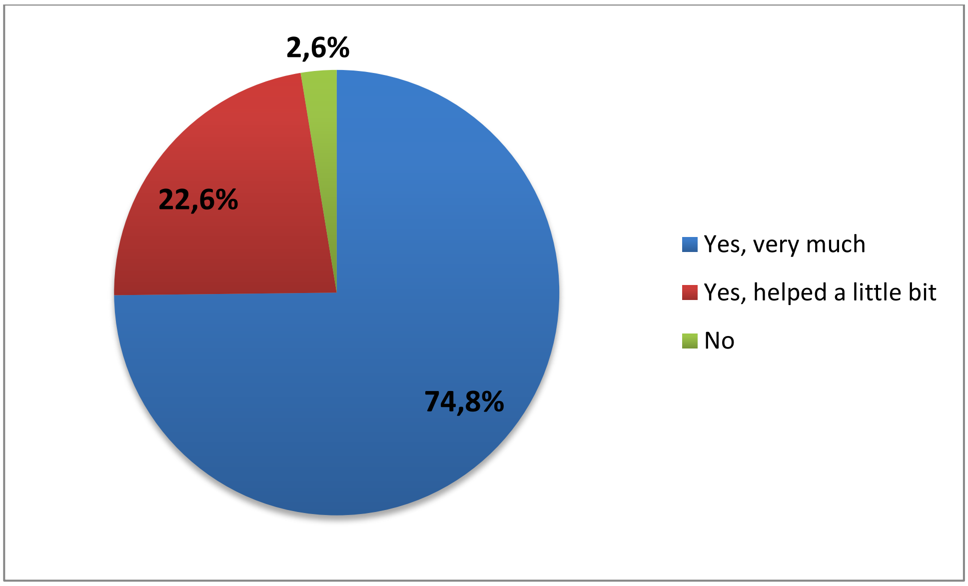
6. Do you use streaming services (e.g. Spotify, Tidal, etc.) to listen to music?



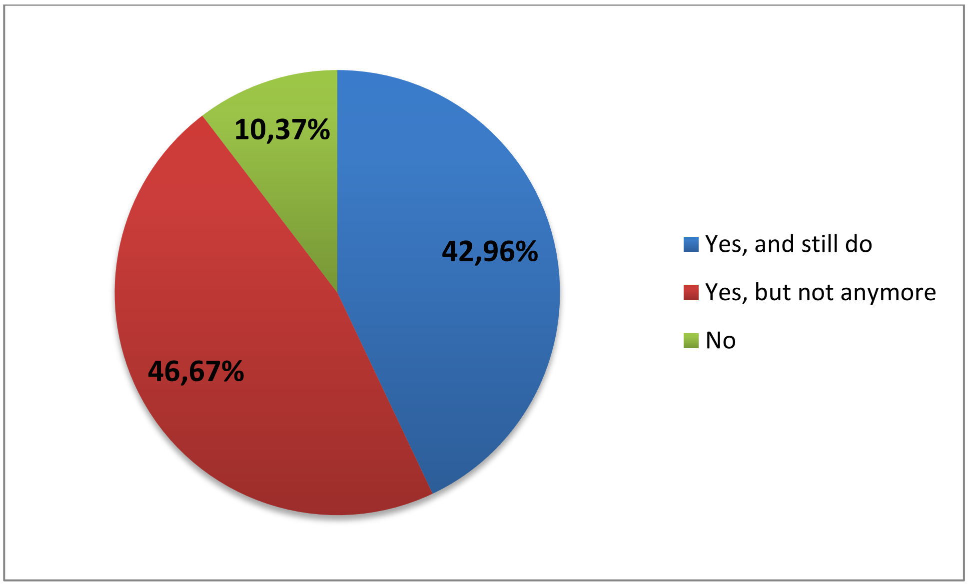
7. If streaming services would disable free services, would you continue to use them?



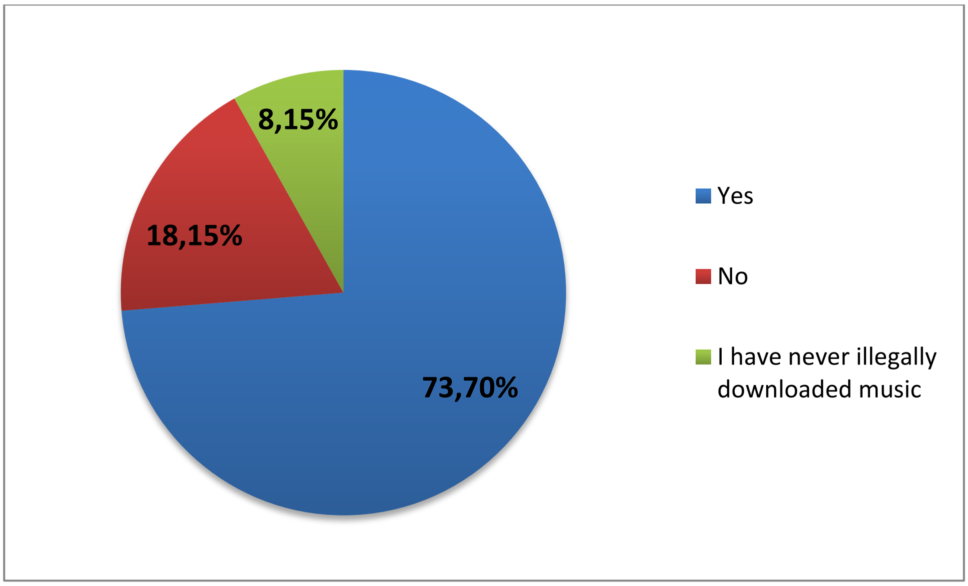
8. Has the Internet helped you in discovering new music?



9. Have you ever illegally downloaded music?



10. Has your illegal downloading of music been decreasing?



11. Why is that? Check every box that applies.