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EXPLORING DISRUPTIVE INNOVATION: Case Study on Multi- sided Platforms

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ABSTRACT

Purpose - The purpose of this research is to explore disruptive innovation and to determine whether Christensen's latest version (2015) of the disruptive innovation theory can explain the success of multisided platforms in the music industry. Thus, we analyze three cases studies based on the theory: Napster, Spotify and Apple Music. At the end, we present our results concerning Christensen's theory's capability to explain the recent success stories of digital multisided platforms.

Research Question -

“Does the theory of disruptive innovation explain the success of Multi-sided Platforms in the music industry?”

Methodology - A comparative case study with three levels of success gives us a width that we think is necessary in order to draw conclusions. Spotify is considered to be a global market leader while Apple Music is highly successful and market leader in the US. Napster, however, is not considered successful due to the legal issues it has encountered. Secondary data is used on all cases, and an in-depth literature review of the theory which supports the theoretical framework that we use to compare the cases.

Findings - This research explores Christensen's theory that is widely misinterpreted and misapplied in the recent years. Christensen's theory is heavily built upon a technology factor that drives disruptive innovation, however, this can not explain for instance Spotify's success, which is according to the original theory is not disruptive. We argue that business model innovation is the driver of disruption in some cases where technology is merely an enabler for business to reach disruptive effects. We would like to propose a stronger categorization of disruption types, such as “technology driven disruption” or “business model driven disruption” in order to identify disruption with different roots.

Keywords: Disruptive innovation theory, Multi-sided platforms, Spotify, Apple Music, Napster, Business model innovation, Music Industry, Disruption, Innovation.

SAMMANFATTNING

Syfte - Syftet med denna forskning är att undersöka disruptiv (omstörtande) innovation och att avgöra om Christensens senaste version (2015) av den disruptiva (omstörtande) innovationsteorin kan förklara framgången med flersidiga plattformar inom musikbranschen. Således analyserar vi tre fallstudier baserade på teorin: Napster, Spotify och Apple Music. I slutet presenterar vi våra resultat avseende Christensens teoris förmåga att förklara de senaste framgångshistorierna för digitala flersidiga plattformar.

Forskningsfråga -

“Förklarar teorin om disruptiv innovation framgången med flersidiga plattformar i musikbranschen?”

Metodik - En jämförande fallstudie med tre nivåer av framgång ger oss den bredd som vi tycker är nödvändig för att dra slutsatser. Spotify anses vara en global marknadsledare och Apple Music är mycket framgångsrikt samt marknadsledande i USA. Napster anses emellertid inte framgångsrikt på grund av de rättsliga problem som uppstått. Sekundär data används i alla exempel, samt en djupgående litteraturöversikt av teorin som stöder den teoretiska ramverk som vi använder för att jämföra fallen.

Resultat - Denna undersökning utforskar Christensens teori som är brett misstolkad och felaktig tillämpad under de senaste åren. Christensens teori bygger starkt på en teknikfaktor som driver disruptiv innovation, men detta kan inte förklara exempelvis Spotifys framgång, vilken enligt den ursprungliga teorin inte är disruptiv. Vi argumenterar för att affärsmodellinnovation driver störningar i fall där tekniken bara är en katalysator för att verksamheten når disruptiva effekter. Vi skulle vilja föreslå en starkare kategorisering av disruptionstyper, till exempel “tekniskt driven disruption” eller “affärsmodelldisruption” för att identifiera disruptioner med olika rötter.

Nyckelord: Disruptiv innovationsteori, omstörtande innovation, Flersidiga plattformar, Spotify, Apple Music, Napster, Affärsmodell, Musikindustri, Avbrott, Innovation.

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1. INTRODUCTION

This chapter begins with a background introduction that gives definitions to the concepts used in the thesis such as disruptive innovation theory and multi-sided platforms (MSP's). We also discuss the problem at hand and explain our thesis question and the scope of our study. Additionally, we discuss the limitations of the thesis and its novelty and contribution to literature.

1.1 Background

Disruption has become a buzzword that is heard on the media and seen in different articles written on new innovations in the era of digitalization and multi-sided platforms. Disruption in the Oxford dictionary is defined as "the act of stopping something from continuing in the normal way". For example, flights can be disrupted by a snow storm which can cause delays and cancellations. However, technological disruption is defined in the theory written on disruptive innovation by Christensen more than twenty years ago before digital MSP's became one of the most popular business models for startups in recent years. This leads to the purpose of the study; applying disruptive innovation theory on multi-sided platforms in order to explain their success in the market. Hence, the main focus of this thesis is to explore how can disruptive innovation theory explain the levels of success of companies built on MSP's in order to make conclusions regarding the accuracy of the theory with respect to the technological changes in recent years.

We live in a world of disruptive innovation where technological disruption has been taking the lead in various industries for at least two decades. Disruption overall describes the process of small companies with limited resources (usually startups) successfully challenging big incumbents (Christensen & Raynor and McDonald, 2015). The disruption theory was first introduced by Christensen in 1997 in his book *Innovator's Dilemma*. The book discusses different case studies of incumbents and their reaction to disruptive innovations. However, digitalization was quite young at that time and could only meet a small segment of the user base. Today, technology has improved and innovations are able to meet the needs of mainstream customers (Weeks, 2015). One of the key changes of the recent years is the birth of digital multi-sided platforms that has taken multiple industries by storm. The recent improvements and changes in the industries due to technological advancements challenge the disruptive theory of Christensen's and introduce a new set of criteria to consider.

Multisided platforms have already existed as markets where the town hall in different cities around the world organized fairs to connect the buyer with the supplier for a small fee. The digital revolution transformed those physical platforms into digital platforms. Hagiu and Wright (2015) define multi-sided platforms as follows: "Multi-sided platforms enable direct interactions and exchange of value between two or more distinct types of interdependent customers". Online platforms are now seen as an economic force where it became a driving force for the global economy. Startups with a platform business model have experienced dramatic growth in size and scale in the past decade with over 176 platform companies around the world evaluated at US\$1 billion or more (Evans & Gawer, 2016). Some of those platform startups have become big incumbents such as Amazon, Alibaba and Uber. Therefore, it is necessary to address MSP's and their disruptive potential separately from other

innovations in order to enhance our understanding and perspective on the theory.

1.2 Problem discussion

As Christensen et al (2015) state in their article on "What is Disruptive Innovation", Many researchers and consultants rush into calling an innovation disruptive if the industry was shaken up by it. Unfortunately, that process is leading to loose assumptions and false conclusions. A deep understanding of such theory and its application makes it easier to draw conclusion on how to build successful businesses and which strategies are best fit for different kinds of innovations.

The aspects of the theory that usually get misunderstood or overlooked are four aspects as described in the paper by Christensen et al (2015). The first aspect is that disruption is a process, it is easy to label an idea or product as disruptive without taking into consideration the process of evolution of that idea or product throughout a period of time. The fact that the disruptive innovation takes time to fully unfold its disruptive potential is the reason behind incumbents overlooking those innovations early on.

The second aspect is that business models in disruptive innovations are built very differently than those of established incumbents. For example, Apple iPhone introduced a new business model by building a network that facilitates connecting app developers with phone users. Thus, the iPhone disrupted the personal computer industry rather than the smartphone industry by changing the primary access point to internet from laptops to the iPhone.

The third aspect is that some disruptive innovations are successful and some are not. This is a very common mistake where companies are considered disruptive as a result of reaching success. Not every success is built on disruption and at the same time not every disruptive path leads to success. Last but not least, the mantra of "disrupt or be disrupted" can be quite misleading especially for big incumbent that can overreact to try to beat a problem before it is a problem and waste a good standing business.

The theory has proven to be successful in many ways, however, its suffering from misapplication due to lack of proper understanding of the theory itself and its modifications during the past twenty years (Christensen et al, 2015). Most of the research done on the theory is focused on the symptoms rather than cause. In other words, the criticism focuses on misapplications of the theory rather than analyzing why the misuse happens in the first place (Weeks, 2015). In our thesis, we aim to get to the root of the problem and question whether adjustments and modifications of the theory can be helpful to avoid misapplication and make better conclusions.

Moreover, most research has been done on the incumbent perspective when it comes to disruption (Yu & Hang, 2010), and research mainly uses the first version of the theory written in 1997, in our thesis we choose case studies that reflect the new entrants (startup) perspective and the latest version of the theory is used in order to get a better understanding and a new perspective.

1.3 Research question & purpose of study

The purpose of this study is to explore disruptive innovation theory as described in the paper by Christensen et al (2015). The focus of the study is on multi-sided platforms in the music industry since the recent innovations are built on MSP's and have shaken up the whole industry. Therefore, the research question is:

"Does the theory of disruptive innovation explain the success of Multi-sided Platforms in the music industry?"

1.4 Novelty & Contribution

The novelty of our research is that it is focused on multi-sided platforms and also on the startup and new entrants side rather than the incumbent side. Our study aims to give a fuller picture of disruption that contributes to the literature today by applying the theory of disruption on the most recent innovations from the startup perspective. Moreover, most research on disruptive innovation theory has been done on the theory written in 1997 in the book "The Innovator's Dilemma" which we explore further in the Literature Review chapter. However, in our thesis we take the latest version written by Christensen et al (2015) in order to draw comments and conclusions that are up to date and relevant to the already existing research. To summarize, we list novelty and contribution points as follows:

- Multi-sided Platforms case studies
- Startup perspective
- Disruptive innovation theory modified version (2015)
- Music industry perspective

1.5 Delimitations

Theoretical Delimitation

The success of MSP's is depending on multiple challenges that launching such a platform entails for a new venture. The main challenge is that of the chicken-and-egg: in order to gain a lot of buyers, you need many suppliers, but in order to attract suppliers you need many buyers. Figuring out how to drive initial liquidity to the marketplace and get both sides on board is the first challenge any platform startup faces (Evans & Gawer, 2016). In other words, a buyer will only join such a platform if there is a supplier offering something the buyer wants to buy. At the same time, a supplier is only interested in joining if there are buyers who are willing to buy their products. Thus, the business success is partly based on how startups can strategically handle the chicken and egg problem.

Even after getting the user base, other challenges of MSP's may occur such as growing too fast or too slow, insufficient trust and safety, wrong approach to deter user disintermediation, and regulatory risks (Hagiu & Rothman, 2018). It is wrongly understood that startups have to grow as fast as possible,

however rushing might backfire as it shows the flaws in the business model that are hard to fix at an early stage.

Trust and security are another challenge of MSP's where eliminating improper behavior and fraud are crucial for customers to keep using the platform. Additionally, the platforms are subject to disintermediation when the users agree to continue their interaction outside of the marketplace. Above all, there is always the challenge of regulations and governmental issues.

We use platforms that have already conquered the challenges of MSP's and analyze them based on disruption theory. There is research done on different strategies to overcome those challenges in literature today that we mention in the literature review chapter where we give a brief summary of a few strategies used by different successful companies. Hence, this thesis does not give an in-depth study of the challenges and the strategies used since a brief summary is sufficient for our area of research.

Empirical delimitation

The thesis uses secondary data and does not include primary data such as interviews since the nature of the topic is more suitable for a comparative study. Furthermore, the research is conducted in Sweden, thus the primary data that results from interviews can be biased in terms of user base and market leadership. We discuss this further in the methodology chapter.

The data used in the case analysis chapter uses websites and annual reports that are found on the company's web pages due to the limited academic resources that provide information about user base and market share.

1.6 The United Nations Sustainable Development Goals

Our thesis topic aligns closely to two of the United Nations' sustainability goals (2018) which are goal number 8: "Decent work and economic growth" and goal number 9, "Industry, Innovation and Infrastructure". In order to create economic growth and foster innovation, research is needed in a broad field. Our specific research area is aiming mainly at understanding innovation and disruption in recent years. A deeper understanding makes it possible for companies and individuals to understand and apply new business models and create ventures that help the growth of GDP.

2. METHODOLOGY

As mentioned in the introduction, multisided platforms are found in many markets and in many varieties. Nowadays, The music industry relies on such platforms more than ever. In this research, we are specifically choosing music streaming services, as these services have grown in popularity with staggering rates, and have utilized digital multi sided platform business models. In this chapter, we discuss research design, ontology, data collection and our criteria for the analysis of the case studies.

2.1 Research Design

Due to the nature of the topic and the research question, we have chosen to use comparative case studies to analyse if and how disruptive multisided platforms in the music industry are, and to find out if Christensen's widely accepted disruption theory is applicable for digital multisided platforms.

This choice is based mainly on the unclear outcome of the analysis, as case studies allows us to remain flexible during its course, even if the discovered results are unexpected. A purely statistical approach may be too focussed on proving or disproving a hypothesis, and is therefore not completely bias free (Nakagawa, 2004). In our case for instance, a statistical survey could be used to discover how many people are using audio streaming services, but with a more narrow case study we are able to determine why this is the case. On the other hand, using a case study is sometimes too narrow to draw valid conclusions, as it is simply one example (Gomm, Hammersley & Foster, 2000). Therefore, we are analysing three cases: Napster, Spotify and Apple Music.

By comparing one unsuccessful case (Napster), one successful case, the market leader (Spotify) and one case that sits in between (Apple Music) to each other, we aim to recognize patterns and draw valid conclusions on how these companies with a similar service are able to differentiate themselves and become successful in their field.

2.2 Research paradigms, Ontology

According to Ritzer and Guba (1991), there are three common paradigms when it comes to research: positivism, constructivism and pragmatism. Positivists believe that everything can be measured since there is only one reality, while on the other hand constructivists think that reality needs to be interpreted since there is no single truth. Pragmatists believe in the method that solves the problem, regardless of which one that might be. These three interpretations come down to two common research methods: qualitative and quantitative research.

Qualitative research is often used in situations where the outcome is fairly unclear, since it is an in-depth method to gain an understanding of underlying reasons or motivations. This exploratory research often uses an unstructured or semi-structured approach, with a limited sample size. Generally, qualitative studies leave more room for interpretation by the authors.

Quantitative data on the other hand is used to quantify the hypothesis by measuring numerical data or statistics. This approach generalizes the opinions, behaviours or other variables from a large sample size. The outcome is often seen as hard facts, since it has been measured.

Since this thesis is about exploring disruptive innovation in multi sided platform settings, the qualitative method has been adopted. Overall however, pragmatism seems to cater to the most diverse research projects. Since there are many specialisations and topics, we believe that there cannot be "one" method to suffice all projects.

2.3 Primary vs. Secondary data

According to Aisha, (2017), in the collection of data to analyse there is a differentiation made between primary data and secondary data. Primary data refers to the authors collecting the required data themselves by using surveys, interviews, observations or experiments. This method is reliable and accurate, and fits exactly with the topic that is being researched. However, it is a resource consuming process in terms of time and manpower, and requires an high amount of data to gain accuracy.

Researching secondary data involves data collection from previous research done by governments, internal records of organizations, reports, journal articles and websites. These data collections have been refined compared to the primary data, and have been put in a specific context. This method is more resource efficient, but may be less accurate since the research objective was different when the data was collected.

In this case study, secondary data collection is adopted, since primary data collection in terms of interviews would not be suitable in this comparative study. This data is then compared and ranked in order to determine the success level of our case companies. Furthermore, we are combining a theoretical framework with existing data in order to interpret the phenomena within MSP's, and due to the topic there has been research done in similar areas with full data collection that we can access.

2.4 Analysis

The cases are analysed following the same procedure for each individual case. This way, we can find potential resemblances or discrepancies between the individual cases and draw conclusions. Each of the cases is analysed according to the following criteria:

1. Amount of users on the platform (paid and unpaid subscriptions)

The number of users that each of the platforms has attracted globally is compared. In addition to the userbase, a comparison between monthly active users gives a better overview of the growth.

2. Market-share of the global music streaming industry

The marketshare is a good indicator of success, especially if it is combined with the maturity level of the startup, where it indicates the growth rate.

3. Revenues

Comparing whether or not the platforms are profitable and to what extent gives valuable information for analyzing success.

4. Theoretical framework

Here, we compare each individual case with Christensen's disruptive innovation theory and determine whether these companies are disruptive.

The next chapter discusses the theoretical framework in detail along with other important theories to build our analysis on.

3. LITERATURE REVIEW

As discussed in the previous chapters, we are studying through our case studies whether disruptive innovation theory can explain the success of companies built on MSP's. In this chapter, we go through some of the previous research done on the theory itself, its criticism and also MSP's in order to get a full picture of the topics discussed.

3.1 Theory Critique

As mentioned before, various research papers have criticized the theory in the past twenty years. In this section, we go through a number of articles that criticize the theory and highlight their perspective on the matter.

In the article "Disruptive Technology Reconsidered" written by Danneel (2004), the author considers the lack of constructive criticism of the theory's core concept; disruptive technology, in addition to its effect on firms and industries. Therefore, Danneel (2004) reexamines in his article the concept of disruptive technological change, its mechanisms and its effects on firms and industries. In the article of "Disruptive technology or visionary Leadership" (Tellis, 2006), the author builds on Danneel (2004) criticism regarding having a clear definition of the term Disruptive Technology and in addition raising doubt to the case studies that Christensen uses to validate his theory. Tellis (2006) findings show that technological advancements are not the sole drivers of success in contrary to Christensen's theory. The paper finds that price, size, convenience and simplicity as described in Christensen's theory is not enough to explain the success of disruptors. The author's summarizes his findings of studying 23 different technologies across 6 different markets, as follows (Tellis, 2006, p. 38)

"The research my colleagues and I have done suggests that success and failure are unlikely to be deterministic outcomes of inanimate technologies, whether they are radical, revolutionary, or disruptive. Rather success and failure are probably the result of internal cultural aspects of the firm. Important among these is visionary leadership that embraces change and is willing to cannibalize existing assets to serve customers with new technologies"

Hence, Christensen's theory is not enough to explain the success of disruptive technologies since it does not include cultural and leadership aspects of new entrants.

In the article "Disruptive innovation: In Need of Better Theory" (Markides, 2006), the author argues that disruptive innovations are not all the same. In his article, he recommends separation of different types of disruptive innovations into different categories; technological, business-model, new-to-the-world product innovations. Even if the three types of innovations might follow a similar process in disrupting existing markets as discussed by Christensen, they still produce different types of markets and have different managerial impacts. Hence, the outcome of the paper is that progress regarding Christensen theory can only be made if disruptive innovation is broken down into distinct categories.

In the article "A Reflective Review of Disruptive Innovation Theory" Yu and Hang (2010) raise attention to the fact that Christensen theory has been focused on the incumbent perspective and how big corporations can react to disruption. However, disruption is wider than that and includes startups and new entrants perspective as well. Hence, more research on the startup side is necessary to get a full picture of disruption and in order to guide new entrants progress since they are the weaker and smaller side.

The most recent critique to the theory is discussed by Weeks (2015), the author argues in his article that instead of focusing on misapplication of the theory, we should focus on the root causes of this misapplication. He continues to mention a few of those root causes based on his research. One of the main causes, he argues, is not establishing clear boundaries between disruptive and sustaining innovation. In other words, Christensen has not provided a clear definition of disruptive innovation in his early work in 1997 and has not provided clear boundaries between what makes an innovation disruptive. The author (Weeks, 2015) mentions an example of the Apple iPhone that Christensen predicted that it would fail according to his theory. The iPhone did not fit Christensen's definition of either disruptive or sustaining innovation. It was not cheaper, smaller or just good enough for some users, rather it was a premium-priced, radical product that attracted a wide range of users and created a new market. Weeks takes this example as a proof to his criticism of the theory needing tighter boundaries with a recognition that some innovations will not fit into the framework.

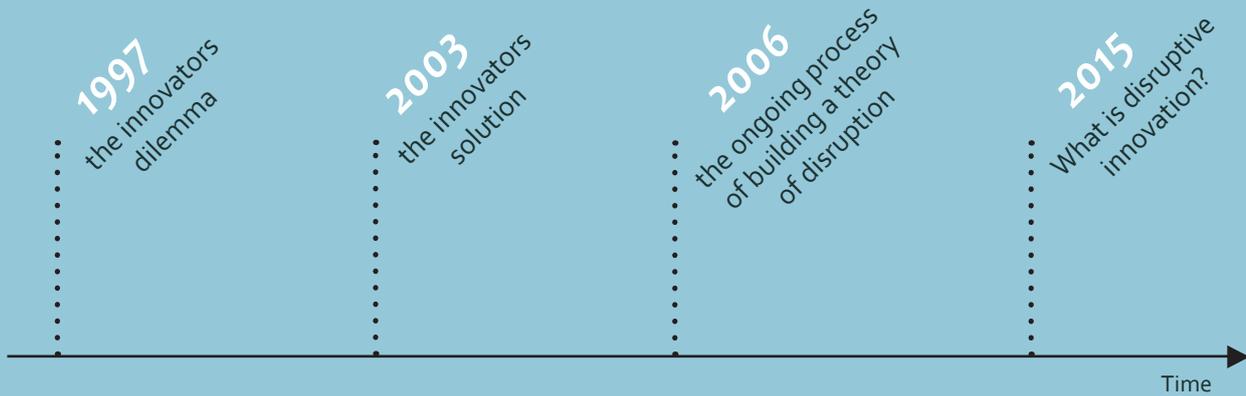


Figure 1
 Timeline of Christensen's
 disruptive innovation theory
 Reference on page 39

3.2 Christensen's Theory Evolution

Christensen is well aware of the criticism following his theory and has been working on improving it in different publications in recent years, such as the book "The Innovator's Solution" (Christensen & Raynor, 2003), the article "The ongoing process of building a theory of disruption" (Christensen, 2006) and last but not least, the article "What is Disruptive Innovation?" (Christensen et al, 2015).

Figure 1 shows the timeline of the disruptive innovation theory evolution as Christensen tries to take into consideration the criticism and enhance the theory that was first written in 1997.

Christensen describes disruptive technologies in his book "The Innovator's Dilemma" as cheaper, simpler, more reliable and convenient than existing products on the market (Christensen, 1997). The author continues to note that the new disruptive technology initially underperforms the existing alternatives and does not target mainstream customers. However, the disruptive technology improves with time and can meet the standards of the mainstream market eventually. The case studies he chooses in his research are big incumbents such as the hard disk industry and his focus is to answer the question "How can great firms fail?".

In his next book "The Innovator's Solution" (Christensen & Raynor, 2003), he takes into consideration the limitation of the research done on one side of the coin and expands his research to answer the question "How can new businesses become the disruptors and kill established competitors?". The improvements of the theory following this publication include expanding the two-dimensional framework into a three-dimensional framework as seen in Figure 2. The authors discuss that disruptive innovation has two types; low-end market disruption and new-market disruption. Hence, expanding the theory from time versus performance dimension into time, performance and new customers and new contexts for consumption dimensions (Christensen & Raynor, 2003).

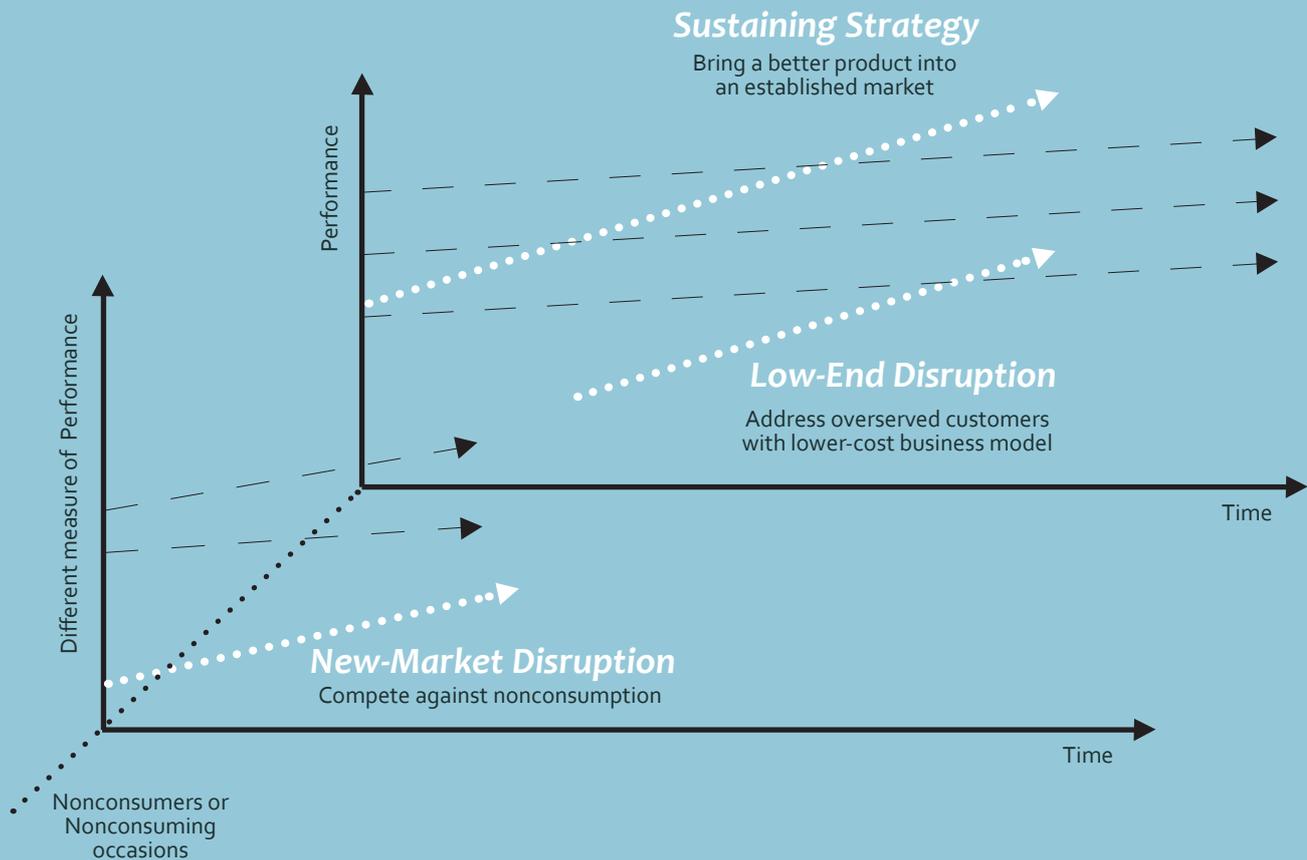


Figure 2
Updated Disruption
Innovation Model
Reference on page 39

Adding the new market perspective strengthens the theory's ability to explain the success of new disruptive innovations such as the Apple iPhone that created a new market and a new need for a smartphone.

In Christensen's article "The ongoing process of building a theory of disruption" (2006), he responds to critics and accepts some critique such as Markides critique (2006) to be helpful to add more depth to the theory. The author explains the process of building a theory and goes through some of the improvements he had already made where he divided disruption into two categories; new-market and low-end-market disruption. He adds that relativity is a crucial concept to the theory of disruption in response to the criticism of needing clearer definitions. The concept could help us to identify new to the market innovations; when an innovation cannot be described relatively to an existing technology or product then we can say that it is a new to the market innovation. He continues to mention that business model disruptive innovations are important improvements to the theory since it not not only about the technological advancements but also about the business model applied to launch that technology to the market. He redefines disruptive technologies as disruptive innovations since technology is not enough to be disruptive as follows (Christensen, 2006, p. 11):

"A disruptive innovation is financially unattractive for the leading incumbent to pursue, relative to its profit model and relative to other investments that are competing for the organization's resources."

He then continues to mention his support for future research, whether it was with respect to further categorization of disruption or case studies that are inexplicable using the theory. He emphasizes the importance of continuously challenging the theory by taking it as a foundation to build a better and clearer theory for the future.

Twenty years after the introduction of the theory, Christensen et al (2015) revisit its application throughout the years and gives an updated version along with misapplications that have occurred due to lack of understanding. The authors mention Uber as an example of a misapplication where they argue that Uber is not disruptive according to the theory since it did not target low-end or new-market customers but rather it targeted mainstream customers. The paper (Christensen et al. 2015) then mentions how important it is to identify disruption in its true nature in order to manage innovation effectively and draw better conclusions for theoretical and empirical purposes.

In our thesis, we use the latest paper written by Christensen et al (2015), as described in theoretical framework chapter, in order to make a valid contribution to the existing research and avoid falling into outdated criticism that has already been resolved.

3.3 Research on MSP's

The phenomena of digital platforms is so new that it sets challenges not only to research but also to governmental policies and cultural norms. Regulators and policy makers are learning on the spot as they cannot rely on any tool that can exploit the opportunities and addresses the risks that comes along with digital platforms (Rossotto, Lal Das, Gasol Ramos, Clemente Miranda, Badran, Martinez Licetti & Miralles Murciego, 2018). Nonetheless, some platforms are taking over various markets regardless of obvious regulatory and physical constraints such as Uber and Airbnb. Therefore, the traditional approach to new technologies has to be readdressed and adapted to the new reality of the revolution of platforms (Rossotto et al, 2018). Thus, further research on MSP's is crucial in order help guide existing markets and regulations for better adaptation to the opportunities and risks entailed.

As discussed before, MSP's have challenges that go beyond regulatory risks in the startup perspective. Those challenges such as the chicken-egg problem and sustainable growth are well discussed in the book "Platform Revolution" written by Parker, Van Alstyne and Choudary (2016). The book goes through case studies such as Uber and Airbnb in order to draw some conclusions and strategies to overcome the challenges previously discussed. Although, we do not analyze those strategies in depth since that is a different area of research, we can mention a few of them to get a clearer idea on the topic (Parker et al, 2016):

Piggybacking

"Piggybacking" used by many startups that draw their users from an existing user base elsewhere. For instance, Airbnb piggybacked on Craigslist by approaching users on Craigslist and encouraging them to create a profile on Airbnb.

Subsidizing Users

Subsidizing users can be done monetary or with virtual tokens, and creates an incentive for the users to use the platform. Paypal, for instance, gave users an amount of money on their account to start off with.

Secure one-side

A good strategy could be to lure one side in to the platform first which eventually helps attract the other side. This strategy is slower but will most likely result in a valuable user base. In the case of Airbnb, they lured in the property owners first since they had lower risk to enter such a platform and then used them to attract the renters.

Time and Location

Limiting the geographical reach in the early stages helps most startups to gain more customer insights and to connect multiple actors that are easier to reach. Airbnb targeted cities during festival days where hotels are usually sold out. Uber also targeted dense cities during special events where taxis became scarce.

The book includes more strategies that can be used for example, enhanced user experience is an obvious way to grow the network and keep the users on the platform.

The revolutionary aspect of MSP's is that they can be applied across all industries which makes them one of the most interesting business models to research. The article "Understanding platform business models: A mixed methods study of marketplaces" by Täuscher and Laudien (2018) is one of the first studies to classify business models across industries when compared to most existing research done on business model classifications within a specific industry or region. Hence MSP's multi-market feature proposes a new area of research on business models in order to get a better understanding of how novel firms can create, deliver and capture value.

Digital platforms are studied in depth in the article "Some Empirical Aspects of Multi-sided Platform Industries" (Evans, 2003) where the author not only defines the different challenges of MSP's but also the different structures they are divided into. The paper (Evans, 2003) also talks about pricing strategies that can be adopted for such platforms and also discusses scalability taking case studies such as eBay and yahoo to illustrate successful strategies. Moreover, the article "The rise of the platform enterprise: a global survey" (Evans & Gawer, 2016) presents valuable insights from a year-long research where leading scholars from across the world collaborate to introduce the first comprehensive survey of major public and private-owned platform companies.

As mentioned previously, this thesis does not conduct further research on the challenges of MSP's or produce strategies to improve scalability and adaptability. We use MSP's as case studies under the umbrella of disruptive innovation in order to challenge the theory in the age of platforms.

4. THEORETICAL FRAMEWORK

In this chapter, we define key concepts that are used in different parts of our research such as sustaining, incremental, radical and disruptive innovation. We also define business model innovation and MSP's in order to build a solid base for our research. This chapter is based on the literature review where we choose the latest version of the theory of disruptive innovation written by Christensen et al (2015) in order to answer our research question. We also choose specific definition that are used in the analysis of the case studies.

4.1 Innovation Definitions

Innovation versus Invention

It is easy to confuse the two concepts of invention and innovation, therefore we discuss those terms first to make a clear differentiation and a better understanding of the two terms. An invention is an original solution to a problem using information provided about the problem or need along with the technical means in which the problem can be solved (Utterback, 1971). An invention not followed by any entrepreneurial action does not reach any economical value. Whereas an innovation is an invention that has reached the market as a new product and hence has an economical impact (Utterback, 1971). Thus, invention is about coming up with a new solution and innovation is about exploiting a new solution to a problem by putting it into the market.

Incremental innovation versus Radical innovation

Incremental Innovation describes minor improvements and changes to existing products or technology by exploiting the potential of established design. Whereas radical innovation introduces different and new set of engineering and scientific principles that opens up new markets and possible applications (Carayannis et al, 2015). In other words, incremental innovation conveys the improvement of an already existing process or product whereas radical innovation is based on introducing something new. Innovations can be measured, as proposed in the paper by Remneland Wikhamn and Knights (2016), along two dimensions; firstly, the newness of technology and secondly the degree of customer satisfaction per dollar. Consequently, incremental innovation is low on both dimensions while radical innovation is high on both.

Sustaining innovation

Sustaining innovations are based on enhancing the performance of technological products or services according to the mainstream customers evaluation (Christensen & Overdorf, 2000). Sustaining innovation mostly comes from incumbents where they respond to revolutionary changes in their markets. However, what those companies cannot cope with or introduce is disruptive innovation due to lack of processes that can handle such innovation.

Disruptive Innovation

We use the latest article written on Christensen's disruptive innovation theory (Christensen et al, 2015) to set our theoretical framework. As displayed in Figure 3, the theory is built on two different blocks as described in the paper written by Christensen et al (2015); firstly, disruptive innovation originates in either low-end market or new-market foothold. Starting in new or overlooked markets makes disruption possible in the targeted industries. Secondly, Disruptive innovation often does not target mainstream customers until the quality of the product has met their standards. In other words, incumbents are more focused on their profitable customers and they adopt sustaining innovation (gradually improving the products to fit existing customers) which enables companies to sell more products. Hence, the mainstream customers are unlikely to switch to low price companies until those companies improve their services to better match their standards.

For example, Netflix initial service was not challenging the success of Blockbuster, as their mainstream customers were still attracted by the new released movies they provided. Meanwhile, Netflix focused on early adopters that did not care too much about new releases and are used to online shopping. Nonetheless, the new technology allowed Netflix later on to stream videos online and offer a wider and more affordable selection which attracted core customers of Blockbuster.

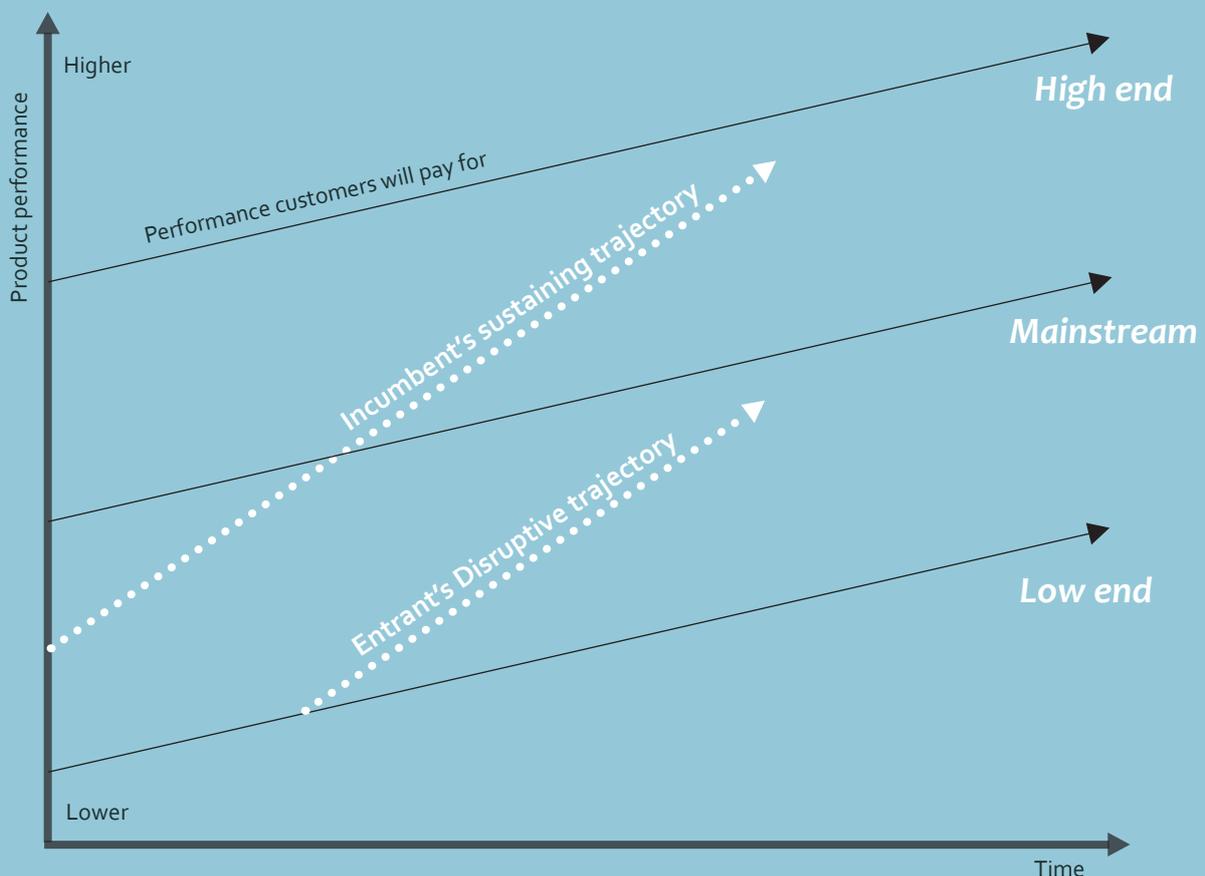


Figure 3
Disruption Innovation Model
Reference on page 39

Business Model Innovation

In this thesis, we define business model innovation in order to get a better understanding of how incremental, radical, sustaining and disruptive innovations can happen under the umbrella of the business model. Business model innovation is defined (Markides, 2006) as the formation of a significantly different business model in an existing market or business. For example, Amazon competes in the book retail fundamentally differently than Barnes & Noble. In order for a business model to be considered innovative, it must enlarge the existing market by attracting new customers or by increasing the ability for customers to consume more. Hence, the business model innovators do not discover new services or products but they reshape the way they are offered to customers (Markides, 2006). As in Amazon case where Amazon did not come up with the service of bookselling rather it redefined how the service is provided for book readers.

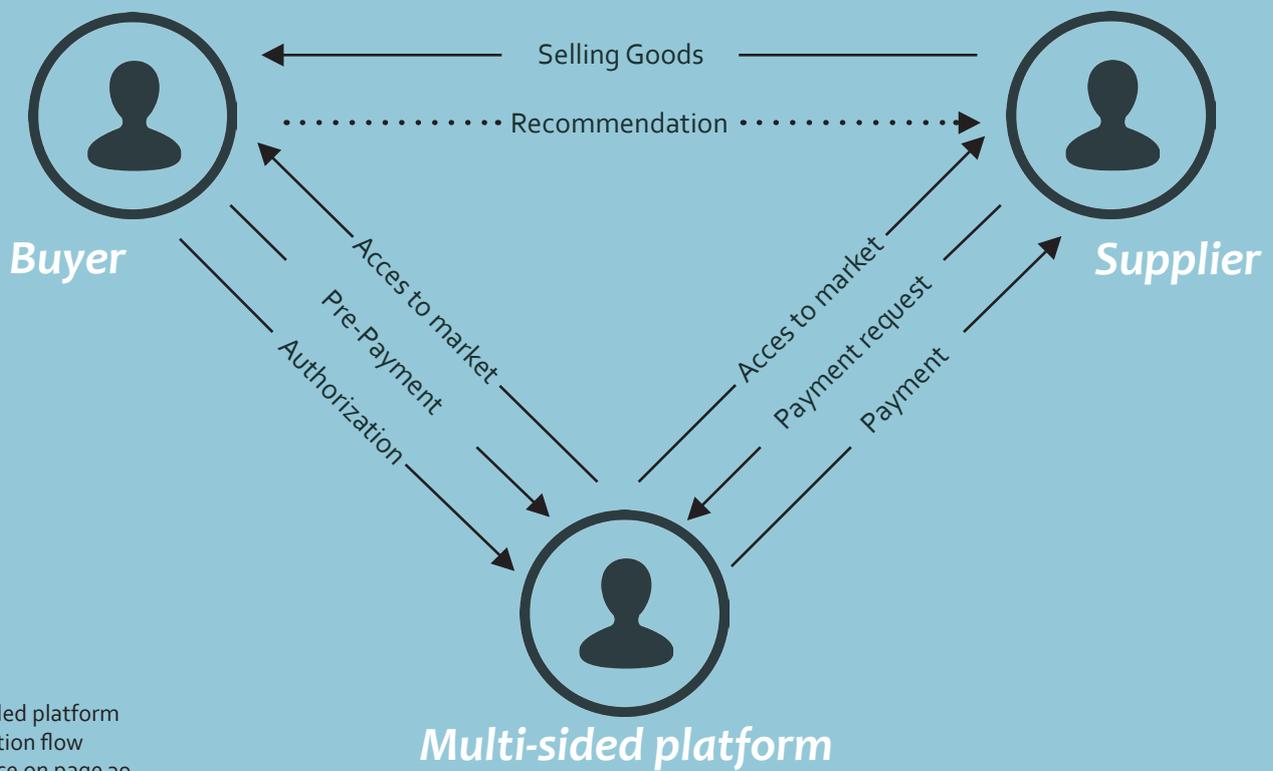


Figure 4
Multi sided platform
information flow
Reference on page 39

4.2 Multi-sided Platforms

In this thesis, we define multi-sided platforms as interfaces, which can be manifested in services, technologies or products, that serve to mediate between two or more sides in order to facilitate interactions (McIntyre & Srinivasan, 2017). The information flow is illustrated in figure 4, where MSP's act as an intermediary between two parties. The challenges of launching such products or services are discussed earlier in the theoretical limitation of the thesis. The main challenge is the chicken and egg challenge which is how do you get a buyer on the platform without getting the supplier and at the same time how do you get a supplier without having a buyer on the platform. Other challenges could be of legal nature such as the challenges faced by Uber about the way they handled drivers' payments. However, even if those challenges are well conquered the platform cannot survive without growth. Hence, the network effect is an essential concept to consider when it comes to MSP's. We define networks as a system of nodes which are interconnected (McIntyre & Srinivasan, 2017). Those nodes can represent individuals or a group of participant as in the case of organizations.

Networks have both direct and indirect effects on the growth of MSP's as described in the paper written by McIntyre and Srinivasan (2017). The direct network effects are based on the benefit of joining the platform as a user which are in turn based on the number of other users on the platform with whom the user can interact. On the other hand, indirect network effects are based on different sides of the platform (network) who can mutually benefit from the size and the characteristics of the other side. If we go back to the netflix example, the users value a large availability of movies and programs to watch while content providers such as movie studios benefit of a big user base (viewers). Here we can define a platform ecosystem which refers to the platform and its network of complementors that provide complements to increase platform value (McIntyre & Srinivasan, 2017). Whereas an ecosystem in the broad sense can describe a community (firms and individuals) that co-evolve their roles and align themselves in the direction set by the central companies.

5. CASE STUDIES

In this chapter, we discuss different cases in the music industry in order to apply the disruptive innovation theory. At first, we discuss the development of music theory as a whole and then go through the cases starting by Napster, the first mover in the digitalization of the music services, followed by Spotify and Apple Music. We give a brief background to each of the cases and then analyze them together based on the criteria mentioned in the methodology chapter.

5.1 Music Industry Introduction

The music industry development across the years has been rather slow. However, the industry could not avoid being shaken by digitalization and technology. The availability of MP3 audio format on the internet had a significant impact on the players in the traditional recorded music value chain as discussed in the paper by Bockstedt, Kauffman and Riggins (2005). The paper continues to illustrate the shift from CD's to digital music as Apple was riding the wave early on with their product Apple iPod that uses MP3-formatted music. In July 2004, Apple announces its online digital download service, iTunes which proved that digital music is here to stay.

The shift has of course affected the market structure of the music industry. The traditional structure in Figure 5 below illustrates the process that begins with the artist communicating with the producer and from there both the artist and the producer communicate with record labels which in turn communicate with distributors that contact the retailers who finally get the product to the consumer.

Traditional Music Industry Market Structure

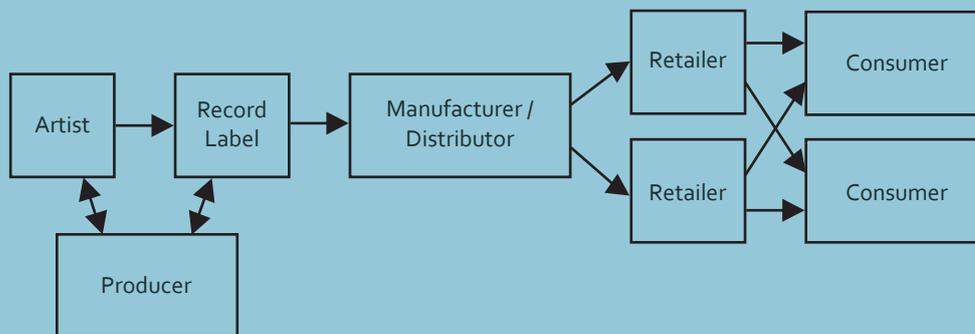


Figure 5
Traditional music industry
market structure
Reference on page 39

Digital Music Industry Market Structure

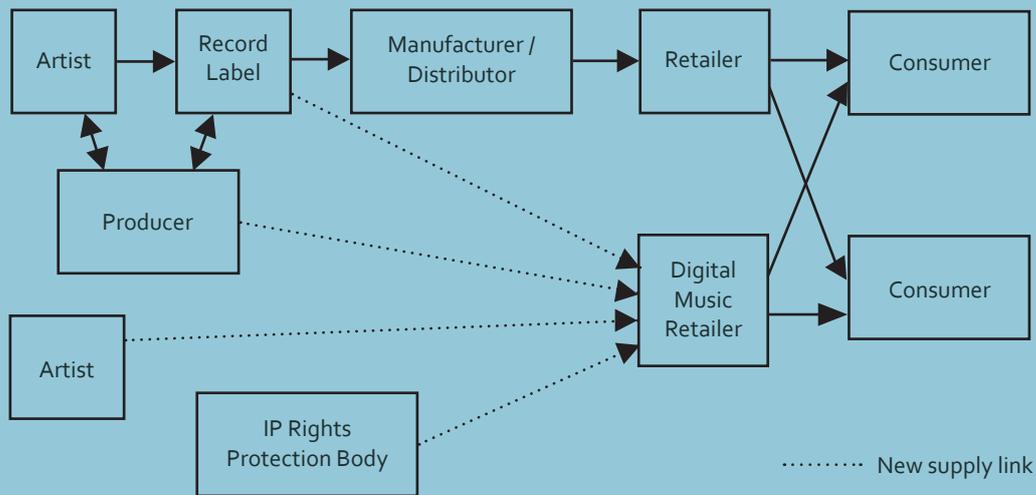


Figure 6
Digital music industry
market structure
Reference on page 39

The digital music industry market structure creates a new supply link that links the producer, artist and IP Rights Protection Body with the digital music retailer which in turn links it to the consumer, as seen in Figure 6. Hence, the market structure is less complex with fewer layers that provide more efficiency and a shorter way to reach the consumer.

The improvements of the market structure by digitalization has its impact on all players in the industry. For instance, digital music is easily produced which affects record labels by having lower manufacturing costs and artists by having a lower break-even point (where costs and revenues are equal). Digital Music is also easily transferred which affects the consumer by having a cheaper and higher quality product. The impact of digitalization on music did not stop there but rather that was just the beginning that paved the way to innovations such as Apple Music, Napster and Spotify. In this chapter, we go through the evolution that led us to the most recent innovation of Spotify that took advantage of its successors such as Napster to shake the music industry and become one of the main music streaming services of today.

5.2 Backgrounds

5.2.1 Napster

Napster started out as one of the very first peer-to-peer file sharing networks with a strong focus on audio files. In early 1999, Shawn Fanning, John Fanning and Sean Parker launched Napster and gained popularity rapidly. Napster enabled users to share, search and download specific songs, often in MP3 file format. Since Napster enabled the connection and information exchange between users with different files, it can be considered a multi sided platform (Tilson et al, 2013). After a few months being active, the first lawsuit was filed against Napster for copyright infringement by RIAA, the Recording Industry Association of America. Shortly after, also the famous heavy-metal band Metallica filed

a lawsuit. The lawsuits had an adverse effect, making Napster even more popular, mainly among students. At the height of Napsters operations, around 80 million users were registered (Harris, 2019). In 2001, the courts ruled that Napster needed to cease their operations (Stern, 2000). After just two years of activity, Napster had to shut down its operations leaving lessons to learn from its experience to future music sharing platforms.

Multiple changes of ownership and business model followed, with the aim to keep the well known Napster brand alive. Under ownership of Roxio, Napster tried to sell individual downloadable songs legally, but never got a foothold in the market that was taken up mainly by iTunes from Apple. Rhapsody acquired the rights to the brand and converted the service into a legal music streaming service under the Rhapsody brand. In 2016, Rhapsody went through a rebranding project, bringing back the more known Napster brand name, before putting focus on international expansion (Kunze et al, 2007). Today, Napster is an active streaming service that mainly serves customers in the US. The current CEO, Bill Patrizio, acknowledges that Napster is far away from the successes of Spotify or Apple in terms of growth and users, but points out that even a small portion of the market represents an enormous amount of potential users and revenue (Peoples, 2018). The big market size allows different alternatives to exist and sustain their growth even with a small share.

Napster is currently using a Hybrid business model that is often referred to as "Freemium" (Papias et al, 2011) that combines the free, ad based user profile with a subscription model that provides streaming without advertisements.

5.2.2 Spotify

Spotify is a Swedish company founded in 2006 by Daniel Ek and Martin Lorentzon. The paper written by Remneland Wikhamn and Knights (2016) gives a thorough background of the company. It states that the service was initially ran as a beta version in a small invitation based community of users until the official launch in 2008. The company offered from that time onwards a new way to listening to music without limitations whether it was on the number of songs played or genres. This service is built on a multi-sided platform by signing licensing agreements with all the major record label companies and a number of independent labels in order to connect users (listeners) with artists (songs). The strategy used by Spotify, in contrast to illegal alternatives such as the Pirate Bay, was to legalize music streaming and get the record labels on board which in turn allowed spotify to position itself as music provider in various european countries such as Sweden, Norway, Finland in the north and Italy, France and Spain in the south.

In 2010, Spotify celebrated the company's growth to 10 million users across Europe with more than 10 million tracks available on the platform. A year later, Spotify's efforts into getting to the US market paid off when the negotiations with the major record companies were finally finalized. In 2015, the user base hit a new number with 60 million users and 15 million subscribers (Remneland Wikhamn & Knights, 2016). The service provided by spotify is not a pure web-based service where users need to install a free but proprietary client program.

The user thereafter can search and listen to music of choice and even create their own customized playlists. The multi-sided platform was initially built on a peer-to-peer technology similar to that of torrent technology (Pirate Bay) where users transfer music to each other. That technique was used in order to reduce costs of server resources in the startup phase. However, Spotify only streams from its own servers since 2014 (Remneland Wikhamn & Knights, 2016). Spotify's users are able to stream music rather than downloading it as a record which gives high flexibility and mobility to the user since they can listen anywhere and using any device.

In 2010, Spotify added a social aspect to the streaming service by allowing users to create their profiles and share playlists with each other or even on social media such as Facebook and Twitter. However, Spotify does not engage users in the development of functionality or content.

Today, Spotify offers its services on a freemium based revenue model (Wagner, Benlian & Hess, 2014). The free version users can listen to any song they wish with some acoustic and visual commercials interruptions. While the premium users can listen without interruptions and get better sound quality in addition to listening offline on their mobile devices.

5.2.3 Apple Music

Apple has a history when it comes to digital music offerings. With the iPod and iTunes ecosystem, Apple revolutionized the music industry in 2001, enabling users to find, purchase and download music, before installing the songs onto the iPod. However, the digital music streaming business was a business that Steve Jobs did not believe in and therefore Apple did not venture into this direction until their purchase of Beats Electronics in 2014, who had a streaming service called Beats Music. At a press conference in the middle of 2015 (Popper, B., & Singleton, M. 2015), Apple presented their first on-demand music and video streaming service called Apple Music.

Despite their late arrival to the streaming market, Apple expected fast growth due to their extensive existing network from iTunes, which included many of the large record labels and access to a database consisting of 800 million credit cards of potential customers. Apple also focuses on exclusive content, by buying rights to certain albums or tracks, prohibiting other streaming services from offering these songs to their customers (AppleInsider, 2018). Furthermore, capital intense activities such as marketing campaigns and covering the costs for customer acquisition were possible at an early stage due to large capital reserves (Klebanow, A & Wu, T. (2015)). It took Apple Music 6 months to reach a milestone of 10 million paying subscribers while it took Spotify 6 years to reach that number. The rich history in digital music delivery gives Apple a very unique advantage over competitors, apart from the aforementioned points: Apple Music seamlessly integrates with iTunes and other services from Apple's ecosystem which makes it easy for existing users to switch to Apple Music.

Apple is using a different business model than most music streaming operators by offering the full product for free during the first three months as a trial period, without advertisements or a decreased amount of features. After these three months, users can either terminate the service or continue with a paid version.

5.3 Case analysis

With a rough overview of the backgrounds of our cases, we now analyse the companies based on outlines described in the Methodology chapter. With general information such as amount of users, the market share and revenues. As a background, we also consider whether these companies are, according to Christensen's theory, disruptive or not. Later in the findings and conclusion we want to highlight the results and our interpretations.

5.3.1. Amount of users on the platform (paid and unpaid subscriptions)

According to the organization "Internet World Statistics", 56.8% of the world's population has access to internet through computers or smartphones. With access to any of the streaming services on the market, the fight for users is hard, especially since many of the streaming services have similar offers at similar price points. Gaining users, regardless of paid or unpaid subscriptions, is essential to sustain growth. Any user on the platform has the potential to stay loyal to one company, because these streaming services have a certain "lock-in" effect.

As shown in figure 7, Spotify is the globally dominant streaming provider with regards to the amount of paid and unpaid subscribers, passing 100 million paid subscriptions in April 2019 and 217 million active monthly users in total (Spotify, 2019). At the same time, Apple Music is surpassing Spotify in terms of paid subscriptions on the US market, and rapidly gaining users worldwide with a current customer base of 56 Million users (Li, 2019). Napster is far behind in terms of subscribers with only around 3 to 4 million users, although no official numbers have been released since 2017 (Peoples, 2018). Closely related to the amount of users on the platforms is the market share that each of the streaming providers represent.

Paid subscribers compared

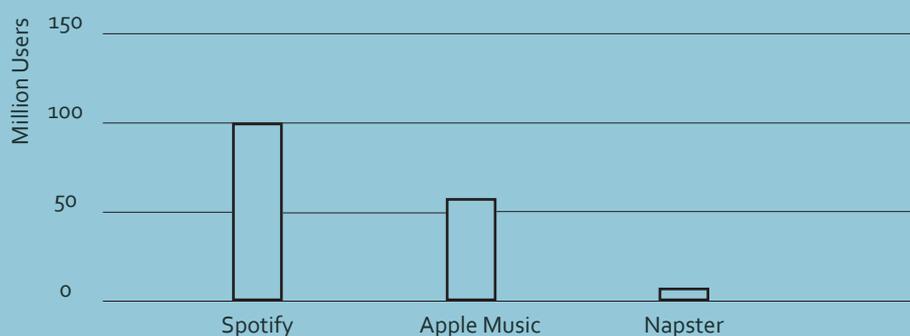


Figure 7
Comparison of paid
subscribers
Reference on page 39

5.3.2. Market-share of the global music streaming industry

The global streaming market has grown over the last years to its current size, a 3.5 billion dollar industry with clear leaders taking up most of the market cap (MIDiA research, 2018). Figure 8 illustrates how Spotify is ahead of the competition with a 36% market share, followed by Apple Music with a 19% market share and Amazon Music takes up the third place with 12%. Chinese internet giant Tencent has launched Tencent Music and holds 8% of the market, whilst companies like Pandora, Deezer, Napster and melON take up the remaining 25% of the market.

On a more national level, Apple Music has taken the lead market share in the US with paid subscription models (Li, 2019).

In the coming years, the distribution of global market share may shift heavily, as the development of new markets such as India pose opportunities for new entrants as well as for the bigger companies. Having a large market share does not necessarily represent a higher profitability, since the operating costs rise significantly and the cost of customer acquisition in this competitive field can be high.

According to MIDiA research, the early follower phase in the developed markets is coming to an end, with the consequence that growth will stagnate in the coming years. Many of the streaming providers are therefore emphasising efforts on the mid-tier markets such as Germany, Japan, Russia, Brazil and Mexico, where solid subscriber growth is still possible. However, in countries like Russia, Brazil and Mexico, strategic partnerships with, for instance, telecom operators are necessary to drive growth. This means that overall stagnation in growth can be expected towards the end of 2019.

Global music streaming market shares

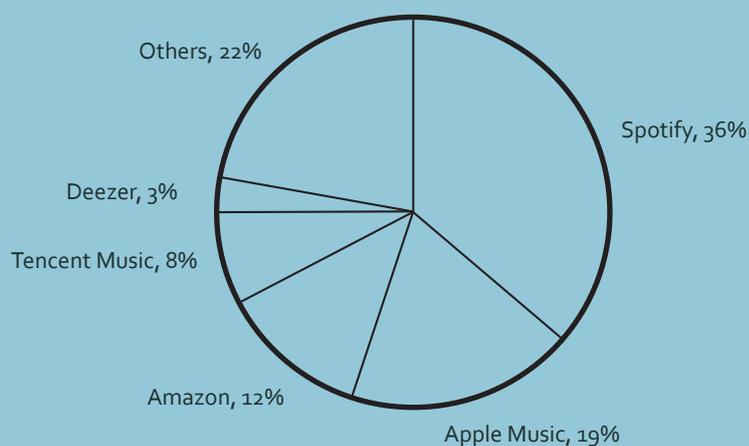


Figure 8
Market share division
Reference on page 39

5.3.3. Revenues

In this section, we analyze the revenues that our three case companies make. Some of the companies are more open than others with regards to company results, but analysts are able to make reasonable assumptions based on user growth, historical data and comparative data from the industry. The average revenue per user (ARPU) has been going down in the past years, as competition got more fierce. It is only a rough indication (Iqbal, 2019), since for instance family plans give access to playlists without knowing the exact amount of users (often up to 6).

As mentioned before, Napster does not have the largest market share or amount of users, however, this does not mean that it is impossible to make good revenues. In 2017, Napster reported a revenue of 172.4 million USD, a drop from 2016 revenue of 208.1 million USD. This was generated with an average revenue per user (ARPU) of 5,61 USD. This resulted in a net loss improvement from 35.5 million USD in 2015 to 13.1 million USD in 2017. However, this improvement is not only the result of cutting costs, the decreasing user numbers in this period certainly played their part (Sanchez, 2018). This points out that Napster is not sharing the enormous growth of the market with their rivals Spotify or Apple Music.

Spotify, as a market leader, has reported revenues in the fourth quarter of 2018 of around 1.5 billion USD, which is almost a 50% increase on the previous year. Only around 160 million USD came from the free, advertisement supported tier, whilst the rest came from the subscribers. This shows, that Spotify relies heavily on their subscribers, even though the ARPU is only 5 USD. Operating losses have been eliminated, writing black numbers for the first time in company history. In total, the operating profits came in at 94 million USD. The shareholder letter (Spotify, 2018) which highlighted these numbers pointed out that the last quarter of 2018 went better than anticipated due to special promotions. After many years of investing in marketing and user growth, the investments pay off, and Spotify is making a profit. However, this is unlikely to continue in the upcoming year, since Spotify disclosed that many acquisitions are planned which would result in an anticipated operating loss between 200 and 300 million USD.

Apple does not share company results as openly as Spotify does, but analysts have compiled information based on market share and overall profits in the industry. With a comparable ARPU as Spotify or Napster of around 5.3 USD, Apple Music could have generated around 3.3 Billion USD in revenues last year. However, it is unlikely that Apple was as profitable as Spotify, as the costs per subscriber are higher since Apple Music pays more licensing and royalties costs to artist and labels. Apple Music's CFO Luca Maestri (Niu, 2019) has stated that Apple Music has positive gross margins, and that is the main aim at this stage of the company.

5.3.4. Disruptive innovation theory

In the theoretical framework chapter, we have explained Christensen's disruptive innovation theory and its attributes that are measured to identify whether or not a company is disruptive. The key factor for disruption is explained mainly as targeting customers from the low end of the market or creating a whole new market (Christensen et al, 2015). In this section, we use our theoretical framework to analyze Napster, Spotify and Apple Music and conclude whether they are disruptive or not in the light of the theory.

Napster - Disruptive

Before Napster introduced the first peer-to-peer sharing network for music, most people were still relying on purchasing CD's for their music. With the arrival of the MP3 file format a few years before Napster launched, a new market was created: the digital audio player market. Soon people started to realize that it was not necessary to "Rip" CD's anymore, since most of the songs were found online, already compressed in a suitable format for their portable MP3 players.

Napster catered to these users by enabling the transfer of audio files between individuals. Since this market did not previously exist, Napster created the market of audio file sharing and can therefore be regarded as being disruptive. (Sun, Williams and Stewart, 2016) The effect on the existing market was clear, as it was the starting point of a digital music revolution, where all the value chains changed and copyrights and ownership became the biggest issues.

Spotify - Not disruptive

Spotify recognized the problem of illegal music sharing and started to battle this by offering one of the first legal music streaming services (Sinha & Mandel, 2008). On a technological level, Spotify did not significantly innovate or disrupt, most of the technology was already available and was only refined on an incremental level, putting focus mainly on the user experience. However, Spotify has innovated the business model to be one of the first subscription-based streaming services, a change in the industry that offered often only pay-per-song services. The example of Spotify quickly gained popularity and is now seen across many different industries (Wlömert & Papies, 2016). According to the theory, Spotify is not disruptive: they targeted the same customers that were already buying digital music, and furthermore they did not create a new market. However, the effects on the music industry can be called disruptive: the value chain has changed significantly, and many incumbents such as record labels have to re-orientate their business models to stay relevant.

Apple - Not disruptive

Apple Music launched only a few years ago whilst other services had been up and running for a couple of year. Apple Music follows the footsteps of earlier companies and completes their music business. Apple Music has roughly the same value proposition as Spotify, for roughly the same price. Therefore, Apple Music is rather a fast follower than a first mover, and is not disruptive. This does not mean that Apple Music can not be a threat to for instance Spotify: with the whole ecosystem around Apple Music that Apple can offer, for instance iTunes services and of course the playback devices as in iPhones and computers, make it easy for Apple users to switch to Apple Music. Since Apple has hundreds of millions of users registered to various services, it is an enormous potential to build Apple Music's user base rapidly.

All in all, comparing userbase, market share and revenues showed us that Spotify is currently the leader in the streaming market, but is facing competition, especially in the US market, from Apple Music which is growing at a fast rate. According to the theory, only Napster is regarded as being disruptive. In the following chapter we analyze our results and put them into context with the theory.

6. FINDINGS & RECOMMENDATION

In this chapter, we summarize our findings of the analysis and literature review, and connect it back to our research question: "Can the disruptive innovation theory explain the success of Multi-sided Platforms in the music industry?". From our analysis, it became clear that Spotify was leading the music streaming industry in terms of user base, market share and revenue. The reason for this success is multifaceted, as Spotify was able to create a multi-sided platform based on technology and an innovative business model. Furthermore, Spotify handled the difficult challenges that MSP's face in order to grow and become the market leader. Napster had the technology in place, but did not succeed to create a sustainable business model and handle the legal challenges that arose.

Despite these results, Spotify is according to the theory not disruptive, but Napster is. This shows us that the current theory cannot be applied to all cases, because how can we call Napster disruptive when its userbase is just 2% of Spotify's userbase? The disruptive effect might have occurred in the early days, but this does not mean that the new market leader cannot be disruptive in the same field.

As mentioned previously, the main blocks for an innovation to be disruptive is that it targets the low-end market or creates a whole new market. The usually overlooked aspects, such as the fact that disruption is a process and that the business models of disruptive innovations vary tremendously from those of established companies is important to note. Being disruptive does not hold a guarantee success. As said by Christensen et al, (2015), Not every success is built on disruption and at the same time not every disruptive path leads to success. This is showcased by Apple Music and by Napster: Apple Music is highly successful without being disruptive, whilst Napster followed a disruptive strategy without the anticipated success.

Hence, The theory cannot explain how, despite not being disruptive, Spotify grew to one of the largest companies in the music industry. Christensen focuses mainly on the technological aspect of disruption, that is why for instance Napster, the pioneer of peer-to-peer sharing and the technology behind it, is being regarded as disruptive. However, the effect of Napster on the international music industry was short lived, as the incumbents, the labels, fought Napster immediately. Napster did not have a sustainable business model, or a strategy to handle the legal challenges, and failed.

Tellis (2006) argues that the disruptive technology on its own is too hard to measure or to predict: in fact, the results of his broad research across 23 technologies in 6 markets showed that technological performance is irregular and unpredictable, and cannot therefore be the only measure for disruptive innovation. The research suggests that the success of disruptive innovation is often a result of internal cultural aspects such as visionary leadership and a certain willingness to cannibalize existing assets, and not the technology itself. Therefore, we conclude that technology on its own can only be seen as an enabler for disruptive innovation: it is the basis for a company to build a successful product. Other parameters, such as leadership, but especially an innovative business model are key to disrupt an existing market.

Especially in MSP's we have seen that the value creation, delivery and capture are often more linked to the business model than to the technology behind it. Other influences such as the challenges of MSP's and strategies to overcome them need to be navigated in the business model, as it ensures a sustainable future.

Christensen has recognized this and altered his theory multiple times, pointing also out that disruption is relative: what is disruptive for some company, does not necessarily mean that it is disruptive for other companies or even whole industries. Many people are, however, not aware of these changes and criticize the original theory, even though most of these critiques were already changed. We think the latest theory is close to explaining disruption in MSP's, especially with the business model added, but could do with better classification of disruptive categories, such as for instance: technology driven disruption or Business model driven disruption.

Considering an innovative business model as a parameter for the disruptive innovation theory, our cases would have different outcomes. Napster for instance, would still be disruptive, but merely on a technological level by paving the way for peer-to-peer file sharing on a large scale. Regarding the business side, Napster did not innovate on a suitable revenue model for their service, with the result that Napster ended up not being successful. Nonetheless, applying the adjusted theory that includes business model to Spotify shows us that Spotify can be considered disruptive, since not only the effect was disruptive in the industry, but also their core competence, the business model that allowed for legal music streaming, was innovative and created a new opportunity in the market. The way Spotify handled the (legal) challenges of MSP's has proven effective.

Apple Music stays non-disruptive, since neither the technology or the business model were innovative, and no new market was created nor the low end of the market was targeted. Apple Music went after Spotify's existing customers, rather successfully. This shows again that adopting the fast follower strategy is sometimes more successful than pioneering a new product as Napster did. Having an existing userbase of other services helped Apple Music to gain a large amount of users quickly. This strategy is referred to as "Piggybacking" strategy in the literature review chapter, where Apple Music "piggybacked" on itself in order to overcome the challenges of MSP's.

Additionally, Time and location is an aspect that might be worth consideration when discussing disruption. Choosing the right location and the right time to launch a disruptive platform plays a big role on how successful the platform can reach. For example, the geographical and societal differences between Spotify and Napster may have had an impact on the reason behind the success of Spotify and the failure of Napster. Spotify may have had an advantage by being based in Sweden, where many people are tech-interested and the laws around copyright infringement at the time of launch were not as strict as in the US. On the other hand, Napster that is based in the US got sued shortly after their appearance on the market due to strict laws. Here, we could see that a number of the strategies used to overcome the challenges of MSP's such as Time and Location and facing legal challenges were linked to the success of Spotify and might be therefore indirectly linked to disruption.

7. CONCLUSION

One of the very first findings is that disruption is an overused term and only few people have a clear understanding of the full theory behind it. This creates an uncertainty, and mantras like “disrupt or be disrupted” increase this uncertainty. It is important to have a common understanding when it comes to disruption, since industries are competing against each other and need to be able to classify potential threats and opportunities. Also, companies don’t need to be disruptive to be successful, as our Apple Music case shows.

Our starting point for the thesis is the following research question:

“Does the theory of disruptive innovation explain the success of Multi-sided Platforms in the music industry?”

Based on our case studies, we conclude that the existing theory cannot fully explain the success of MSP’s in the current form, since we noticed that MSP’s are largely relying on the business model along with the way that the typical MSP-challenges are handled, and not on the technology itself to be successful and ultimately to be disruptive.

Therefore, the business model, which includes the strategies to overcome the challenges of MSP’s, should be one of the pillars that the disruptive innovation theory leans on.

Even though Christensen has adjusted the theory and mentioned that the business model should be included in later review of his theory, the most used form of the theory does not include it. With a more clear categorisation of disruption types, such as technology driven disruption or business model driven disruption, cases like Spotify are categorized as being disruptive, where they were previously categorized as non-disruptive but still had disruptive effects in their field. Hence, we believe that our findings open up a new area of research opportunities and theory adjustments.

8. FUTURE WORK

In a diverse and wide field such as innovation combined with business, there are always interesting topics that could be researched further and deeper. We have, based on our thesis, found a few topics that we think could add to the knowledge of disruptive innovation, and the most known theory behind it, Christensen's disruptive innovation theory.

Digital MSP's have been around for a few decades, but the business models are ever evolving and becoming more complex. In Spotify's case, we have seen that their innovative business model made many companies adapt a similar, subscription based model.

MSP's are recent innovations that pose a new challenge for the theory, since tech is not enough for disruption and leadership and business models are also important factors in the equation. Hence, for better theory, we need to identify cases in which tech is not enough, and in turn we need to establish better categories:

1. Categorization of disruption types

A full categorization of types of disruption could make it easier to identify disruptive companies and what the disruption driver is behind it. This is essential for an environment of startups contesting incumbents, since the startup wants to succeed and the incumbent wants to successfully protect their business against disruption threats. We could see classification such as: Technology driven disruption or business model driven disruption, which in our case would include the strategies to overcome challenges of MSP's.

2. Cross compare our findings with different industries

Our research has focussed mainly on MSP's in the music industry, since this industry is nowadays highly relying on the digital platforms. Cross Comparing this industry with other industries could strengthen our outcomes, or spark a conversation about alternative theories.

3. Research on MSP's

Digital MSP's are currently extremely trendy to use as a business model for startups. However, these specific platforms come with many challenges to succeed. An MSP is fully dependent on the network it creates around itself. Finding out how these challenges should be overcome and what type of business model is most sustainable could be an interesting research topic.

4. Research on whether specific leadership styles are better for digital services

Tellis (2006) has mentioned in his papers that leadership style and company culture are key to an innovative organization. It would be interesting to research what type of leadership style is best suited for a digital, innovative startup in order to disrupt an industry.

REFERENCES

Aisha, M. (2017). Difference Between Primary and Secondary Data. Retrieved from <https://keydifferences.com/difference-between-primary-and-secondary-data.html>

AppleInsider. (2018). Apple Music expected to grow 40% annually for next three years, drive Services growth. Retrieved from <https://appleinsider.com/articles/18/04/18/apple-music-expected-to-grow-40-annually-for-next-three-years-drive-services-growth>

Bockstedt, J., Kauffman, R. J., & Riggins, F. J. (2005). The move to artist-led online music distribution: Explaining structural changes in the digital music market. In Proceedings of the 38th Annual Hawaii International Conference on System Sciences (pp. 180a-180a). IEEE.

Carayannis, E., Samara, E., & Bakouros, Y. (2015). Innovation and Entrepreneurship: Theory, Policy and Practice (2015 ed., Innovation, Technology, and Knowledge Management). Cham: Springer International Publishing.

Christensen, C. (1997). The innovator's dilemma : When new technologies cause great firms to fail (The management of innovation and change series). Boston, Mass.: Harvard Business School.

Christensen, C., & Raynor, M. (2003). The innovator's solution: Creating and sustaining successful growth. Harvard Business Review Press.

Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. Harvard Business Review, 93(12), 44-53.

Christensen, C.M. et al., 2018. Disruptive Innovation: An Intellectual History and Directions for Future Research. Journal of Management Studies, 55(7), pp.1043-1078.

Christensen, C. M., & Overdorf, M. (2000). Meeting the challenge of disruptive change. Harvard business review, 78(2), 66-77.

Christensen, C. M. (2006). The ongoing process of building a theory of disruption. Journal of Product innovation management, 23(1), 39-55.

Danneels, E. (2004). Disruptive Technology Reconsidered: A Critique and Research Agenda. Journal of Product Innovation Management, 21(4), 246-258.

Evans, P. C., & Gawer, A. (2016). The rise of the platform enterprise: a global survey.

Gomm, R., Hammersley, M., Foster, P. (2000) Case study method: key issues, key texts. London: Sage Publications.

Hagiu, A., & Wright, J. (2015). Multi-sided platforms. International Journal of Industrial Organization, 43, 162-174.

Hagiu, A., & Rothman, S. (2018). Network Effects Aren't Enough.

Hagiu, A. & Wright, J., 2015. Multi-sided platforms. International Journal of Industrial Organization, 43, p.162.

Harris, M. (2019) The History of Napster. Digital Culture Industry, Retrieved from www.lifewire.com/history-of-napster-2438592

Iqbal, M. (2019). Spotify Usage and Revenue Statistics (2019). Retrieved from <http://www.businessofapps.com/data/spotify-statistics/>

Klebanow, A & Wu, T. (2015). Is Music the Next eBooks? An Antitrust Analysis of Apple's Conduct in the Music Industry. Columbia Journal of Law & the Arts, 39, 119-281.

- Kunze, O., & Mai, L. (2007). Consumer adoption of online music services. *International Journal of Retail & Distribution Management*, 35(11), 862-877.
- Leswing, K. (2019). Apple Music has reportedly passed Spotify in paid subscribers in the US. Retrieved from <https://www.cnbc.com/2019/04/05/apple-music-has-reportedly-passed-spotify-in-paid-subscribers-in-the-us.html>
- Li, K. (2019). Apple Music's U.S. subscriber count overtakes Spotify. Retrieved from <https://www.reuters.com/>
- Markides, C. (2006). Disruptive innovation: In need of better theory. *Journal of product innovation management*, 23(1), 19-25.
- McIntyre, D. P., & Srinivasan, A. (2017). Networks, platforms, and strategy: Emerging views and next steps. *Strategic Management Journal*, 38(1), 141-160.
- Mid-Year 2018 Streaming Market Shares. (2018). Retrieved from <https://musicindustryblog.wordpress.com/2018/09/13/mid-year-2018-streaming-market-shares/>
- Nakagawa, S. (2004). A farewell to Bonferroni: The problems of low statistical power and publication bias. *Behavioral Ecology*, 15(6), 1044-1045.
- Niu, E. (2019). Apple Music's Growth Is Holding Steady. <https://www.fool.com/investing/2019/01/30/apple-musics-growth-is-holding-steady.aspx>
- Papies, D., Eggers, F., & Wlömert, N. (2011). Music for free? How free ad-funded downloads affect consumer choice. *Journal of the Academy of Marketing Science*, 39(5), 777-794.
- Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). *Platform revolution: How networked markets are transforming the economy and how to make them work for you*. WW Norton & Company.
- Peoples, G. (2018). After revenues dropped last year, can Napster really compete in the streaming music space? Retrieved from <https://www.musicbusinessworldwide.com>
- Popper, B., & Singleton, M. (2015). Apple announces its streaming music service, Apple Music. Retrieved from <https://www.theverge.com>
- Remneland Wikhamn, B., & Knights, D. (2016). Associations for Disruptiveness: The Pirate Bay vs. Spotify. *Journal of technology management & innovation*, 11(3), 40-49.
- Ritzer, G., & Guba, E. (1991). The Paradigm Dialog. *Canadian Journal of Sociology / Cahiers Canadiens De Sociologie*, 16(4), 446.
- Rossotto, C., Lal Das, P., Gasol Ramos, E., Clemente Miranda, E., Badran, M., Martinez Licetti, M., & Miralles Murciego, G. (2018). Digital platforms: A literature review and policy implications for development. *Competition and Regulation in Network Industries*, 19(1-2), 93-109.
- Sanchez, D. (2018). Napster Proves That Streaming Music Can Be Profitable. <https://www.digitalmusicnews.com/2018/08/21/realnetworks-napster-profitable/>
- Sinha, R., & Mandel, N. (2008). Preventing Digital Music Piracy: The Carrot or the Stick? *Journal of Marketing*, 72(1), 1-15.
- Spotify. (2018) Shareholder letter, Q4 2018. Retrieved from <https://investors.spotify.com/financials/default.aspx>
- Stern, R. (2000). Napster: A walking copyright infringement? *IEEE Micro*, 20(6), 4-5.

Sun, H., Williams, Robin, & Stewart, James. (2016). Digital disruption in the recording industry Retrieved from [Http://hdl.handle.net/1842/23631](http://hdl.handle.net/1842/23631).

Täuscher, & Laudien. (2018). Understanding platform business models: A mixed methods study of marketplaces. *European Management Journal*, 36(3), 319-329.

Tellis, G. (2006). Disruptive Technology or Visionary Leadership? *. *Journal of Product Innovation Management*, 23(1), 34-38.

The Sustainable Development Goals (Rep. No. 2018). (2018). Retrieved from: <https://unstats.un.org/sdgs/files/report/2018/TheSustainableDevelopmentGoalsReport2018-EN.pdf>

Tilson, D., Sorensen, C., & Lyytinen, K. (2013). Platform Complexity: Lessons from the Music Industry. 2013 46th Hawaii International Conference on System Sciences, 4625-4634.

Utterback, J. (1971). The process of technological innovation within the firm. *Academy of Management Journal* (pre-1986), 14(1), 75.

Wagner, T. M., Benlian, A., & Hess, T. (2014). Converting freemium customers from free to premium—the role of the perceived premium fit in the case of music as a service. *Electronic Markets*, 24(4), 259-268.

Weeks, M. (2015). Is disruption theory wearing new clothes or just naked? Analyzing recent critiques of disruptive innovation theory. *Innovation*, 17(4), 417-428.

Wlömert, & Papies. (2016). On-demand streaming services and music industry revenues — Insights from Spotify's market entry. *International Journal of Research in Marketing*, 33(2), 314-327.

Yu, D., & Hang, C. (2010). A Reflective Review of Disruptive Innovation Theory. *International Journal of Management Reviews*, 12(4), 435-452.

TABLE OF FIGURES

1. Christensen's disruptive innovation theory timeline
2. Updated disruptive innovation model
Reference: Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. Harvard Business Review, 93(12), 44-53.
3. Disruptive innovation model
Reference: Christensen, C. M., Raynor, M. E., & McDonald, R. (2015). What is disruptive innovation. Harvard Business Review, 93(12), 44-53.
4. Multisided platform channels
5. Traditional music industry market structure
Reference: Bockstedt, J., Kauffman, R. J., & Riggins, F. J. (2005, January). The move to artist-led online music distribution: Explaining structural changes in the digital music market. In Proceedings of the 38th Annual Hawaii International Conference on System Sciences (pp. 180a-180a). IEEE.
6. Digital music industry market structure
Reference: Bockstedt, J., Kauffman, R. J., & Riggins, F. J. (2005, January). The move to artist-led online music distribution: Explaining structural changes in the digital music market. In Proceedings of the 38th Annual Hawaii International Conference on System Sciences (pp. 180a-180a). IEEE.
7. Global amount of users comparison
Reference: Iqbal, M. (2019). Spotify Usage and Revenue Statistics (2019). <http://www.businessofapps.com/data/spotify-statistics/>
8. Global market share division
Reference: Iqbal, M. (2019). Spotify Usage and Revenue Statistics (2019). <http://www.businessofapps.com/data/spotify-statistics/>

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