

COGNITIVE BIASES IN FREEMIUM OFFERINGS

UNDERSTANDING FREE USERS' INTENTIONS TO BECOME
PAYING CUSTOMERS IN MUSIC STREAMING SERVICES

Alexander Schreij

Gustaf Östblom

Bachelor Thesis

Stockholm School of Economics

2019



Cognitive Biases in Freemium Offerings : Understanding Free Users' Intentions to Become Paying Customers in Music Streaming Services

Abstract:

Along with recent technological developments, the music industry has experienced a digital disruption, and subscription-based music streaming services has become a leading model for music providers. Several music streaming services have applied the freemium model to their service offerings, meaning that they offer an ad-funded free version of their services with limited features along with the option to pay for a premium service with richer functionality. In spite of the benefits of this model, many companies who provide freemium services have a disproportionately low proportion of paying customers, which in turn inhibits their profitability. Research has shown that consumers experience cognitive biases that place an irrationally high value on free services, suggesting that users of free services are reluctant towards switching to a paid service, even when the paid service offers more features. The aim of this thesis is to examine whether this holds true in a freemium context. This is done by testing two previously demonstrated cognitive biases – the zero price effect and free mentality – in a between-subject experimental setting by asking 198 participants collected through a convenience sampling method to evaluate a hypothetical freemium music streaming service. The zero price effect is the notion that people place an irrationally high value on free services and items, while free mentality is the notion that people expect online content to be free, which has been shown to negatively impact their willingness to pay. The results indicate that the zero price effect holds true in the experiment. Participants associated an irrationally high value with the free version of the music streaming service, which in turn decreased their willingness to become premium subscribers. However, the results did not indicate that free mentality has a moderating effect on this relationship.

Keywords:

Music streaming, Free Mentality, Zero Price Effect, Freemium, Premium

Authors:

Alexander Schreij (23809)
Gustaf Östblom (24002)

Tutors:

Henrik Glimstedt, Associate Professor, Department of Marketing and Strategy

Examiner:

Peter Hagström, Associate Professor, Department of Marketing and Strategy

Bachelor Thesis
Bachelor Program in Retail Management
Stockholm School of Economics
© Alexander Schreij & Gustaf Östblom, 2019

Contents

1.	INTRODUCTION.....	5
1.1.	Background.....	5
1.1.1.	The Rise of Music Streaming.....	5
1.1.2.	The Subscription Business Model.....	6
1.1.3.	The Revenue Problem in Music Streaming	6
1.1.4.	The Freemium Model.....	7
1.2.	Problem Area and Research Gap	8
1.3.	Purpose and Research Questions.....	9
1.4.	Delimitations	9
2.	THEORY AND HYPOTHESIS GENERATION	10
2.1.	Freemium as a Business Model.....	10
2.2.	Zero Price Effect	11
2.3.	Status Quo Bias	11
2.4.	Free Mentality and Listening Activity	12
2.5.	Willingness to Pay	13
2.6.	Hypothesized Model.....	15
3.	METHODOLOGY.....	16
3.1.	Research Approach.....	16
3.2.	Research Design	16
3.3.	Preparations for the Main Study	17
3.3.1.	Pilot Study	17
3.3.2.	Participants.....	17
3.3.3.	Survey Design	17
3.3.4.	Pilot Study Key Findings	19
3.4.	Revised Hypothetical Model	20
3.5.	Main Study.....	21
3.5.1.	Survey Design	21
3.5.2.	Choice of Measures and Scales.....	22

3.5.3.	Data Collection	24
3.6.	Structure and Data Processing	24
3.6.1.	Analytical tools	24
3.6.2.	Data Checks	25
3.7.	Data Quality.....	25
3.7.1.	Reliability.....	25
3.7.2.	Validity.....	25
4.	ANALYSIS AND RESULTS.....	27
4.1.	Perceived Benefits	27
4.2.	Perceived Nonmonetary Costs	28
4.3.	Moderation Analysis	29
4.4.	Willingness to Switch to Premium Subscription	29
5.	DISCUSSION	31
5.1.	The Effect of Zero price on Perceived Benefits	31
5.2.	The Effect of Zero Price on Perceived Nonmonetary Costs.....	31
5.3.	The Moderating Effects of Free Mentality	32
5.4.	The Moderating Effects of Listening Activity	32
5.5.	The Mediating Effects of Perceived Benefits and Nonmonetary Costs.....	33
6.	CONCLUSIONS	34
7.	CRITIQUE AND FUTURE RESEARCH	36
8.	REFERENCES.....	37
9.	APPENDIX	41
9.1.	Appendix 1	41
9.2.	Appendix 2	41
9.3.	Appendix 3	42
9.4.	Appendix 4	43

1. Introduction

1.1. Background

1.1.1. The Rise of Music Streaming

During the rise of digital media in the late 1990s, the music industry was quickly exposed to consequences of digital disruption. The industry explained the crisis due to the problems of Internet piracy; using the Internet to illegally distribute music files (De Roucke, 2017). During the 2000s, major music services including Apple's iTunes and Napster started offering Digital Rights Management-Free music, music that can be purchased and downloaded online. According to Sinha et al. (2010) this model was as a solution to piracy due to its ability to attract paying customers by offering a legitimate product as well as increasing customers' willingness to pay for online music. During the past 10 years, fast paced technological advancements has once again changed the revenue models of copyright-related industries. The most recent advance was the introduction of on-demand streaming, which is currently leading the evolution of the music industry (Global Music Report, 2018). Streaming services such as Spotify, Google Play, Deezer, and Pandora provide consumers with immediate access to a vast library of music by demanding a fixed monthly payment (premium subscription) or through advertisement income (free subscription) (De Roucke, 2017).

In 2017, the global recorded music market grew by 8.1%, the third consecutive year of global growth and the highest rates of growth since 1997. The growth is principally driven by fans' increasing use of paid subscription audio streaming. Global music streaming revenue has been increasing consistently since 2013 (see Appendix 1). In 2017, global music streaming revenue grew with 41.5% and is now the music industry's largest source of revenue. Furthermore, the digital share of the global industry revenue rose to 54% However, total industry revenues for 2017 were still just 68.4% of the market's peak in 1999, which indicates room for future growth (Global Music Report, 2018).

"When you look at the breakdown of the business and what really is fueling the growth in absolute numbers, it's paid subscription"

- Sony Music's President of Global Digital Business & US Sales, Dennis Kooker (Global Music Report 2018)

1.1.2. The Subscription Business Model

The subscription business model is dominant amongst music streaming services. In this model, customers pay a recurring price at regular intervals giving access to a product or service. The subscription economy has grown exponentially in recent years. Between 2012 and 2018, the average growth rate for subscription companies (17.5%) has significantly outperformed the global S&P 500 (2.2%). This growth can be explained by a shift in attitudes, where consumers are becoming more and more willing to pay for subscriptions rather than consume ad-funded content. By the end of 2020, 50% of adults are predicted to have an average of four online-media only subscriptions (Deloitte, 2017). The cost of these subscriptions, principally for TV, movies, music, news, and magazines, typically lie under \$10 per month. Instant access, no ownership, convenience and attractive pricing models are some of the key reasons explaining why consumers prefer consuming content through monthly subscriptions (Ibid.).

Increasing willingness to pay for online content has led to a boom in digital service providers (Marta-Lazo et al., 2017). Unlike other subscription segments such as video on-demand and online storage, the music industry has seen higher success in getting customers to pay (Lin et al., 2013) with more than 100 million users of paid subscriptions globally (Global Music Industry Report, 2017). However, despite changing consumer attitudes towards paying for online content, the majority of music streaming consumers are free users, and current level of paying customers still inhibit music streaming services of reaching profitability (De Roucke, 2017). Therefore, a better understanding of why people are willing to pay for music streaming could provide insight into how music streaming services can increase the share of paid subscriptions through more targeted and appealing offers, and in turn, increase profitability. In addition, such insights could be valuable for other industries in which the freemium model is present.

1.1.3. The Revenue Problem in Music Streaming

With music streaming being the most popular method of global music consumption, the digital market is now seeing considerable competition with streaming services developing and extending their offerings around the world (Global Music Report, 2018). With about 91 million paying subscribers out of 200 million active monthly users, Spotify has the largest share of music streaming subscribers (36%) worldwide as of 2018 (Music Industry Blog 2019). However, Spotify saw a net loss of \$1.5 billion in 2017 and has been operated at a loss, like many of its competitors, since its inception in 2006 (Spotify SEC Filing 2018).

Spotify's historic inability to profit is representative of the general financial model of music streaming industry; solid revenue streams but far from profit (De Roucke, 2017). For example, the Spotify competitor Pandora Media reported a net operating loss of

\$518.4 million in 2017. One of the main challenges to profiting in music streaming industry is the cost structure (Ibid.). Thin margins are a result of high licensing fees paid to the copyright owners including Warner, Sony, and Universal. Approximately 70% of monthly revenues are shared with the copyright holders (Ibid.). Licensing fees are paid every time a user streams a song, which implies that as the user base grows, so do licensing costs. Appendix 2 shows how Spotify's costs increase together with revenues.

Furthermore, many music streaming services offer a freemium plan, which entails offering a free version of a product with limited features while having the option to pay for a "premium" version with richer functionality (Kumar 2014). A factor which limits profitability for music streaming services is a low number of paying customers compared to the number of ad-funded customers (e.g. Deloitte, 2017; Koch & Benlian, 2017). As seen in Appendix 3, paid subscriptions are the main source of revenue for music streaming services. According to these figures, an average premium subscription user generates about 40 times more revenue than an ad supported user (Ibid.). Music streaming services are thus highly dependent on paid subscriptions. For example, paid subscriptions make up about 90% of Spotify's total revenue (Spotify technology S.A., 2018). Increasing conversion rates to premium subscriptions can therefore have a significant beneficial impact on revenue (De Roucke, 2017). In order to increase the share of paying customers, reports suggest that music streaming services should develop clear consumer segmentation and understand the motives of customers who are not converting to a paid subscription, as well as the motivation of people that are willing to switch from freemium to a premium (Global Music Report, 2018).

1.1.4. The Freemium Model

Freemium is a business model by which consumers are offered a free version of a product with limited features while having the option to pay for a "premium" version with richer functionality (Kumar, 2014). It has become a prominent model among software providers, such as mobile application developers offering music streaming, cloud services, and games (Kim et al., 2018). By allowing free users to enjoy a limited version of a product, the freemium model offers alternative methods of extracting value from consumers.

While free users by definition do not provide direct monetary compensation, they do contribute to value creation in other ways. Firstly, they provide user data (Drott, 2018). Furthermore, while not specific to a freemium context, Anderl et al. (2016) discuss how customers create value within free, digital services. In addition to user data, which is used for e.g. gaining knowledge regarding how a service is used and increasing marketing effectiveness, the authors identify four additional nonmonetary value drivers: word-of-mouth, co-production, network effects, and attention. Providers of free digital services use word-of-mouth to acquire new customers by integrating it in tools such as

referral programs, thus creating network effects. Co-production refers to the practice of using customer participation as an input in the creation process of the offering, which is particularly prevalent in free e-services. Lastly, customer attention drives value in the sense that it attracts advertisers, who constitute an important source of revenue. From consumers' perspective, freemium models entail the benefit of being able to enjoy certain benefits of a product without paying, as opposed to premium models where payment always precedes product usage (Rietveld 2018).

1.2. Problem Area and Research Gap

In spite of the potential advantages of the freemium model, many firms offering such models suffer from having a low proportion of paying customers, often as low as 3-5%, which may have negative effects on profitability (Koch & Benlian, 2017). The low proportion of paying customers suggests that there is a practical need to understand how consumers assess offers that are based on the freemium model, as well as understanding existing free users' intentions (or lack thereof) to become paying customers. Rekhi (2010) claims:

“We are still early in our understanding of [freemium] and to date most of the available analysis has been limited to anecdotal evidence, one-off case studies, tips & tricks, and a few early overviews of what's been tried.”

Even though the freemium model has become more prevalent in recent times, it is still subject of little empirical research (e.g. Hüttel et al., 2018; Koch & Benlian, 2017; Rietveld, 2018). The research that exists usually focuses on comparing the freemium model to other revenue models with the goal of determining which is optimal (Wagner, et al., 2014). Research has shown that consumers are subject to several cognitive biases when faced with free offers in online services, suggesting that people experience mental barriers towards paying for digital content (e.g. Niemand et al., 2015; Hüttel et al., 2018). A cognitive bias is a systematic deviation from rationality in judgment (Haselton et al., 2005). Although these biases have been shown to be present in digital services, they have largely not been tested in a freemium context. The identifiable gap that this thesis aims to fill is therefore to understand consumer behavior with regards to freemium and premium music streaming subscriptions - specifically, how cognitive biases affect free users' willingness to become premium subscribers.

1.3. Purpose and Research Questions

The purpose of this study is to understand consumer behavior when faced with a freemium offering, and the cognitive mechanisms underlying their intentions to become paying customers. This study will focus on freemium models in music streaming services and aims to answer the following question:

How do cognitive biases influence free users' willingness to switch to a premium subscription in freemium music streaming services?

1.4. Delimitations

This study focuses on subscription based streaming services offering on-demand music online. It will therefore disregard music streaming services that do not offer a free version of the service and only offers a paid subscription plan. Examples of such services include Apple Music and Tidal (Apple, 2019; Aspiro AB, 2019). It will also disregard other online industries where the subscription model is used, including video on demand, computer storage, news, and food. This thesis will also disregard other ways of listening to music online including online radio, illegal streaming sites and YouTube. The study focuses only on the subscription pricing of a hypothetical music streaming service to enable examination of the effects of these claims in isolation.

With regards to participants, this study is delimited to a specific population with specific demographics. The participants are intended to be homogenous enough to give the results high enough accuracy for possible generalizations and conclusions. These demographics were chosen based on an analysis of music streaming service users. The studied population are between the ages 15-35. Geographically, this study obtained participants from Sweden, the UK, and the USA. To be a part of this study, participants had to be English-speakers. Therefore, the findings of this study might not be generalizable non-English and/or non-Western populations.

2. Theory and Hypothesis Generation

2.1. Freemium as a Business Model

The term *business model* refers to the “design of transaction content, structure, and governance so as to create value through the exploitation of business opportunities” (Amit & Zott, 2001). In other words, value creation is a central aspect of business model design. Rietveld (2018) argues that business models create value insofar as they increase the perceived benefits of consuming a firm’s product, and that the ability to capture value is improved when the business model of choice incorporates components that either increase revenues provided by paying customers, or, increase the number of customers who are willing to pay. Teece (2010) argues that business models are present in all firms, either explicitly or implicitly, and that business models are essentially expressions of hypotheses made by management regarding customer needs. Recent technological developments, of which the internet is a primary driver, have increased the scope of business model design, allowing new ways for businesses to create and capture value (Zott et al., 2011). One such model is the freemium model.

Despite the popularity, freemium is still poorly understood, and several challenges make the model difficult to implement successfully (Rietveld, 2018). Due to the user’s ability to consume the service at no cost, the freemium model may considerably reduce premium conversions. Instead of becoming paying customers, some users continue to use the free offering. This implies a cannibalization where the free offering leads to a loss of revenue (Cheng & Tang, 2010). Research by Haruvy & Prasad (2001) indicates that in order to avoid cannibalizing the premium offer, the quality of the free offer must be sufficiently low, and the price of the premium offer must not be too high. This way, usage of the free service is encouraged without removing the demand for the premium offer. Additionally, converting free users to paying users at a significantly large scale is also a main challenge. A large number of free users depletes scarce resources which may be more effectively used for the premium customers (Ibid.). For freemium, an important question is also how users are segmented. Failing to segment customers properly can lead to selling the service to those that are not willing to pay (Bekkelund, 2011). Understanding how the subscription model can optimize a company’s revenue is key to a company’s profitability and longevity (Cheng & Tang, 2010). Although some previous research regarding the freemium model have included variables related to potential segments, such as listening activity, it has largely been excluded from the theoretical models tested in those studies (e.g. Lin et al., 2013; Wagner et al., 2014). Furthermore, several researchers have attributed the issue of converting free users to premium users to cognitive biases. An overview of these studies is presented in sections 2.2-2.4.

2.2. Zero Price Effect

A few studies have identified some peculiar phenomena related to customer behavior when faced with freemium-based offers. First of all, business models can affect customers' value perceptions, even when keeping the product offering constant (Rietveld, 2018). In the context of freemium models, several studies have identified and described the notion that customers' perceptions regarding the value of free offerings are irrationally high. Shampanier et al. (2007) identified the so called "zero price effect" based on results showing that the simple fact that a product is free increases its value by increasing the perceived benefits and reducing the perceived costs of the product itself beyond what can be explained by traditional cost-benefit analyses. Although not in a freemium context, Hüttel et al. (2018) expands this concept by showing that the underlying drivers of the zero price effect, which they label "benefit-inflation" and "cost-deflation" respectively, hold true in a conducted experimental setting. This gives free versions an advantage relative to paid versions of a product in terms of customers' perceived value, resulting in free versions cannibalizing paid versions (Kim et al., 2018). Niemand et al., (2015) show similar results by demonstrating the "freemium effect," i.e. the notion that free versions often provide more value than paid versions. It is therefore hypothesized that the zero price effect leads to an irrationally high increase in the perceived benefits and an irrationally high decrease in the perceived nonmonetary costs of the free version of a freemium music subscription service

H1a: the zero price effect leads to an irrationally high increase in the perceived benefits with respect to the free version of a freemium music subscription service.

H1b: the zero price effect leads to an irrationally high decrease in the perceived nonmonetary costs with respect to the free version of a freemium music subscription service.

2.3. Status Quo Bias

Secondly, customer behavior in freemium offerings has also be explained by status quo bias theory. Status quo bias theory suggests that people prefer the status quo because a diversion from the status quo is viewed as a loss (Samuelson & Zeckhauser, 1988). Kahneman (2003) relates status quo bias to the concept of prospect theory. Prospect theory introduces the notion of reference-dependence, as well as loss aversion. Reference-dependence is based on the observation that people assign value to changes in states of wealth with respect to some reference point, as opposed to absolute states of wealth. Loss aversion is the idea that the impact of a

negative change in one's state of wealth is perceived to be greater than the impact of an equal positive change in one's state of wealth (Kahneman, 2003). Li & Yan (2014) found that, in the case of freemium offerings, differences in perceived value between free and paid versions are affected by status quo bias and prospect theory in the sense that a free user views the free version as a reference point and are biased towards continuing to use it, thereby reducing their willingness to switch to a paid version. They also found loss aversion to increase the perceived sacrifices of switching from free to premium. Consequently, it is hypothesized that status quo bias leads to an irrationally high increase in perceived benefits and an irrationally high decrease in perceived nonmonetary costs with respect to the free version of a freemium music subscription service

H2a: status quo bias leads to an irrationally high increase in the perceived benefits with respect to the free version of a freemium music subscription service.

H2b: status quo bias leads to an irrationally high decrease in the perceived nonmonetary costs with respect to the free version of a freemium music subscription service.

2.4. Free Mentality and Listening Activity

A third relevant concept is “free mentality,” which is the idea that everything online should be free. In essence, people who adhere to this belief display a lower willingness to pay for online content (Lin et al., 2013). For example, after the Times in the UK introduced a paywall to its online content in 2010, there was a significant drop in visitor numbers where only 30% were willing to pay for online news (BBC, 2010). Due to the low acceptance rate of paying for online content, the free mentality plays a crucial role in understanding the factors that influence switching behavior in music streaming services. Kim et al. (2018) confirmed the findings of Lin et al. (2013); however, they found no moderation in continuance and loyalty intentions. In other words, people who adhere to the free mentality belief are not more likely to continue using a free software application by its virtue of being free; rather, they can simply switch to another free application. Therefore, it is hypothesized that free mentality moderates the effect that zero price has on perceived benefits and perceived nonmonetary costs.

H3a: free mentality moderates the effect that zero price has on the perceived benefits with respect to the free version of a freemium music subscription service.

H3b: free mentality moderates the effect that zero price has on the perceived nonmonetary costs with respect to the free version of a freemium music subscription service.

2.5. Willingness to Pay

Economists, psychologists, and marketing researchers rely on measures of consumers' willingness to pay (WTP) in estimating demand and finding optimal pricing levels (Skiera, 2002). Willingness to pay is defined as the maximum monetary sacrifice the consumer agree to make in return for all the benefits received from purchasing a given quantity of a good or a service (Le Gall-Ely, 2009). Several recent studies indicate that managers consider the knowledge of customers' responses to different prices as a cornerstone of marketing strategies, particularly in the areas of product development and competitive strategy (Breidert et al., 2015). Research findings support managers' views on the importance of measuring WTP. For example, Balderjhan (2003) considers estimates of WTP essential for developing an optimal pricing strategy. The arguments for the importance of understanding customers' perception of value and their WTP can also be found by many other researchers (Breidert et al., 2015). Research identifies several different factors which influences WTP, some of these factors include perceived value, usage intensity, and satisfaction (Niemand et al., 2015). With regards to music streaming services, a study by Doerr et al (2010) found that price was the most important decision aspect by far. Despite the abundance of research on WTP, few studies have addressed the question of why customers are willing to pay for a premium service when they can obtain the basic version for free (Wagner et al., 2014).

There is today a considerable variety of competing approaches and analytical techniques for measuring WTP. The primary distinction between these approaches is whether they measure WTP directly or indirectly and whether they determine consumers' hypothetical or actual WTP (Miller et al., 2009). None of these approaches, however, are entirely foolproof. For example, studies have shown that both direct and indirect approaches can lead to inaccurate measurements due to technical and psychological reasons (Ibid.). Studies have also found that estimates of hypothetical WTP are biased upwards compared to 'true' WTP. Some research shows that hypothetical WTP estimates can exceed actual estimates by 50-100%, while others have found only a small difference between the two (MacMillan, 2004). The direct hypothetical approach was most appropriate for this study, in which participants' WTP equates to the participants'

willingness switch from a free version to the premium offer of a hypothetical music streaming service.

Existing research on cognitive biases present in the usage of digital services have largely excluded variables related to how customers use the service in question. Findings by Aljukhadar & Senecal (2011) suggest that the way in which online consumers use a service is underestimated in segmentation analyses. Therefore, in order to gain further insights into how cognitive biases may affect consumer value perceptions and willingness to pay, the hypothesized model includes a listening activity element. This variable can be seen as an application of user intensity, which has been shown to affect willingness to pay (Niemand et al., 2015). Lastly, similarly to the model proposed by Hüttel et al (2018), it is hypothesized that perceived benefits and perceived nonmonetary costs mediate the effect that zero price has on willingness to become premium subscribers.

H4a: listening activity moderates the effect that zero price has on the perceived benefits with respect to the free version of a freemium music subscription service.

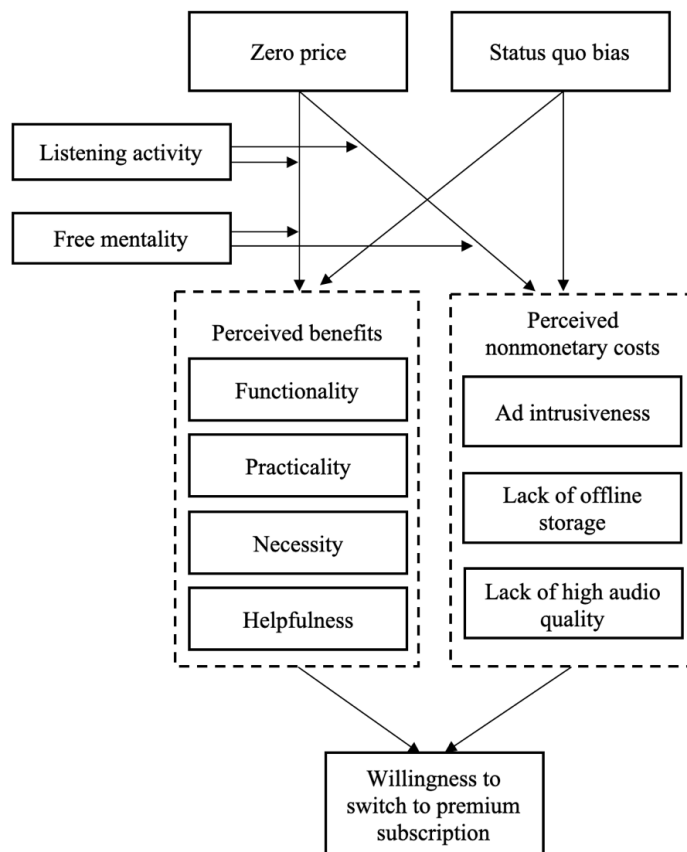
H4b: listening activity moderates the effect that zero price has on the perceived nonmonetary costs with respect to the free version of a freemium music subscription service.

H5a: the zero price effect on willingness to become premium subscribers is mediated by its effect on perceived benefits.

H5b: the zero price effect on willingness to become premium subscribers is mediated by its effect on perceived nonmonetary costs.

2.6. Hypothesized Model

Figure 1. Overview of the hypothesized model based on theoretical background.



3. Methodology

3.1. Research Approach

This thesis uses a deductive approach. Hypotheses were generated from existing theories within marketing and related fields and then tested in an experimental study. There are three main reasons why this approach was chosen. Firstly, this approach was chosen as this study aims to explain casual relationships between variables (Söderlund, 2018). Secondly, the chosen approach allows for the possibility to use statistical data as a tool (Bryman, 2001). Data can be calculated and conducted by a computer using Statistical Package for Social Science (SPSS), which saves time and resources (Bryman & Bell, 2011). Thirdly, the most common approach of prior studies related to the research subject of this thesis is the deductive approach. As the aim of this thesis is to contribute to existing research in the field of marketing and consumer behavior in online services, the deductive approach is most appropriate for this purpose. Despite the benefits of the chosen approach, it also has limitations. The approach does not encourage or require critical or imaginative thinking by participants and the data is geared towards rejecting or supporting predetermined paradigms. Consequently, it is difficult to get an in-depth understanding of the phenomena within its natural setting (Shank & Brown, 2007).

3.2. Research Design

The study of this thesis was a quantitative study with an experimental design. The core components of the experiment followed the structure presented by Söderlund (2018), in which participants are allocated randomly into groups that are subject to different treatments. The experimental design has several benefits for the purpose of this study. Firstly, the design allows for the ability to test causality (Ibid.) as it eliminates the possibility that potential causal findings are explained by other variables than the ones tested. Secondly, the experimental design allows isolation of effects if the stimuli are similar in all aspects except the manipulated variable, which in this study was the price of a hypothetical music streaming subscription offer. Thirdly, the experimental design also allows results to be generalized to the population which the sample represents (Bryman & Bell, 2011).

3.3. Preparations for the Main Study

3.3.1. Pilot Study

Before conducting the main study, a pilot study was made. The purpose of conducting a pilot study was to ensure that the study operated as intended. This includes making sure that manipulations are adequately designed, as well as making sure that questions are understandable. Pilot studies are particularly important when conducting surveys that follow a self-completion structure, since there is no interviewer available to clarify potential confusions (Bryman & Bell, 2011).

3.3.2. Participants

Participants in the pilot study were recruited using a survey link that was shared on Facebook's advertising tool. Such an approach allows for targeting participants with specific interests. Consequently, we were able to target people who are interested in music and various music streaming services. Overall, 67 participants completed the pilot study. The mean age was 26 and the gender distribution was 46,3% female and 53,7% male. Furthermore, participants were asked to leave feedback once the survey had been completed, which allowed for insights to be made with regards to the content of the survey.

3.3.3. Survey Design

The experiment contained three parts. In the first part, participants were introduced to a fictional music streaming service called Audio Wave. In order to make participants more involved in the experiment, thereby increasing the experimental realism (Bryman & Bell, 2011), a user-interface comparable to existing music streaming services was designed and presented.

Zero price Effect Manipulation

In the second part of the experiment, participants were introduced to the two versions of the Audio Wave software: Audio Wave Basic and Audio Wave Premium. In addition, they were presented with information regarding the features of the two versions. In this step, participants were randomly assigned into three groups which received different information regarding the prices of the two services, following the method used by Shampanier et al. (2007). The purpose of this manipulation was to examine whether the zero price effect is present when consumers assess the two services.

In the first condition (free-vs-8 condition), Audio Wave Basic was free while the price of Audio Wave Premium was \$8 per month. In the second condition (1-vs-9 condition), the price of Audio Wave Basic was \$1 per month while Audio Wave Premium was \$9 per month. In the third condition (2-vs-10 condition), the price of Audio Wave Basic

was \$2 per month while the price of Audio Wave Premium was \$10 per month. In other words, the difference in price between Audio Wave Basic and Audio Wave Premium was held constant in all scenarios, which allowed us to control for potential changes in evaluations based on the price difference between the basic version and the premium version. Having three groups as opposed to two groups allowed us to differentiate between a price reduction going from paid to free (i.e. the basic version going from \$1 per month to becoming free) and a price reduction that does not go from paid to free (i.e. the basic version going from \$2 per month to \$1 per month). Again, this structure follows the method used in the paper by Shampanier et al. (2007). At this step, participants were also told to imagine that they were Audio Wave Basic customers. In other words, they were told that they were paying either \$0 per month, \$1 per month, or \$2 per month for Audio Wave Basic, based on the group to which they had been randomly assigned. The purpose of this manipulation was to examine whether participants evaluate the service differently based on the price structure, as well as comparing potential differences between the free-vs-8 condition and the 1-vs-9 condition with potential differences between the 1-vs-9 condition and the 2-vs-10 condition. The stipulation is that the zero price effect is present if a price reduction going from paid to free leads to more positive assessments compared to an equal price reduction that goes from paid to cheaper (but still paid), holding all other variables constant.

Status Quo Bias Manipulation

The second part of the experiment also contained an additional manipulation. In addition to being randomly assigned to one of three groups with different price structures, they were also randomly assigned to two groups which received different information regarding how long they had used the service. In the first condition (one-week condition), participants were told that they had been customers for just one week. In the second condition (one-year condition), they were told that they had been customers for one year. The purpose of this manipulation was to see whether or not the length of the use of the service has an impact on their evaluations and intentions to become premium customers, thereby examining the potential impact of status quo bias. An alternative condition would be a condition in which participants were not customers at all instead of having the one-week condition. However, since the purpose of the study was to examine users' intentions to switch from the basic version to the premium version, it was important for each condition to entail a situation in which the participant was already a customer. The stipulation is in this case that a free user who has been a user for a long time will assess the basic version more positively than a free user who has not been a user for a long time. Overall, this two-dimensional manipulation structure allowed us to examine two independent variables instead of one.

Dependent Variable and Moderators

In the third part, participants were asked questions regarding dependent variables (including mediators), as well as moderators. That is, participants were asked about their perceived benefits of Audio Wave, perceived costs, their listening activity, their beliefs with respect to free mentality, their intentions (or lack thereof) to become premium subscribers, as well as a few questions regarding demographics. The purpose of this section was to make sure that the questions were understandable and not confusing (Bryman & Bell, 2011); however, the answers were not used to investigate causal relationships. This was instead reserved for the main study.

Figure 2. Overview of experiment groups.

	Free-vs-8 condition	1-vs-9 condition	2-vs-10 condition
One-week condition			
One-year condition			

3.3.4. Pilot Study Key Findings

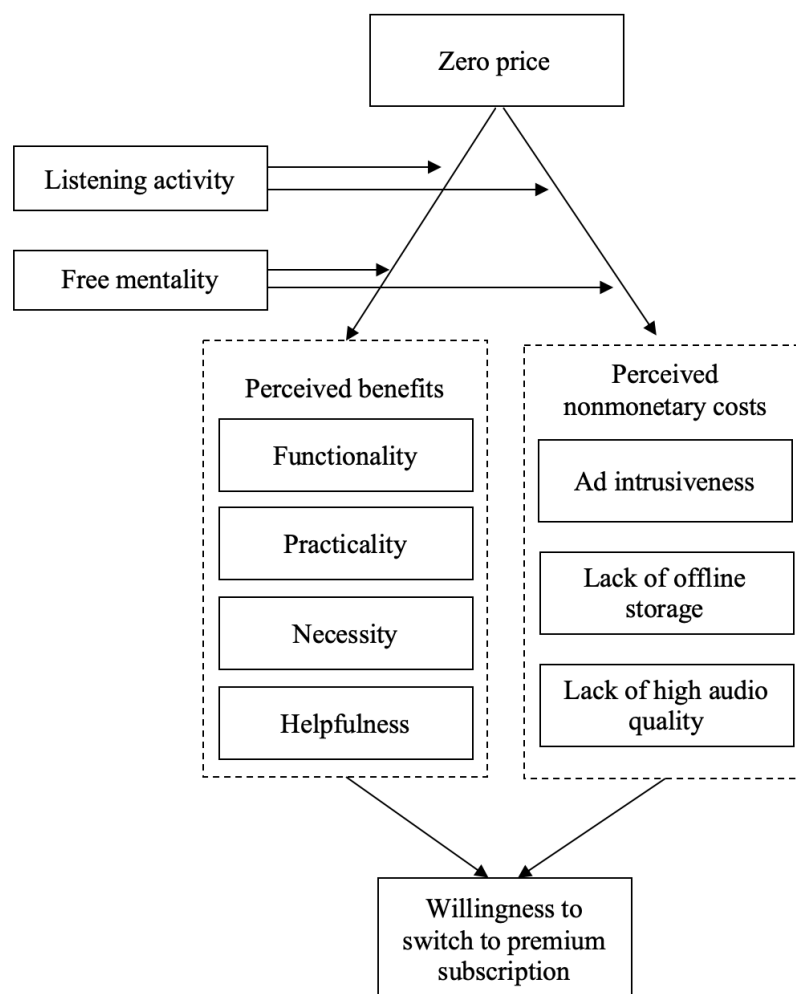
The results from the pilot study indicates that the zero price effect manipulation has an effect on responses. The difference in willingness to switch to the premium offer was largest between the free-vs-8 condition and the 1-vs-9 condition, which accords with the notion that customers' perceptions regarding the value of free offerings are irrationally high. The results also accord with the findings of Hüttel et al. (2018) that the underlying drivers of the zero price effect hold true in an experimental setting. Although these results are not sufficient for making conclusions with respect to the causal relationships between the zero price effect and users' willingness to become premium subscribers, they indicate that the zero price effect manipulation operated as intended. Therefore, the manipulation was judged to be suitable for the main study.

With regards to the influence of status quo bias on free users' willingness to switch to a premium offer, the pilot study did not indicate a noticeable difference between the groups. These results could possibly be explained by the experimental setting making it difficult to generate an emotional connection between the user and the service. In their feedback, several participants stated that they had not registered information regarding the length of their use of the service. Furthermore, several participants were unable to

pass the manipulation check for the status quo bias manipulation, suggesting that the treatment was insufficient (Söderlund, 2018). It appeared that informing participants that they had been using Audio Wave for one week or one year did not create a strong enough reference point for participants (Kahneman, 2003). Although designing a manipulation that would allow for status quo bias to be tested in an experimental setting could be possible, it will be omitted from the main study. Instead, future studies should survey actual customers that have used a music streaming service for various periods of time in order to capture stronger emotional connections between users and their choice of music streaming service that are difficult to generate in experimental settings.

3.4. Revised Hypothetical Model

Figure 3. Revised hypothetical model based on theoretical background and pilot study findings.



3.5. Main Study

The main study used a between-subject experimental design where each participant was randomly assigned to one of the three conditions. As in the pilot study, data was collected using an online based self-completion questionnaire. The survey is attached in Appendix 4.

3.5.1. Survey Design

Manipulation

Since the status quo bias is omitted, the manipulation of the main study is solely based on the prices of Audio Wave Basic and Audio Wave Premium. The structure of this price manipulation is identical to the one presented in the pilot study, with participants being randomly allocated into three groups. In other words, the three conditions present in the main study are the Free-vs-8 condition, the 1-vs-9 condition, and the 2-vs-10 condition.

Figure 2. Overview of revised experiment groups.

Free-vs-8 condition	1-vs-9 condition	2-vs-10 condition
------------------------	---------------------	----------------------

Perceived Benefits and Nonmonetary Costs

The survey included questions regarding perceived benefits and nonmonetary costs. The purpose of focusing on nonmonetary costs was based on the fact that nonmonetary costs are present in all three groups, whilst monetary costs were not present in the free condition. Assessing nonmonetary costs therefore allows for a more meaningful comparison. The nonmonetary costs were based on the differences in features between Audio Wave Basic and Audio Wave Premium: the presence of advertisements, the lack of being able to store music offline, and the lack of the ability to stream audio at a higher quality.

Moderator 1: Free Mentality

The possibility of free mentality affecting participants' assessment of benefits and costs was assessed by asking participants two questions about the extent to which they think that fee-based music streaming subscription services should be free, using similar questions as Lin et al. (2013). The two questions were then combined to create a free mentality index (Cronbach's $\alpha = 0.713$). Since potential free mentality beliefs are independent of participating in the study, free mentality was treated as a moderator.

Moderator 2: Listening Activity

In order to investigate whether or not participants' listening activity moderate their perceptions of the benefits and costs of Audio Wave Basic, the questionnaire included a question that asked participants to report the extent to which they consider themselves to be active listeners.

Manipulation Check

In the final part of the experiment, a manipulation check was included, which allows for ensuring that the treatment actually represents the cause variable that it is supposed to represent. Since the treatment was based on the prices of Audio Wave, the manipulation check included a question regarding the price of Audio Wave. Manipulation checks are commonly conducted through separate pilot studies and not included in the main study (Söderlund, 2018). In spite of having a manipulation check in the pilot study, it will also be included in the main study. The purpose of this structure is that a manipulation check carried out in a pilot study does not guarantee that the manipulation remains conclusive in the main study (Ibid.). Furthermore, the manipulation check was included after the treatment had been made, as well as after questions regarding dependent variables and mediators. This minimizes the possibility that the manipulation check affects the answers that participants give in the survey. In order to further minimize the possibility that the manipulation check becomes so obvious that it could influence participants' answers (Ibid.), it was placed adjacent to questions regarding some demographic properties of the participants, including age and gender. Those questions are not as vital to the model of study, and it can be assumed that the manipulation check does not affect participants' answers regarding age and gender.

3.5.2. Choice of Measures and Scales

Treatment and Manipulation Check

The manipulation check consisted of a question regarding the price of Audio Wave. Information regarding which group each participant belonged to had been recoded into a number. The Free-vs-8 group was assigned the number 1, the 1-vs-9 group was assigned the number 2, and the 2-vs-10 group had been assigned the number 3. Answers regarding the manipulation check was recoded in the same way. In other words, answers consistent with the prices given in the Free-vs-8 condition were assigned the number 1, answers consistent with the prices given in the 1-vs-9 condition were assigned the number 2, and answers consistent with the prices given in the 2-vs-10 condition were assigned the number 3. This way, it was possible to see if the number representing a given participant's answer to the manipulation check matched the group to which the participant had been assigned. This allowed for a simple exclusion of participants whose answer to the manipulation check was inconsistent with their treatment.

Perceived Benefits

In order to assess participants' perceived value of Audio Wave Basic, questions regarding benefits and nonmonetary costs were included. Benefits were addressed by asking participants to assess the extent to which the Audio Wave Basic offering is functional, helpful, necessary, and practical, following recommendations presented in Voss et al. (2003). Due to the internal reliability of the benefit variables, they were combined into an index (Cronbach's $\alpha = 0.719$).

Perceived Nonmonetary Costs

Firstly, participants were asked to assess the intrusiveness of advertisements present in the basic version. In these questions, participants were asked to assess the presence of advertisements in Audio Wave Basic based on the extent to which they find it to be distracting, disturbing, intrusive, and obtrusive, following the structure of Hüttel et al. (2018). These questions were then combined into an ad intrusiveness index due to their internal reliability (Cronbach's $\alpha = 0.784$). Secondly, participants were asked to assess the importance of being able to store music offline, as well as the importance of being able to stream high audio quality. Participants were asked to assess the extent to which the ability to store music offline and the ability to stream with high audio quality is functional, helpful, necessary, and practical. Again, these questions followed recommendations provided in Voss et al. (2003). Both cases showed high internal reliability and were combined into two indices, one for the ability to store music offline (Cronbach's $\alpha = 0.782$), and one for the ability to stream audio with high audio quality (Cronbach's $\alpha = 0.743$). These two features are seen as nonmonetary costs with respect to Audio Wave Basic in the sense that they are features that are only available in Audio Wave Premium. Although the lack of offline storage and the lack of high audio quality streaming are seemingly excluded from being viewed as nonmonetary costs in previous research, they have been included due to their representation of common differences in features present in several freemium music streaming services (e.g. Spotify 2019, Deezer 2019).

Moderators

Free mentality was assessed by asking participants about the extent to which they think that fee-based online music should be free, as well as the extent to which they think that music streaming services should provide free music, following the structure presented in Lin et al. (2013). Due to the high internal reliability of these questions, they were combined into a free mentality index (Cronbach's $\alpha = 0.713$). Additionally, participants were asked about the extent to which they perceive themselves as active listeners. This question was scaling responses in survey research. It is argued in research that chances are that the 7-point scale may result in higher reliability as it this scale provides more options, which in turn increase the likelihood of meeting the objective reality of the participant (Joshi et al. 2015).

Willingness to Switch to Premium Subscription

In order to address participants' willingness to become premium subscribers, they were asked to assess the extent to which they would consider switching to Audio Wave Premium in the near future. This question was based on a Likert scale from 1-7. In addition, they were asked to assess the extent to which they were likely to switch to an Audio Wave Premium subscription. Both of these questions followed the structure presented in Lin et al. (2013). Due to the internal reliability of these questions, they were combined into an index (Cronbach's $\alpha = 0.920$).

3.5.3. Data Collection

Participants for the main study were accessed through Facebook Advertisements. Certain targeting criteria were used when creating the Facebook Ad in order to maximize the responses per SEK spent. The Facebook Ad targeted both men and women between the ages 15-30 in Sweden, UK, and USA with the following interests; "Spotify", "music", "music streaming", "freemium", "free", "Deezer", "YouTube Music", and "Pandora Media". The targeted demographics were chosen based on an analysis of IPIS's 2018 Consumer Insight Report showing that the majority of music streaming users are within the targeted age range. The data was collected between April 2nd and April 18th. Out of the 261 who started the survey, 219 completed it. 21 participants failed to pass the manipulation check and were therefore omitted from the final sample in order to ensure data quality. This resulted in a total of $n = 198$ participants leading to a distribution of $n = 66$ participants in the free-vs-8 condition, $n = 71$ participants in the 1-vs-9 condition, and $n = 61$ participants in the 2-vs-10 condition. Although the number of participants is not the same in each group, the distribution can still be considered to be acceptable, given the fact that the allocation was randomized (Söderlund 2018). The mean age of the sample was 26 years with a gender distribution of 54% male and 46% female.

3.6. Structure and Data Processing

3.6.1. Analytical tools

The survey data was imported into SPSS for processing and analyses. The preliminary data checks included omitting invalid responses and checking multi-scale variables for internal validity. The means with respect to perceived benefits and nonmonetary costs have been compared between the three groups using two independent samples t-test. An analysis of variance (ANOVA) may seem more suitable, given its ability to compare means of more than two groups (UCLA, 2019). However, the purpose of the analysis was to examine whether there is a significant difference between the Free-vs-8 condition and the 1-vs-9 condition, as well as whether there is a difference between the 1-vs-9 condition and the 2-vs-10 condition. Therefore, it was of interest to not only to

examine whether a difference was present, but also to examine each difference between every pair of groups. In addition, mediation and moderation analyses have been conducted using the PROCESS v3.3 add-on for SPSS. In the mediation analysis, the total effect of the independent variable on the dependent variable can be described as the sum of the direct and indirect (mediated) effect (Preacher & Hayes, 2008).

3.6.2. Data Checks

After excluding participants with incomplete or invalid answers, the final sample consisted of $n = 198$ participants. Before conducting any statistical tests, the data was checked for the assumptions needed to perform the test. No multicollinearity of heteroscedasticity was found and normal distribution of variables was established with the Kolmogorov-Smirnov test. No outliers were omitted from the sample.

3.7. Data Quality

One of the main concerns with quantitative studies is the quality of the collected data (Bryman & Bell, 2015). The section below therefore discusses data quality with respect to reliability and validity.

3.7.1. Reliability

Reliability refers to whether the data collection method and analytical methods would lead to consistent findings if the study was to be replicated (Bryman & Bell, 2015). This thesis is described with full detail and transparency to allow replication. The purpose of the questionnaire that is used to collect data, as well as how the findings will be used has been clearly explained. Furthermore, the internal consistency reliability was tested in the pilot study by rewording questions in order to produce questions that were similar but not identical. The general convention in research has been prescribed by Nunnally and Bernstein (1994), stating that one should strive for reliability values above 0.70. All created indices from the pilot study had Cronbach values of $\alpha > 0.70$. This indicates that the items in the multi-question scales are consistent in measuring the underlying variable (Bryman & Bell, 2015).

3.7.2. Validity

Validity refers to the extent to which a measurement in fact measures what it is intended to measure (Söderlund, 2018). Internal validity, referring to the confidence with which one can conclude that it was the manipulation that caused the effects in the outcome variables (Lynn. & Lynn, 2003), prevails in this study due to the experimental design. The sample size was sufficient ($n > 30$; Söderlund, 2018), and the participants were randomly assigned to one of the three conditions. Since the pricing of the music streaming subscription offers was the only difference between the three groups,

differences in the dependent variable between the groups can with confidence be attributed to the independent variable.

External validity refers to the generalizability of the research findings to the real environment of interest (Söderlund, 2005). External validity is thus reduced when the experimental stimuli differs from the real-world context. The experiment was therefore designed to maximize the similarity between a real-life situation, which in this case was the use of a music streaming service. The design of the hypothetical music streaming service Audio Wave (see Appendix 4) was made to be similar to the user interface of real-life music streaming services. Furthermore, in order to obtain the most representative sample given the advertising budget, we employed a quota sampling method. Convenience sampling methods that set demographic quotas will produce more representative samples (Zhang et al., 2017). The targeted demographics were chosen based on an analysis of IPIS's 2018 Consumer Insight Report. Research in different social sciences have successfully used this method through Facebook to recruit subjects suggesting that it is a viable option for survey researchers wishing to approximate population-level opinions (Zhang et al., 2017). Convenience sampling, on the other hand, is a non-random sampling technique, a method which some critics claim places limitation on data analysis and external validity (Söderlund, 2018). The nature of the experimental design limits external validity in a number of ways. For example, the participants' perceived costs and benefits of the different manipulations as well as the participants' willingness to switch to the premium offer was self-reported rather than using actual switching behavior data. This limits the generalizability as intentions or attitudes may be weak predictors of actual behavior in a real-life setting (Lynn. & Lynn, 2003). The experimental nature of the study sacrifices some external validity for internal validity.

Since the study involves participants reacting to music streaming offers in an experimental setting, the ecological validity is somewhat limited (Bryman & Bell, 2015). However, the graphic design of the user interface of the hypothetical music streaming service Audio Wave increases the similarity to a real-life-situation. In a fully natural environment, there would be too many uncontrollable variables to identify casual factors (Söderlund, 2018). Some ecological validity is therefore sacrificed for internal validity.

4. Analysis and Results

4.1. Perceived Benefits

Table 1. Perceived benefits.

Condition	N	μ	σ
Free-vs-8	66	4,2803	1,2968
1-vs-9	71	3,7817	1,3758
2-vs-10	61	3,4508	1,1455

Table 2. Differences in perceived benefits.

	Free-vs-8 $\mu = 4,2803$	1-vs-9 $\mu = 3,7817$	2-vs-10 $\mu = 3,4508$
Free-vs-8 $\mu = 4,2803$	-	0,4986*	0,8295***
1-vs-9 $\mu = 3,7817$	0,4986*	-	0,3309
2-vs-10 $\mu = 3,4508$	0,8295***	0,3309	-

Significance levels: *** $p \leq 0,001$, ** $p \leq 0,01$, * $p \leq 0,05$

According to Hypothesis 1a, the zero price effect leads to an irrational increase in the perceived benefits of the free version of a freemium music streaming service. In order to test this hypothesis, three independent t-tests have been made in order to compare the means of the perceived benefits of Audio Wave Basic. The results, which are displayed in Table 1 and Table 2, show that there is a significant difference between the Free-vs-8 condition and the 1-vs-9 condition, and that there is a significant difference between the Free-vs-8 condition and the 2-vs-10 condition. The perceived benefits are higher in the Free-vs-8 conditions in both comparisons. The results also show that there is no significant difference between the 1-vs-9 condition and the 2-vs-10 condition ($p = 0,139$). In other words, reducing the price of Audio Wave Basic from \$2 to \$1 does not significantly increase perceived benefits, but a price reduction from \$1 to \$0 does significantly increase perceived benefits. This concurs with the stipulation of the zero price effect, thereby supporting Hypothesis 1a.

4.2. Perceived Nonmonetary Costs

Table 3. Perceived nonmonetary costs.

Condition	Ad intrusiveness (μ)	Offline storage (μ)	Audio quality (μ)
Free-vs-8	3.0530	2.5000	3.8295
1-vs-9	3.6620	2.9754	3.9401
2-vs-10	4.0656	3.3238	4.3484

Table 4. Differences in perceived nonmonetary costs

Condition, comparison	Ad intrusiveness (μ)	Offline storage (μ)	Audio quality (μ)
Free-vs-8, 1-vs-9	-0.6089*	-0.4754*	-0.1106
Free-vs-8, 2-vs-10	-1.0125***	-0.8238***	-0.5188
1-vs-9, 2-vs-10	-0.4036	-0.3484	-0.4082

Significance levels: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$

Hypothesis 1b states that the zero price effect leads to an irrational decrease in perceived nonmonetary costs with respect to the free version of a freemium music streaming service. This hypothesis is tested similarly to Hypothesis 1a. The stipulation is that the hypothesis is supported if the difference between the Free-vs-8 condition and the 1-vs-9 condition is greater than the difference between the difference between the 1-vs-9 condition and the 2-vs-10 condition. The results, which are presented in Table 3 and 4, show that there is a significant difference between the Free-vs-8 condition and the 1-vs-9 condition with respect to the perceived importance of offline storage and the perceived ad intrusiveness. Specifically, these nonmonetary costs are perceived to be lower in the Free-vs-8 condition. However, there is no significant difference between the Free-vs-8 condition and the 1-vs-9 condition with respect to the importance of being able to stream high audio quality. In addition, the results show that there are no significant differences between the 1-vs-9 condition and the 2-vs-10 condition with respect to any of the nonmonetary costs. This partially supports Hypothesis 1b; there is a zero price effect present in the perception of the cost of ad intrusiveness and lack of offline storage capability; however, there is no zero price effect present in the perception of the importance of being able to stream high audio quality.

4.3. Moderation Analysis

Table 5. Direct and indirect effects of the independent variable on the dependent variable.

Independent variable	Dependent variable (mediator)	Moderator	LLCI	ULCI
Zero price	Perceived benefits	Free mentality	-0.2115	0.3107
	Ad intrusiveness		-0.5277	0.1741
	Offline storage		-0.2183	0.3200
	Audio quality		-0.5289	0.2072
	Perceived benefits	Listening activity	-0.5241	-0.0898
	Ad intrusiveness		-0.1597	0.4240
	Offline storage		-0.3338	0.1138
	Audio quality		-0.2215	0.3907

Significance level: 95%, bootstrap sample: 1000.

An exclusion of 0 in the interval between LLCI and ULCI implies significant effect.

Hypotheses 3a, 3b, 4a, and 4b state that the effect of zero price on perceived benefits and costs, which are the mediators of the model, is moderated by listening activity and free mentality. This moderation effect has been examined using Hayes' PROCESS v3.3 add-on for SPSS using 1000 bootstrap samples and a 95% confidence interval. The results, which are shown in Table 5, indicate that listening activity has a significant effect on perceived benefits. However, neither of the two moderators have any effect on the other dependent variables. Furthermore, the results indicate that free mentality does not moderate the effect that zero price has on any of the mediators. This indicates that H4a is supported and that H3a, H3b, and H4b are not supported.

4.4. Willingness to Switch to Premium Subscription

Hypothesis 5a and 5b states that the zero price effect affects users' willingness to become premium subscribers indirectly by affecting users' perceived benefits and costs. The mediation effect has been examined using Hayes' PROCESS v3.3 add-on for SPSS using 1000 bootstrap samples and a 95% confidence interval. The results are shown in Table 6. The results do not show a significant direct effect of the treatment on participants' willingness to switch to a premium subscription, as well as the mediating effects of audio quality. However, the total effect of the treatment on willingness to switch to a premium subscription is significant, as well as the mediating effects of perceived benefits, ad intrusiveness, and lack of offline storage. These findings support H5a completely and H5b partially; perceived benefits and costs, apart from lack of high audio quality, seem to have a significant mediation effect between our independent and

dependent variable. The significant total effect suggests that zero price, via the proposed mediators, has a significant effect on willingness to switch to a premium subscription.

Table 6. Direct and indirect effects of the independent variable on the dependent variable.

Independent variable	Dependent variable	Mediator	LLCI	ULCI
Zero price	Willingness to switch to premium subscription	(Total effect)	0.2212	0.5642
		(Direct effect)	-0.1552	0.5528
		Perceived benefits	0.0570	0.2985
		Ad intrusiveness	0.0132	0.2033
		Offline storage	0.0168	0.1999
		Audio quality	-0.0218	0.0986

Significance level: 95%, bootstrap sample: 1000.

An exclusion of 0 in the interval between LLCI and ULCI implies significant effect.

5. Discussion

This section provides an overview of the results presented above and how the findings relate to the theoretical framework of this thesis. Based on the hypothesis testing, we first discuss the findings related to the influence of the zero price effect on the willingness to switch to the premium offer. A discussion of the moderating role of free mentality and active listening will then follow.

5.1. The Effect of Zero price on Perceived Benefits

Hypothesis 1a claims that the zero price effect leads to an irrationally high increase in the perceived benefits with respect to the free version of a freemium music subscription service. The results of the study indicate that this hypothesis holds true. In the condition in which the prices of the freemium music streaming service is \$0 for the basic version and \$8 for the premium version, the perceived benefits of the basic offer is significantly higher than the perceived benefits shown in the condition in which the price of the basic version is \$1 and the price of the premium offer is \$9. However, there is no significant difference in perceived benefits of the basic version between the condition in which the price of the basic offer and the premium offer are \$1 and \$9 respectively and the condition in which the prices are \$2 and \$10 respectively. In other words, the perceived benefits of the basic version increase significantly when the price of the basic version goes from paid to free, but not when the price decreases from a paid to condition to a cheaper (but still paid) condition, even though the price reductions are the same (\$1) and the price difference between the basic version and the premium version is held constant. These results accord with research by Hüttel et al. (2018), Shampanier et al. (2007), and Niemand et al. (2015). The findings of this study contribute to theory by showing that previous findings regarding the zero price effect holds true when it comes to freemium music streaming services, implying that free users of a freemium offering are subject to a cognitive bias that may inhibit them from switching to a premium subscription.

5.2. The Effect of Zero Price on Perceived Nonmonetary Costs

Hypothesis 1b claims that the zero price effect leads to an irrationally high decrease in the perceived nonmonetary costs with respect to the free version of a freemium music subscription service. The results of this study indicate that the hypothesis is partially supported. There is a significant decrease in how intrusive participants find advertising to be in the condition in which the basic offering is free compared to the condition in which the price of the basic offering is \$1. However, there is no significant decrease when comparing the condition in which the basic version is \$1 and the condition in which the basic version is \$2. Similarly to the findings regarding perceived benefits, this

indicates that moving from a paid condition to a free condition has a significant impact, while moving from a paid condition to a cheaper (but still paid) condition does not, holding the price decrease and the price difference between the basic and the premium version constant. Again, these findings accord with research by Hüttel et al. (2018), Shampanier et al. (2007), and Niemand et al. (2015). In addition to examining ad intrusiveness, which is the only nonmonetary cost included in the findings by Hüttel et al. (2018), we also chose to include the importance of offline storage of music and the importance of high audio quality streaming as nonmonetary costs present in the basic versions as these are features that are commonly excluded from the basic offering of freemium music streaming services. The results indicate that zero price leads to a significant decrease in the perceived importance of being able to store music offline, which is an additional indication that zero price decreases perceived nonmonetary costs. However, the results do not indicate that the zero price effect is present in the perception of the importance of audio quality. In any case, these results indicate that the findings by Hüttel et al. (2018) with regards to the effect of zero price on nonmonetary costs holds true in freemium music streaming services, as well as indicating that the zero price effect affects additional nonmonetary costs to costs related to advertisements.

5.3. The Moderating Effects of Free Mentality

Hypotheses 3a and 3b state that free mentality moderates the effect that zero price has on the perceived benefits and perceived nonmonetary costs respectively, with respect to the free version of a freemium music subscription service. After conducting moderation analysis using Haye's PROCESS v3.3 for SPSS, no significant moderating effect was found. This contradicts the findings by Lin et al. (2013), in spite of using almost identical measures of free mentality. Instead, these results are to a larger extent in accordance with reports indicating that consumers' willingness to pay for online content has increased recently relative to the willingness to consume free, ad-funded content, as shown in the market analysis by Deloitte (2017). The report, along with the findings of this study, suggest that free mentality beliefs may not be as strong as they used to be. Seemingly, those who assign an irrationally high perceived value the free version of a freemium offering do not do so because they believe that online content should be free. It can be speculated that the time passed since previous research on free mentality was conducted has been long enough to change consumer attitudes, given the relative novelty of online services. Further research on the subject of free mentality and its continuing relevance is therefore advised.

5.4. The Moderating Effects of Listening Activity

Hypotheses 4a and 4b state that listening activity moderates the relationship between zero price and perceived value and nonmonetary costs respectively. The results show

that listening activity significantly decreases the perceived benefits of the basic version of Audio Wave. However, the impact on perceived nonmonetary costs was not significant. Previous research on freemium has largely excluded listening activity as a moderator in tested models, making it difficult to relate these findings to a theoretical framework. The reason for including listening activity as a moderator was the indication that music streaming services are in need of creating clear customer segments (e.g. Global Music Report, 2018; Bekkelund, 2011). It was speculated that listening activity is a reasonable variable to use as a ground for segmentation. The findings showing that people with a high listening activity associate a lower perceived value with the free version of a freemium music streaming service could indicate that the free version appeals to the needs of inactive listeners to a larger extent than active listeners, suggesting that listening activity should be considered in the targeting and positioning strategies of freemium service providers. This subject is therefore suitable for future research. In addition, one issue with the experimental nature of this study is that data related to listening activity is based on participants' perceptions regarding their listening activity, as opposed to actual listening data.

5.5. The Mediating Effects of Perceived Benefits and Nonmonetary Costs

Hypothesis 5a and 5b claim that zero price affects free users' willingness to switch to a premium subscription by increasing the perceived value and decreasing the perceived nonmonetary costs of the free version in a freemium music streaming offering. When it comes to the mediators, the results show significant mediating power of perceived benefits and two of the perceived nonmonetary costs: ad intrusiveness and offline storage. However, there was no significant mediating power with respect to audio quality, which accords with the findings that zero price has no effect on the perception of the importance of audio quality. In addition, the results indicate that there was no significant direct effect of zero price on willingness to switch to a premium subscription. However, the results indicate that the total effect, i.e. the sum of the direct effect and the mediated effect of the dependent variable on the independent variable, was significant. In other words, zero price in and of itself cannot explain differences in willingness to switch to a premium subscription, but it can explain differences in perceived benefits and nonmonetary costs of the basic version (apart from audio quality), which in turn can explain differences in willingness to switch to a premium subscription. Furthermore, the total effect of zero price on willingness to become premium subscribers, which includes both direct and indirect effects, was shown to be a significant decrease. These results accord with findings by Hüttel et al. (2018) and contribute to theory by indicating that zero price has negative effects on free users' willingness to become premium customers in freemium music streaming services.

6. Conclusions

The purpose of this study was to examine potential cognitive biases present in free users' (un)willingness to switch from a free version to a premium version in a music streaming context. Some research has examined such biases; however, their effect on freemium offerings has not received much attention. This study aimed to fill this research gap by testing the effect of zero price and free mentality on free users' intentions to become premium subscribers. Our results indicate that the zero price effect is present in freemium music streaming services. By increasing the perceived benefits and decreasing the perceived nonmonetary costs of the basic version, the zero price effect creates a cognitive barrier that reduces the customer's willingness to switch to the premium version. With regards to the nonmonetary costs, the zero price effect leads to advertisements being perceived as less intrusive. In addition, the importance of offline storage of music is perceived to be lower.

A second cognitive bias, free mentality, was also assessed in this study. The aim was to examine whether or not free mentality moderates the effect that zero price has on perceived benefits and nonmonetary costs. The results do not indicate that free mentality has a moderating effect. Even though these results contradict previous research on the subject, our findings can be seen as a reflection of recent market analyses suggesting that willingness to pay for online content has increased relative to the willingness to consume free ad-funded content.

In addition to free mentality, this study sought to examine the potential moderating power of listening activity with respect to the effect of zero price on perceived benefits and nonmonetary costs. Although listening activity has been present in previous research on cognitive biases in free digital services to some extent, it has largely been ignored with regards to its potential effect on those biases. This study shows that listening activity weakens the effect of zero price on perceived benefits. In other words, people that perceive themselves to be active listeners do not associate zero price with a higher perceived benefit with respect to the free version. This indicates that the free version does not appeal to the needs of active listeners compared to inactive listeners. These findings imply that customer segmentation is an important step in the provision of freemium music streaming services.

Lastly, this study sought to examine the whether or not perceived benefits and nonmonetary costs mediate the effect of zero price on willingness to switch from free to premium. Looking at the results, it can be concluded that perceived benefits and two of the included nonmonetary costs do mediate this relationship. In addition, the sum of the direct and indirect effects of zero price on willingness to become premium subscribers was significant. In other words, the zero price effect impacts free users' willingness to

switch to premium indirectly via its impact on perceived benefits and nonmonetary costs.

7. Critique and Future Research

The study of this thesis is subject to several limitations. The aim of the study is to investigate the influence of the zero price effect on customers' willingness to switch from a freemium to premium offer. While there are numerous effects that influence willingness to start paying for a music streaming service subscription, this study is delimited to the investigation of the effect of two cognitive biases on willingness to switch. Furthermore, the results are largely based on consumer perceptions and not actual consumer data. For example, participants were asked to assess their listening activity, while using real consumer data would allow for very accurate quantization of listening activity. This highlights the need for additional studies that are based on real consumer data. Such studies could generate stronger external validity when applying conclusions to a real-world context.

The study also used a convenience sampling method. Since this method is a non-random sampling technique, the external validity of the findings is limited (Söderlund, 2018).

The initial purpose of this study was to include status quo bias as a potential independent variable. However, it proved to be difficult to design a manipulation to test the effect of status quo bias in an experimental setting in a way that would ensure data quality. Future research could potentially investigate the impact of status quo bias by using real data. For example, data regarding the length of free users' subscriptions could be gathered and isolated as an independent variable, allowing for conclusions to be made regarding how differences in subscription lengths affect consumer evaluations.

Furthermore, this study incorporates three nonmonetary costs based on differences in features between the free and premium versions. It is possible that additional nonmonetary costs should be considered in future studies, based on additional differences in features between the free version and the premium version. An example of additional nonmonetary costs could be privacy-related concerns, such as the collection and selling of user data.

Due to the increasing popularity and global adoption of music streaming, as well as the fast growth of the e-commerce subscription market, further research on customer behavior with regards to freemium offerings will undoubtedly be of value not only to music streaming services, but also to other industries in which freemium offers is a prevalent model.

8. References

- Aljukhadar, M., & Senecal, S. (2011). Segmenting the online consumer market. *Market Intelligence and Planning*, 29(4), 421-435.
- Amit, R., & Zott, C. (2001). Value creation in E-business. *Strategic Management Journal*, 22(6-7), 493-520.
- Anderl, E., März, A., & Schumann, J. H. (2016). Nonmonetary customer value contributions in free e-services. *Journal of Strategic Marketing*, 24(3-4), 175-189.
- Apple. (2019). *Apple music*. Retrieved April 20 from <https://www.apple.com/lae/apple-music/>
- Bernd Skiera. (2002). Measuring consumer willingness to pay at the point of purchase. *Journal of Marketing Research*, 38(2), 228-241.
- Bolton, L. E., Warlop, L., & Alba, J. W. (2003). Consumer perceptions of price (un)fairness. *Journal of Consumer Research*, 29(4), 474-491.
- Breidert, C., Hahsler, M., & Reutterer, T. (2006). A review of methods for measuring willingness-to-pay. *Innovative Marketing*, 2(4), 8-32.
- Bryman, A & Bell, E. (Ed.). (2015). *Business research methods* (4th ed.). New York: Oxford University Press.
- Bryman, A. (Ed.). (2001). *Social research methods* (1st ed.). New York: Oxford University Press.
- Cheng, H. K., & Tang, Q. C. (2010). Free trial or no free trial: Optimal software product design with network effects. *European Journal of Operational Research*, 205(2), 437-447.
- Cronin Jr., J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, 76(2), 193-218.
- Deezer. (2019). *Deezer plans*. Retrieved May 1 from <https://www.deezer.com/en/offers/>
- Deloitte. (2017). *Digital media: The subscription prescription*. London: Deloitte.
- Drott, E. A. (2018). Music as a technology of surveillance. *Journal of the Society for American Music*, 12(3), 233-267.
- Elif T.G. (2016). Social and emotional function of music listening: Reasons for listening to music. *Eurasian Journal of Educational Research*, (66, 229-242)
- Global music report 2018 annual state of the industry. (2018). IFPI.
- Haruvy and A. Prasad. (2001). Optimal freeware quality in the presence of network externalities: An evolutionary game theoretical approach. *Journal of Evolutionary Economics*, 11(2), 231-248.
- Haselton, M. G., Nettle, D., & Andrews, P. W. (2005). *The evolution of cognitive bias*. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (1st ed., pp. 724-746). Hoboken, New Jersey, US: John Wiley & Sons Inc.

- Hüttel, B. A., Schumann, J. H., Mende, M., Scott, M. L., & Wagner, C. J. (2018). How consumers assess free E-services: The role of benefit-inflation and cost-deflation effects. *Journal of Service Research*, 21(3), 267-283.
- Jongbum, K., Jeongho, L., & Handjung, Z. (2018). Toward sustainable freemium software: The roles of user satisfaction and use context. *Journal of Electronic Commerce Research*, 19(3), 201-222.
- Joshi, A., Kale, S., Dinesh, P., & Chandel, S. (2015). Likert scale: Explored and explained. *Current Journal of Applied Science and Technology*, 7(4), 396-403.
- Kahneman, D. (2003). Maps of bounded rationality: Psychology for behavioral economics. *The American Economic Review*, 93(5), 1449-1475.
- Kim Joar Bekkelund. (2011). *Succeeding with freemium: Exploring why companies have succeeded & failed with freemium* (Dissertation, Norwegian University of Science and Technology). Trondheim: Norwegian University of Science and Technology.
- Koch, O. F., & Benlian, A. (2017). The effect of free sampling strategies on freemium conversion rates. *Electronic Markets*, 27(1), 67-76.
- Kumar, V. (2014). Making "freemium" work. *Harvard Business Review*, 92(5), 27-29.
- Li, H., Edwards, S. M., & Lee, J. (2002). Measuring the intrusiveness of advertisements: Scale development and validation. *Journal of Advertising*, 31(2), 37-47.
- Li, Z., & Cheng, Y. (2014). From free to fee: Exploring the antecedents of consumer intention to switch to paid online content. *Journal of Electronic Commerce Research*, 15(4), 281-299.
- Lin, T., Hsu, J. S. -, & Chen, H. (2013). Customer willingness to pay for online music: The role of free mentality. *Journal of Electronic Commerce Research*, 14(4), 315-333.
- Marine Le Gall-Ely. (2009). Definition, measurement and determinants of the Consumer's willingness to pay: A critical synthesis and directions for further Research. *Recherche Et Applications En Marketing*, 24(2), 91-113.
- Marta-Lazo, C., Segura-Anaya, A., & Martínez-Oliván, N. (2017). Key variables in willingness to pay for online news content: The professionals' perspective. *Revista Latina De Comunicación Social*, (72), 165-185.
- Matthias De Rouck. (2017). Music streaming services and their path to financial viability (Dissertation, Ghent University). Ghent: Ghent University.
- Miller, K. M., Hofstetter, R., Krohmer, H., & Zhang, Z. J. (2011). How should consumers' willingness to pay be measured? an empirical comparison of state-of-the-art approaches. *Journal of Marketing Research*, 48(1), 172-184.
- Music Industry Blog. (n.d.). Share of music streaming subscribers worldwide as of the first half of 2018, by company. In *Statista - The Statistics Portal*. Retrieved April 1, 2019, from <https://www.statista.com/statistics/653926/music-streaming-service-subscriber-share/>.

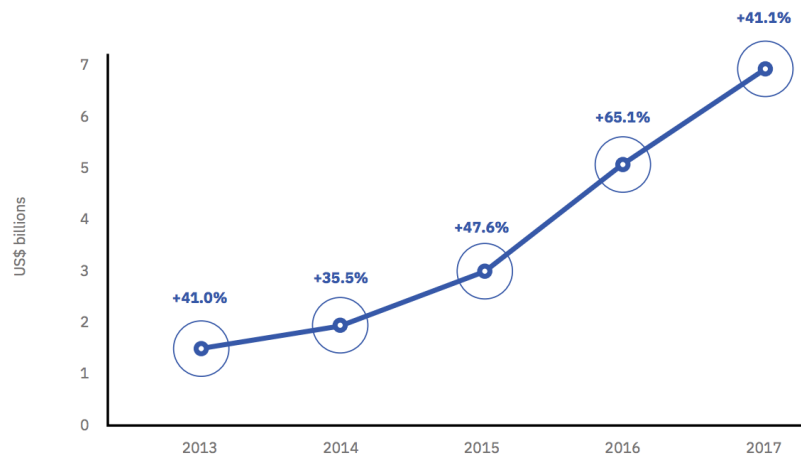
- Niemand, T., Tischer, S., Fritzsche, T., & Kraus, S. (2015). *The freemium effect: Why consumers perceive more value with free than with premium offers*. Paper presented at the 2015 International Conference on Information Systems: Exploring the Information Frontier, ICIS 2015,
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Rehki, Sachin. (2010, February 16). *Freemium Design Pattern: Scale Pricing with Customer Success*. Retrieved April 28, 2010, from <http://www.sachinrekhi.com/freemium-design-pattern-scale-pricing-with-customer-success>
- Rietveld, J. (2018). Creating and capturing value from freemium business models: A demand-side perspective. *Strategic Entrepreneurship Journal*, 12(2), 171-193.
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1(1), 7-59.
- Sedgwick, P. (2013). Convenience sampling. *BMJ*, (347), f6304.
- Shampanier, K., Mazar, N., & Ariely, D. (2007). Zero as a special price: The true value of free products. *Marketing Science*, 26(6), 742-757.
- Shank, G. (Ed.). (2007). *Exploring educational research literacy* (1st ed.). New York: Routledge.
- Sinha, R. K., Machado, F. S., & Sellman, C. (2010). Don't think twice, It's all right: Music piracy and pricing in a DRM-free Environment. *Journal of Marketing*, 74(2), 40-54.
- Spotify. (2019). Spotify premium. Retrieved April 19 from <https://www.spotify.com/premium/>
- Spotify technology S.A. (2018). United States Securities and Exchange Commission.
- Söderlund, M. (2005). *Mätningar och mått - i marknadsundersökarens värld* (1st ed.). Malmö: Liber AB.
- Söderlund, M. (2018). *Experiments in marketing* (1st ed.). Lund: Studentlitteratur.
- Aspiro AB. (2019). *Subscription types*. Retrieved April 25 from <https://support.tidal.com/hc/en-us/articles/115003662825-Subscription-Types>
- Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2-3), 172-194.
- BBC. (2010, 2 July). *Times begin charges for online readers*. Retrieved May 2 from <https://www.bbc.com/news/10480666>
- UCLA. (2019). *What statistical analysis should I use? statistical analyses using SPSS*. Retrieved May 3 from <https://stats.idre.ucla.edu/spss/whatstat/what-statistical-analysis-should-i-usestatistical-analyses-using-spss/>
- Voss, K. E., Spangenberg, E. R., & Grohmann, B. (2003). Measuring the hedonic and utilitarian dimensions of consumer attitude. *Journal of Marketing Research*, 40(3), 310-320.

- 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.
- Ye, R. L., Zhang, Y., Nguyen, D., & Chiu, J. (2004). Fee-based online services: Exploring consumers' willingness to pay. *Journal of International Technology and Information Management*, 13(2), 133-141.
- Zhang, B., Mildemberger, M., Howe, P. D., Marlon, J., & Rosenthal, S. (2017). Quota sampling using facebook advertisements can generate nationally representative opinion estimates. *Political Science Research and Methods*, 1-7.
- Zott, C., Amit, R., & Massa, L. (2011). The business model: Recent developments and future research. *Journal of Management*, 37(4), 1019-1042.

9. Appendix

9.1. Appendix 1

STREAMING REVENUE GROWTH YEAR ON YEAR: 2013 – 2017

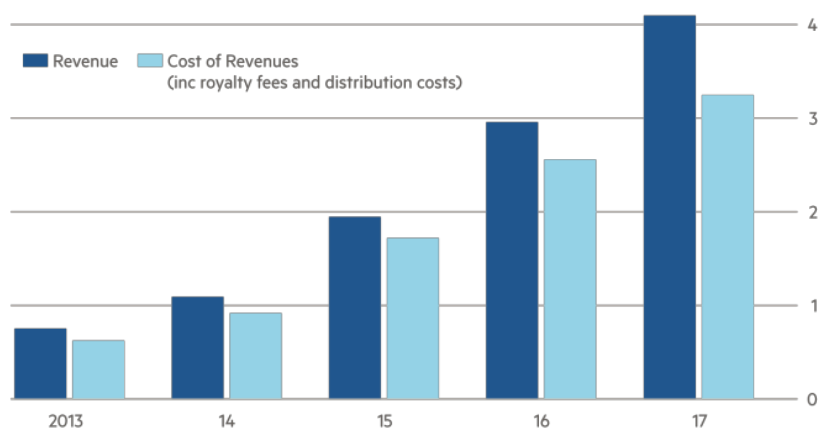


Source: Global Music Report 2018

9.2. Appendix 2

Spotify's revenues have grown, but so have costs

€bn

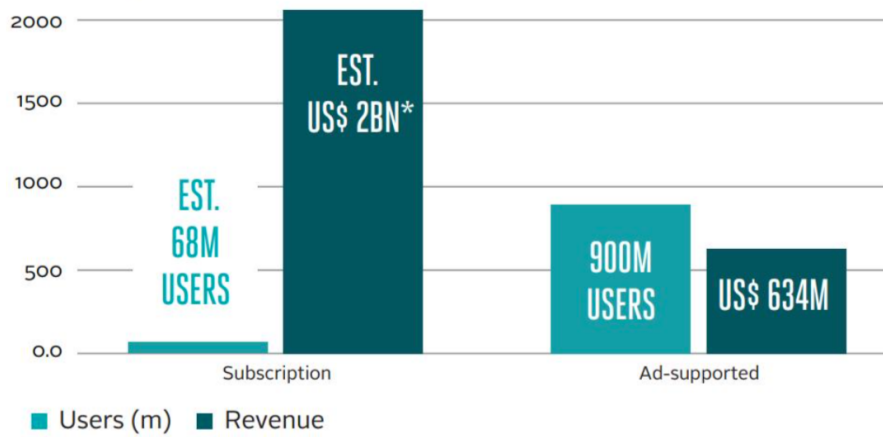


Source: SEC filings
© FT

Source: Spotify technology S.A. 2018

9.3. Appendix 3

SUBSCRIPTION AND AD-SUPPORTED REVENUES VERSUS USERS (2015)



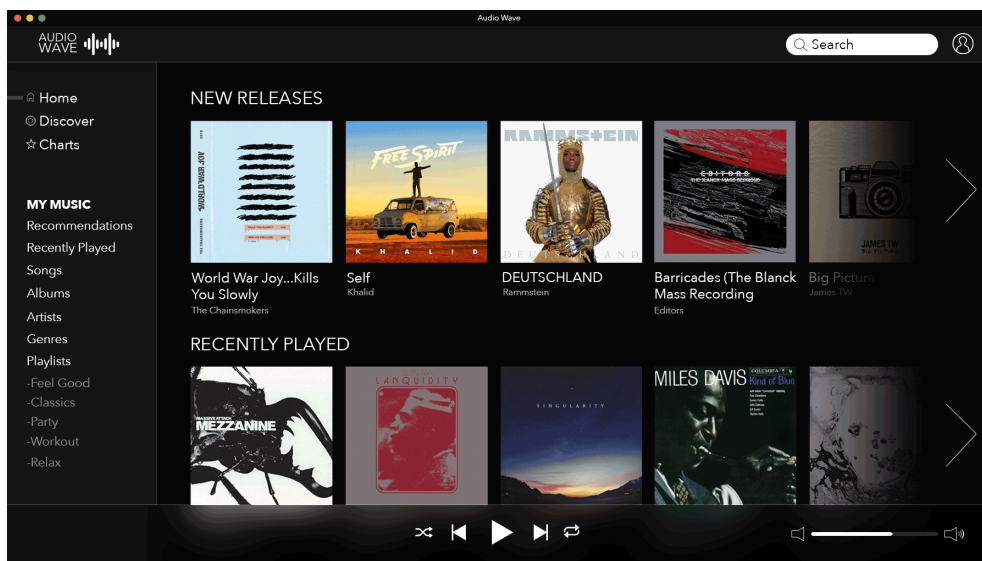
* This figure includes estimated paid subscription revenues only

Source: IFPI

Source: IFPI 2016

9.4. Appendix 4

This study investigates consumer behavior related to online music streaming services. In the first part of the study, you will take on the role of an Audio Wave customer. Audio Wave is a subscription-based music streaming platform that enables users to listen millions of tracks from their desktop computer, laptop, smartphone, or tablet. In the second part of the study, you will be asked questions about your actual music consumption.



If you are answering this on a smartphone and are experiencing display issues, try to rotate your phone to landscape mode.



Audio Wave lets users choose between two different versions: Audio Wave Basic and Audio Wave Premium. **Please read through the features of each offer below:**

Treatment 1

Audio Wave Basic	Audio Wave Premium
Sign up is free	Sign up for \$8 per month
Library of 50 million tracks	Library of 50 million tracks
No offline storage of music	Store music offline
30 second commercial every 15 minutes	No commercials
Standard audio quality	High audio quality

Treatment 2

Audio Wave Basic	Audio Wave Premium
Sign up is \$1 per month	Sign up for \$9 per month
Library of 50 million tracks	Library of 50 million tracks
No offline storage of music	Store music offline
30 second commercial every 15 minutes	No commercials
Standard audio quality	High audio quality

Treatment 3

Audio Wave Basic	Audio Wave Premium
Sign up is \$2 per month	Sign up for \$10 per month
Library of 50 million tracks	Library of 50 million tracks
No offline storage of music	Store music offline
30 second commercial every 15 minutes	No commercials
Standard audio quality	High audio quality

On a scale from 1 to 7, how do you feel with regards to Audio Wave Basic?

	1	2	3	4	5	6	7	
Very negative	☐	☐	☐	☐	☐	☐	☐	Very positive
Strongly dislike	☐	☐	☐	☐	☐	☐	☐	Strongly like

How do you feel with regards to Audio Wave Premium?

	1	2	3	4	5	6	7	
Very negative	☐	☐	☐	☐	☐	☐	☐	Very positive
Strongly dislike	☐	☐	☐	☐	☐	☐	☐	Strongly like

The price of Audio Wave Basic is:

	1	2	3	4	5	6	7	
Not fair	☐	☐	☐	☐	☐	☐	☐	Fair

The price of Audio Wave Premium is:

	1	2	3	4	5	6	6	
Not fair	☐	☐	☐	☐	☐	☐	☐	Fair

The offering of Audio Wave Basic for me is:

	1	2	3	4	5	6	7	
Not functional	☐	☐	☐	☐	☐	☐	☐	Functional
Not practical	☐	☐	☐	☐	☐	☐	☐	Practical
Unnecessary	☐	☐	☐	☐	☐	☐	☐	Necessary
Not helpful	☐	☐	☐	☐	☐	☐	☐	Helpful

The offering of Audio Wave Premium is:

	1	2	3	4	5	6	7	
Not functional	☐	☐	☐	☐	☐	☐	☐	Functional
Not practical	☐	☐	☐	☐	☐	☐	☐	Practical
Unnecessary	☐	☐	☐	☐	☐	☐	☐	Necessary
Not helpful	☐	☐	☐	☐	☐	☐	☐	Helpful

For me, the fact that Audio Wave Basic involves advertising is:

	1	2	3	4	5	6	7	
Not distracting	☐	☐	☐	☐	☐	☐	☐	Distracting
Not disturbing	☐	☐	☐	☐	☐	☐	☐	Disturbing
Not intrusive	☐	☐	☐	☐	☐	☐	☐	Intrusive
Not obtrusive	☐	☐	☐	☐	☐	☐	☐	Obtrusive

For me, the importance of being able to store music offline is:

	1	2	3	4	5	6	7	
Not functional	☐	☐	☐	☐	☐	☐	☐	Functional
Not practical	☐	☐	☐	☐	☐	☐	☐	Practical
Unnecessary	☐	☐	☐	☐	☐	☐	☐	Necessary
Not helpful	☐	☐	☐	☐	☐	☐	☐	Helpful

For me, the importance of being able to stream music in high audio quality is:

	1	2	3	4	5	6	7	
Not functional	☐	☐	☐	☐	☐	☐	☐	Functional
Not practical	☐	☐	☐	☐	☐	☐	☐	Practical
Unnecessary	☐	☐	☐	☐	☐	☐	☐	Necessary
Not helpful	☐	☐	☐	☐	☐	☐	☐	Helpful

In the near future, I will consider switching to Audio Wave Premium.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

In the near future, how likely is it that you will switch to Audio Wave Premium?

	1	2	3	4	5	6	7	
Very unlikely	☐	☐	☐	☐	☐	☐	☐	Very likely

The following questions concern your **ACTUAL** habits and opinions regarding music streaming and music listening.

I consider myself to be an active listener of music.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

How frequently do you listen to music?

- ☐ 1-2 days a week (1)
- ☐ 3-4 days a week (2)
- ☐ Every day (3)
- ☐ Other (4)

I think that fee-based online music should be free.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

I think that online music streaming services should provide music for fee.

	1	2	3	4	5	6	7	
Strongly disagree	☐	☐	☐	☐	☐	☐	☐	Strongly agree

In this study, the price of Audio Wave Basic is:

- ☐ Free
- ☐ \$1
- ☐ \$2
- ☐ \$3

Gender

- ☐ Male
- ☐ Female

Age (please input number only)
