

# Music streaming services



***BSc Thesis Management and Consumer Studies***

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## Abstract

During the last couple of years music streaming services have grown quite a lot. Companies offer both paid and free (ad supported) subscription models. And many people nowadays have a subscription to one of these services. But do these free services work for music streaming companies? Are consumers still willing to pay for a paid subscription if they can also have it for free? The research question that was examined in this study was: Which type (paid/non-paid) of streaming service do consumers choose? (And how can a music streaming company make a choice between those, considering the consumers' choice?) This study examines the factors that influence use of different types of music streaming services: free and paid. With the help of theory, a theoretical framework was created with the following variables: Income, Free mentality, Perceived customer value, Attitude towards privacy and Satisfaction with online free music streaming services, Willingness to pay, Willingness to accept advertisements, Use of free music streaming services and Use of paid music streaming services. A survey was conducted with 216 users of music streaming services. And multiple regression was used to test a number of hypotheses. From the results it seemed that mainly Willingness to pay had a significant influence on the variables Use of free music streaming services and Use of paid music streaming services. Willingness to accept advertisements failed to significantly explain the variables Use of free music streaming services and use of paid music streaming services. Willingness to pay was significantly predicted by the variables Income, Free mentality, Perceived customer value and Satisfaction with online free music streaming services. It is recommended for companies to actively invest in new features for their paid subscription models, to make the subscription more "worth it" and to have a higher success of survival.

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## 1. Introduction

During recent years listening to music has made quite a huge leap. Consumers can access almost all music from wherever they are in the world with applications like Spotify and Apple Music on their smartphones. Bringing all over your music with you was quite a challenge and required a lot of space on your music player, but with these new music streaming services like Spotify and Apple music, it has become possible to listen to all kinds of music from wherever you are in the world. One thing that has caused the huge growth of these streaming services is the accessibility of the service, the service is on demand accessible.

Some companies have a free service combined with advertisements, but all of them offer their “premium” service for a fixed amount per month or per year. The number of services has been rising since this idea of a music streaming service started. Companies that offer a free service with advertisements as well as a premium service without advertisements are for example companies like Spotify, Deezer and Soundcloud. When companies use both a free and paid model it is also called a hybrid model (Kim, Nam and Ryu, 2017). But there are also quite a lot of music streaming companies that offer only a paid service, like Apple Music and Tidal. The free model is also called the freemium model and this model has increased in popularity among consumers (Wagner et al, 2013).

According to Wlömert and Papies (2016) recent developments show that music streaming services are pushing the “free” version more and more to consumers. A possible reason for this is that a “free” service attracts consumers to a music streaming service. And that means that more consumers can be turned into paying consumers. Another reason may be that companies keep pushing the “free” version in order to keep or to conquer a position in the music streaming market (Wlömert et al., 2016). One could ask himself if it is beneficent and sustainable for a music streaming company to have a lot of non-paying consumers?

A music streaming company wants to get as much consumers as possible, but the company also wants to get a certain revenue and profit of their streaming service. The choice between those two is the determining factor for the company’s growth, revenue and profit. Consumer are the main unit of analysis in this problem, they determine who loses and who wins with the choice they make. If consumers decide to choose only for the free service, making profit becomes quite difficult for a music streaming company. Thus, the problem here is that companies want to know which decision the consumer makes when the deciding between music streaming services. If companies know what the conclusive factors are that determine the consumer choice, then these companies can anticipate on this.

To give an answer to the problem of making a choice between the types of music streaming services, the following research question and sub questions have been formulated.

Research question:

Which type (paid/non-paid) of streaming service do consumers choose? (And how can a music streaming company make a choice between those, considering the consumers’ choice?)

Sub questions:

- *Service dominant logic*
- How is service dominant logic connected to the choice of the consumer?
- *Perceived sacrifices and benefits*  
How are sacrifices and benefits connected to the consumer choice?
- *Willingness to pay*  
How is willingness to pay connected to the choice of the consumer?
- *Free mentality*  
How is free mentality connected to the choice of the consumer?
- *Willingness to accept advertisements*
- How is “willingness to accept advertisements” connected to the choice of the consumer?

## 2. Theory

The main goal of this study is to investigate how consumers make their decisions regarding music streaming services. There are several theories and models about this choice and to make a good start it is necessary to know which theories and models are used to assess the consumer choice.

One of the first theories that will be discussed is the theory about service dominant logic. Second theory that will be discussed is perceived benefits versus sacrifices. Third theory is about willingness to pay. Fourth theory that will be discussed is free mentality, this can be seen as a criticism towards willingness to pay and the final subject that will be discussed is willingness to accept advertisements.

### 2.1 Service dominant logic

Music streaming service are being used more and more by customers, but one of the odd things is that music streaming is intangible. People cannot physically have the product in the hands, this might also play a role in assessing the consumer choice. People might not want to pay for something they can't get in their hands physically.

Styve´n (2007) mentions this problem of the intangibility of music in her research. She suggests that in order to increase the value of digital music it is important as a company to have strong word-of-mouth, have a strong brand and offer tangible things next to the digital music offer. One of the quotes she used: “When a business is able to deliver an experience, the value of the offering increases- and so does the potential to charge a higher price” (Pine and Gilmore (1999)). The main conclusion of Styve´n (2007) research was that the pricing of intangible music creates a dilemma and requires careful consideration by a company.

One of the theories that plays a role in this whole thing of intangibility issues, is the theory about service dominant logic by Vargo & Lusch, 2004. In marketing there is G-D (goods-dominant) logic and a S-D (service-dominant) logic. The service dominant logic was developed by Vargo & Lusch (2004) and it shows a new mind-set on how to look at the exchange process.

In service dominant logic the consumer is an operant resource, “an operant resource is able to act upon other resources” (Vargo & Lusch, 2004). The consumer is viewed as a partner in creating value with a firm (Vargo & Lusch, 2004). They essentially work together to achieve more value. With this service dominant logic Vargo & Lusch (2004) created a number of propositions that apply to this logic. In these propositions they discuss for example that working together with customers creates a competitive advantage. Collaboration and coordination are key to achieve innovation and competition in service dominant logic (Vargo, Lusch, & O'Brien, 2007)).

Vargo and Lusch indicated in 2004 that a change was coming and that we would shift from a focus on tangible goods to a focus on intangible goods. Now in 2018 you could say that a lot of services have emerged in our lives, but we still like to buy tangible goods that we can hold in our hands. So this maybe be an explanation for the choice between paying for a music streaming service and listening to advertisements in exchange for “free” music.

## 2.2 Perceived benefits vs sacrifices

One of the theories that is related to the consumer choice is the theory about perceived sacrifice and perceived benefits. This theory is one of the more general theories of economics and is developed a few decades ago.

In the world of online music streaming there are several benefits for the consumer and several sacrifices. Benefits for the consumer exists of the right to use the streaming service and of all the other features that the streaming service offer. But there are also sacrifices to be made for consumers. When consumers use a free music streaming service they have to listen to advertisements and watch to advertisements that different companies put on the music streaming service. Another possible sacrifice arises when consumers pay for the music streaming services. The sacrifice in the case of music streaming services, is the monthly or yearly fee consumers need to pay to make use of the (premium) features of the service.

A research done by Niemand, Fritzsche, Tischer and Kraus (2015) has investigated the effects of offering services for free, essentially the freemium model. They came with the conclusion that free services offer more compared to paid subscriptions. The benefits are higher with a free service then with a paid subscription. Consumers also notice fewer sacrifices when using a free service (Niemand et al., 2015).

According to (Wagner, Benlian and Hess, 2013) the perceived benefits of the premium feature of music streaming services are quite low when consumers have access to a free version of the music streaming service. Users are most of the time already satisfied with the free version and so no further need in upgrading their experience. This is not good for companies that are trying to attract consumers for the premium service with their free service. So satisfaction could potentially influence the willingness to pay for a music streaming service. Wagner et al., (2013) suggests that companies should look for further enhancements of their premium feature, otherwise the number of premium consumers will not grow that fast. The companies should offer more for the paid music streaming services, then perceived benefits will increase and consumers may be willing to pay for the service.

Wagner et al., (2013) also found that offline listening capabilities and unlimited access to music are the highest valued factors according to consumers.

With this information about perceived benefits and sacrifices one of the questions that arise is, what are people really willing to sacrifice in return for benefits? And why are some people willing to pay more for a music streaming service?

### 2.3 Willingness to pay

One of the aspects that has to be taken into account when assessing the choice of the consumer, is the willingness to pay (WTP) of consumers. Willingness to pay is the “Largest sum of money an individual is agreeable to pay for a product or service” (Business dictionary). It has possibly an impact on the use of free and paid music streaming services.

Consumers have different levels of income they want to spend on music, for one consumer this may be zero euros for another consumer it could be hundred euros per year or even a couple hundred per year. According to Chiang and Assane (2009) the different level of willingness to pay is mainly determined by income, risk perceptions in relation with illegal downloading and ethics. Income level in relation with willingness to pay makes a lot of sense. The more you earn the more you can afford to spend on music. But a consumer does need to be willing to spend his income on music. So income can possibly have an impact on willingness to pay.

Only a few people have done research into this field when looking at music streaming services. But one of the researches that is done by these people is the research by (Dörr, Benlian, and Hess, 2010). They came up with the conclusion that price, sound quality, offline usage and contract duration have a relatively high impact on the willingness to pay for the service. All of these attributes add value to a service and this is called (perceived) customer value (Dörr et al., 2010). Together they influence (perceived) customer value and that subsequently influences willingness to pay.

They also concluded that the fact that there is a free version does not lead to much acceptance under people who are willing to pay for the music streaming service. If they would know that there was a paid service next to the existing free service, only a few people in their research were really willing to pay for the service. This is, as mentioned previously, because users are probably already satisfied with the free service and see no further need in upgrading (Wagner et al., 2013). So this may also have an influence on the willingness to pay.

Another aspect of the willingness to pay is that unlike with downloads where the consumer pays per download, with a MaaS (Music as a service) the consumer pays for access to all the music. This may also have an influence on the willingness to pay.

Oestreicher-Singer and Zalmanson, (2009) also did research into this field, they concluded that the level of social activity determines the willingness to pay for the premium feature of music streaming services. So the more active a user is on the community of the service, the more willing the consumer is to pay for the service.

Another research that has been done into this topic is the research of Wang, Zhang, Ye and Ngyen, (2005). They look more at the general services that the internet offers, during the time that the research was published music streaming services were practically non-existent. Wang et al., (2005) basically came to the conclusion that willingness to pay for online services is determined by convenience, quality of the service and the usage of the service.

## 2.4 Free mentality

A theory that is linked to the choice of the consumer is the theory of free mentality. People may have a willingness to pay that is lower than the offered subscription fees, these people may prefer a free to use streaming service. There is one theory that applies to this aspect and that's the theory of free mentality. It can have an influence on the willingness to pay.

Free mentality is the idea that everything that is accessible online should be free in the mind of the consumer (Ching-lin, Shih-Chieh Hsu, Ching Chen, 2013). This belief that everything should be free existed also before the online era, for example with listening to music on the radio. The consumer doesn't necessarily pay for listening to the music on the radio, but the consumer has to listen to advertisements on the radio. There are more costs before the consumer can receive radio, he or she also needs to buy a device to receive the radio. So before the online era, there was something similar going on with free listening combined with advertisements.

One of the main reasons that companies have a free model is because it attracts more customers than a paid model (Ching-Lin, et al. 2013). And therefore advertising revenues goes up, because more people can be reached with advertisements and advertising fees can be increased. Consumers can get access to all kinds of downloads on the internet for free and therefore there is some kind of free mentality in the minds of the consumers. They also think that the high level of advertisements on websites and services should generate quite a lot of revenue for companies (Dou, 2004) and therefore see no need to pay for the service.

Since quite a lot of consumers have developed a form of free mentality it is necessary to take this into account when assessing the choice consumers make with music streaming services. You could say that a sort of cultural norm was developed with free mentality. The belief that everything should be free is existent among many consumers (Ching-Lin et al., (2013).

## 2.5 Willingness to accept advertisements

Since quite a lot of consumers want to use free services as mentioned in the aforementioned theory of free mentality, it is necessary to take one of the aspect of a free streaming service into account. The aspect that has to be taken into account is the willingness to accept advertisements (WTAA). This is an important aspect because free music streaming services generally speaking have quite a lot of advertisements placed on them. And because users are often satisfied with the free service, users may also be more willing to accept advertisements.

A music streaming company still has to earn money, so they place advertisements on their service to gain revenue. Most people these days listen to music on their smartphones and if they use a free

music streaming service, they get in touch with advertisements on that service. In that case you could speak of mobile advertising towards consumers.

An aspect of the advertisements on free music streaming services that may play a role is the acceptance level of consumers. If consumers are willing to listen to advertisements their willingness to pay might be low. The other way around if their willingness to accept advertisements is high they may not accept advertisements and are maybe willing to pay more for a music streaming service.

Little research has been done into the effects of advertisements and music streaming services. But research has been done in the field of mobile advertising and consumers' willingness to accept advertisements. Music streaming services also use mobile advertising on consumers' smartphones, as a matter of fact most people probably use their smartphone as a main product for listening to music. So research applied into the field of mobile advertising could also apply for the case of music streaming services.

In the article of Kim et al., (2017) they look at the differences between US consumers and Korean consumers in relation to music streaming services. One of the things they said in their research is that advertisement based music streaming model can be an effective tool to attract a lot of consumers. But the subscription model with monthly or yearly fees is probably more profitable (Kim et al. , 2017). They found that Korean consumers are not willing to listen to advertisements during music streaming, Korean consumers prefer a subscription model. Also US consumers showed no preference for displaying advertisements on a music streaming service, they generally had quite a high willingness to pay for the music streaming service. Often the willingness to pay was higher than the usual prices of music streaming services (Kim et al. , 2017).

In an article of Cleff (2007) privacy issues are discussed with respect to mobile advertising. The author basically says that technology can bring a lot of benefits for consumers, but there are also disadvantages. Data can easily be collected about a lot of personal information, to create personalised advertisements. This data can also be misused and privacy difficulties may occur because of the data collection. Cleff (2007) concludes with the advice that consumers should be getting some kind of control about which data they would like to share with a company.

Another research that has been done into mobile advertising is the research of Leppäniemi and Karjaluoto (2005). Their main purpose was to investigate consumers' willingness and acceptance towards mobile advertising. One of their findings was that personalized advertisements have a higher acceptance rate, people are more willing to remember these advertisements. Thus, if a consumer sees or watches a personalized advertisement he is more willing to accept the advertisement. Furthermore, they found that rewards for advertisements can enhance the consumer willingness to accept advertisements. And more attractive advertisements lead to a higher willingness to accept advertisements among consumers (Leppäniemie et al., 2005). They also found that credibility positively influences the attitude of consumers towards mobile advertising. For a music streaming company these things are quite essential to know, because it is likely that the higher the click rate of advertisements the higher the potential revenue may be.

One more research that has been done into this field is the research by Tsang, Ho, and Liang (2004). One thing that they found is that credibility of mobile advertising has a positive effect on the attitude consumers have towards mobile advertising. The main outcome of their study is that the consumers generally speaking have some negative attitudes to mobile advertisements, but if the consumer has approved the use of advertisements then he doesn't necessarily have a negative attitude towards it. Thus when the consumer chooses to opt-in, he or she basically agrees with the advertisements. Privacy issues may arise, when the advertisements require location based information. So attitude towards privacy (ATP) may have an impact on the willingness to accept advertisements Tsang et al., (2004).

The possibility to opt-out of advertisements that use privacy sensitive information could help consumers to relieve their concerns about their privacy, and could help to reduce the risk of abusing data (Nowak and Phelps, 1995). This thing of reducing risk may also help to develop a positive attitude towards advertising (Bauer, Barnes, Reichardt, and Neumann, 2005).

When applying this to the case of music streaming services, you could say that because you download and accept the terms conditions of using the application people have a higher willingness to accept advertisements. Consumers are possibly more willing to listen to advertisements because they get the reward and that reward is listening to music for "free". Willingness to accept advertisements possibly affects the use of paid and free streaming services.

When assessing the choice of the consumer when making a decision with music streaming services, you could say that a company needs to make the advertisements in a way that forces consumers to upgrade to a paid subscription. So is a high willingness to accept advertisements a good thing or a bad thing? Or should a company just send out advertisements that generate a low willingness to accept advertisements among consumers, to achieve higher paid subscriptions?

### 3. Theoretical framework

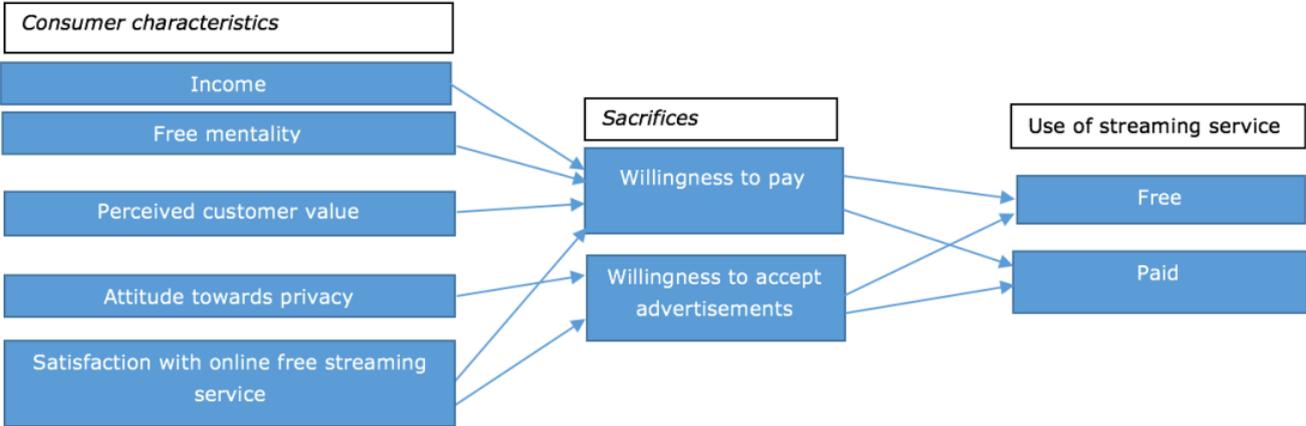


Figure 1 - Theoretical framework

## 4. Method

### 4.1 Sample

241 People have participated in the survey that was placed on the internet. Of those respondents 216 respondents are relevant for the analysis because they are users of music streaming services. The other 25 respondents are not taken into account into the rest of the results and in further analyses. The respondents were mainly male (59%), the percentage of female respondents was 32%. But for this question there was an option for respondents to not fill in this part, because of the gender neutrality issues that we have nowadays. So 9% wasn't male or female or didn't want to make clear of which gender they belong to. The respondent was on average 27 years old and the oldest respondent that participated in the survey had an age of 65.

A survey will be used, so the research method is quantitative. The main reason for the survey is to get an idea what kind of service people prefer with music streaming services. A quantitative approach to this study allows for an analysis between the different variables and can afterwards show relationships and connections.

The survey will be created with Wur Qualtrics, the question will be asked in Dutch via the internet with a web-survey, but for this report the questions are translated into English. One of the reasons that a web-survey will be used is that it is easy to create and to analyse afterwards. Also if the survey would have been distributed via paper and physically handing it out to people, it would have costed a lot of time and then a lot of paper would have to be sacrificed. The web-survey also allows for anonymity among respondents. If respondents were asked in public the anonymity would not have been guaranteed, but with this web-survey anonymity will be guaranteed.

The chosen method of data collection is convenience sampling, this a form of non-probability sampling. The survey will be put on numerous Facebook groups and will be sent out to different people using WhatsApp and other social media. This seems to be most convenient way to collect data in a short time. The target population is as follows: Dutch users of music streaming services.

There are a couple of advantages with respect to convenience sampling. One of the first advantages of convenience sampling is that it does not cost that much time compared to other sampling methods. The second advantage of convenience sampling that it has, as the name suggests, a high convenience with regard to finding the sample. It is basically easier to collect data. Also respondents can self-select if they want to participate in the survey, they are not forced to participate.

But there are of course also disadvantages with convenience sampling. One of them is that with this sampling method, you cannot represent the whole population of the Netherlands who uses music streaming services. Underrepresentation or overrepresentation of particular groups may occur. Second disadvantage of this method of data collection is that generalisation is difficult with convenience sampling. But the advantages outweigh the disadvantages of convenience sampling, so for this study convenience sampling has been applied.

## 4.2 Operationalisation

Construct and items	Sources/adapted from	Factor loadings
<b>Use of streaming service free</b> (Number of hours listening per week)	Adapted from Wlömert et al., (2016) and Papies, Eggers, and Wlömert (2011)	
<b>Use of streaming service paid</b> (Number of hours listening per week)	Adapted from Wlömert et al., (2016) and Papies et al., (2011)	
<b>Willingness to pay</b> (Amount of monthly fees in euro's)	Adapted from Handke, Balazs and Vallbé , (2016) and Papies et al., (2011)	
<b>Willingness to accept advertisements</b> (Strongly disagree to strongly agree, 1-7) Items:	Adapted from (Merisavo et al., 2007)	
<i>I feel positively about mobile advertising.</i>		0,672
<i>I am willing to receive mobile advertising Messages in the future. *(removed)</i>		0,621
<i>I would read all the mobile advertising messages I receive in the future.</i>		0,638
<b>Income</b> (Income per year measured in euro's)	Adapted from Chiang et al., (2009)	
<b>Free mentality</b> (Strongly disagree to strongly agree, 1-7) Items:	Adapted from Ching-Lin et al., (2013)	
<i>All the music should be free</i>		0,841
<i>Providing free music fits into the original purpose of the Internet (to provide free information).</i>		0,804
<i>In general, music website should provide free music.</i>		0,790
<b>Perceived (customer) value</b> (Strongly disagree to strongly agree, 1-7) Items:	Adapted from Wagner et al., (2013)	
<i>It is likely that the premium version of a music streaming service will offer many advantages.</i>		0,776
<i>It is likely that the premium version of music streaming service will perform well.</i>		0,786
<i>It is likely that the premium version of music streaming service will add much value.</i>		0,848
<b>Attitude towards privacy</b> (Strongly disagree to strongly agree, 1-7) Items:	Adapted from Chen, Leon, and Nakayama (2018) and Merisavo et al., 2007)	
<i>The privacy policy of mobile music apps regarding the use of my personal information, makes me feel the music streaming service is trustworthy.</i>		0,780
<i>The privacy policy of mobile music apps regarding the notices of personal information collection makes me feel the music streaming is trustworthy.</i>		0,826
<i>The security policy of mobile music apps makes me feel the music streaming service is trustworthy.</i>		0,677

The privacy policy of mobile music apps regarding how they will share my personal information with third parties makes me feel the music streaming service is trustworthy.		0,639
I believe a marketer would use my data only for a purpose that I have approved.		0,461
I believe that the consumer is protected by by-laws related to data privacy.		0,525
<b>Satisfaction with online free music streaming services</b> Items:	<i>Adapted from Wagner et al., (2013), Westbrook (1980)</i>	
How do you feel about free music streaming services? (Terrible, Unhappy, mostly dissatisfied, mixed, mostly satisfied, pleased, delighted)		0,699
To what extent does free music streaming services meet your needs at this time? (Extremely poorly, extremely well (1-7))		0,774

#### 4.3 Explanation of items

“Use of streaming service free” and use of streaming service paid are measured in hours because that is easier and more convenient to analyse. Respondents can use both types of music streaming service and with the chosen measuring in hours for both types, respondents can give a well-balanced answer on both questions.

“Willingness to pay” is measured in euro with seven answers possibilities. Reason for this is that in the rest of the survey there are also 7 answer possibilities, so it can be seen as a whole. The rest of the items are measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards

The items under “Willingness to accept advertisements” are measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards.

“Income” is also measured with a scale of seven options. Reason for this is that in the rest of the survey there are also 7 answer possibilities, so it can be seen as a whole.

The items under “Free mentality” are also measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards.

The items under “Perceived customer value” are measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards.

The items under “Attitude towards privacy” are also measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards.

And finally the items under “Satisfaction with online free music streaming services” are also measured with a 7 point Likert scale, because it is easy to understand, respondents can give a neutral opinion and it is easy to analyse afterwards.

#### 4.4 Outlay of the Survey

For the survey a 7 point Likert scale will mostly be used. Advantages of this Likert scale as aforementioned is that it is easy to understand for respondents, respondents can give a neutral opinion and it is easy to analyse afterwards. Disadvantages of this scale are that respondents might avoid the extreme answers and choose an answer that is more in the middle. The English layout of the survey is mentioned below.

Start with a brief welcome and explanation of the research. This will create informed consent.

- Question about music streaming services. Do you use a music streaming service? **(If yes continue to next set of questions, if no then go to end of survey)**
- Question about which music streaming services are used?
- *Which streaming services do you use for listening to music? (Make a list of services that the respondent can select)*

List of music streaming services in the Netherlands:

Spotify, Apple music, Deezer, Google play music, Soundcloud, Tidal, Napster, Juke, Amazon music, Qobuz, Youtube, Tuneln

#### Usage of music streaming services

- Use of music streaming service in number of hours per week for “Free” and “Paid”

*How much do you listen on average per week to “Free” music streaming services?*

Scale of 7,      Not      0-1 hours      1 -5 hours      5-10 hours      10-15 hours  
15-20 hours      more than 20 hours per week

*How much do you listen on average per week to “Paid” music streaming services?*

Scale of 7,      Not      0-1 hours      1 -5 hours      5-10 hours      10-15 hours  
15-20 hours      more than 20 hours per week

#### W.T.P.

- Willingness to pay in euros, with 7 scales

What would you be willing to pay for a music streaming service per month?

0-2,50 euro      2,50-5 euro      5-7,50 euro      7,50-10 euro      10-12,50 euro  
12,50-15 euro      15-17,50 euro

## **W.T.A.A.**

- Willingness to accept advertisements, measured with a 7-point scale
- *I feel positively about mobile advertising*
- *I am willing to receive mobile advertising messages in the future (\*removed)*
- *I would read all the mobile advertising messages I receive in the future*
- *(Strongly disagree to strongly agree, 1-7)*

## **Satisfaction online free service**

- Satisfaction with online free service, measured with a 7-point scale
- *How do you feel about free music streaming services?*

*(Terrible, Unhappy, mostly dissatisfied, mixed, mostly satisfied, pleased, delighted)*

- *To what extent does free music streaming services meet your needs at this time?*

*(Extremely poorly, extremely well (1-7))*

## **Attitude towards privacy**

- Attitude towards privacy, measured with a 7-point scale
- *The privacy policy of mobile music apps regarding the use of my personal information, makes me feel the music streaming service is trustworthy.*
- *The privacy policy of mobile music apps regarding the notices of personal information collection makes me feel the music streaming is trustworthy.*
- *The security policy of mobile music apps makes me feel the music streaming service is trustworthy.*
- *The privacy policy of mobile music apps regarding how they will share my personal information with third parties makes me feel the music streaming service is trustworthy.*
- *I believe a marketer would use my data only for a purpose that I have approved.*
- *I believe that the consumer is protected by by-laws related to data privacy.*

*(Strongly disagree, strongly agree (1-7))*

## **Perceived customer value**

- Perceived importance of features, measured with a 7-point scale (importance levels)

It is likely that the premium version of *music streaming service* will offer many advantages.

It is likely that the premium version of *music streaming service* will perform well.

It is likely that the premium version of *music streaming service* will add much value.

*(Strongly disagree, strongly agree (1-7))*

### Free mentality

- Free mentality, measured with a 7-point scale

*For fee-based online music, I think ...*

- All these music should be free
- *Providing free music fits into the original purpose of the Internet (to provide free information)*
- *In general, music website should provide free music.*
- *(Strongly disagree, strongly agree (1-7))*

### Demographic questions

- Question about gender (option male, female)
- Question about age (select an age)

### Income

- Yearly level of income, measured with a 7-point scale

*What is your yearly income?*

0-10.000 euro, 10.000-20.000 euro, 20.000-30.000 euro, 30.000-40.000 euro, 40.000-50.000 euro, more than 50.000 euro per year, and an option "does not apply"

- Remarks, questions part

*Thank you for your time, your response is recorded.*

## 4.5 Analysis

First the data will be analysed using descriptive statistics and data figures. This gives a convenient overview of the data. Secondly the data will be analysed using a regression analysis, to explain the relationships between the different variables. The type of regression that will be used is multiple regression, because there are several predictors and there are dependent variables. According to the theoretical framework, "consumer characteristics" determine the "sacrifices" and the "sacrifices" determine "use of free and paid music streaming service". In the first case the dependent variable is WTP and is determined by income, free mentality, perceived customer value and satisfaction with online free services. In the second case the dependent variable is WTAA and is determined by Attitude towards privacy and satisfaction with online free services. In the third case the dependent variable is use of Free music streaming services and is determined by the independent variables WTP and WTAA. In the fourth case the dependent variable is use of Paid music streaming services and is determined by the independent variables WTP and WTAA.

## 5. Results

### 5.1 Descriptive statistics

These days there are many offerings and brands of music streaming services. Figure 2 illustrates what kind of music streaming service people are mostly using. We can see here that people are mostly using the music streaming services of Spotify and YouTube. These are the most common brands in the industry and have a lot of customers in the market already. Currently Spotify has around 170 million monthly users of this includes paid and non-paid users (Spotify, 2018). YouTube currently has more than a billion users (Youtube, 2018).

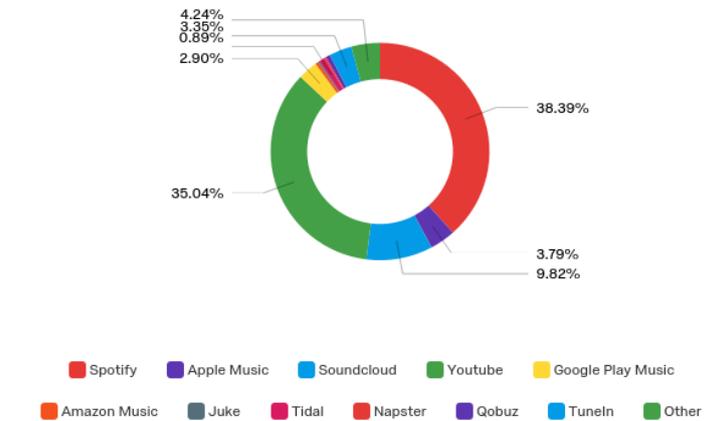


Figure 2 - Music streaming services

The competitors are trying to gain market share, but they are still struggling as you can see in figure 2.

Another insight is about the use of free music streaming services. The next figure shows how much people are listening on average per week to free music streaming services. The biggest group of people were on average listening to free music streaming services for about 1-5 hours per week. Also a lot of people were not listening to free services, because they probably already have a paid subscription.

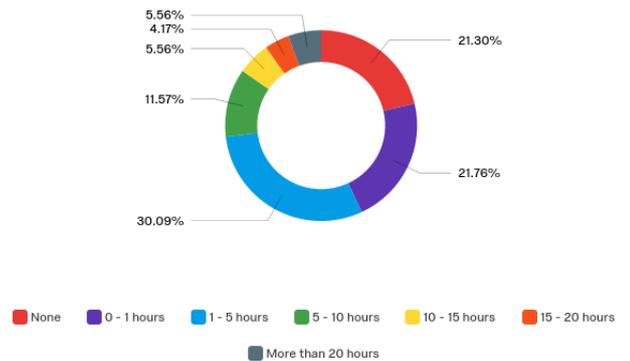


Figure 3 - Free usage per week

The next interesting insight that is connected to the previous figure is about how much people are on average listening to paid music streaming services per week. A lot of people were not listening to paid music streaming services, this is probably due to the simple reason that they are not subscribed to paid service. The biggest group of people were on average listening to paid music streaming services for around 5-10 hours per week.

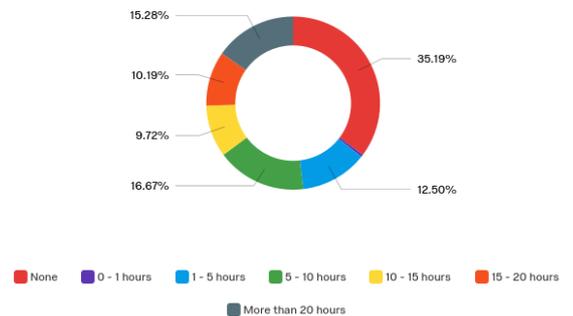


Figure 4 - Paid usage per week

One of the main results is about the willingness to pay of consumers. Figure 4 illustrates how much people are willing to pay for a music streaming service. Most people are willing to pay between 7,50-10,00 euros per month. This corresponds to most monthly subscription prices of paid music streaming services nowadays. For example, for Spotify premium you pay 9,99 per month (Spotify, 2018).

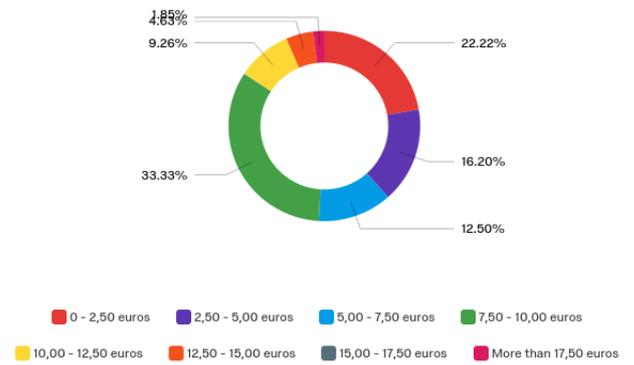


Figure 5 - Willingness to pay per month

Table 1- Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Income	216	1	7	3,19	2,379
Free mentality	216	1,00	7,00	3,1343	1,57532
Perceived Customer Value	216	1,00	7,00	5,5000	1,10203
Attitude towards privacy	216	1,00	6,50	3,9051	1,10536
Satisfaction with online free music streaming services	216	1,00	7,00	4,7384	1,18119
Willingness to pay	216	1	8	3,14	1,620
Willingness to accept advertisements	216	1,00	7,00	1,8102	,96742
Number or hours listening to free music	216	1	7	2,93	1,637
Number of hours listening to paid music	216	1	7	3,57	2,242

## 5.2 Measurements

Table 2 - Cronbach's alpha

	Number of items	Cronbach's alpha
Willingness to accept advertisements	2	0,507
Satisfaction with online free services	2	0,806
Attitude towards privacy	6	0,872
Perceived customer value	3	0,894
Free mentality	3	0,897

Next a Cronbach's analysis was conducted to test the items of the survey (see appendix) and the output of this analysis showed no strong deviations, because all the values were above 0,5. The strongest value was for Free Mentality and the weakest value of them was Willingness to accept advertisements. A Cronbach's alpha of 0,7 is considered pretty good, so most of them comply with this. Only the first one seems to be a bit low (0,507), but this is still acceptable when considered that it is an important aspect in the theoretical framework.

For further analysis of the questionnaire data a factor analysis was one of the first things that was performed. This factor analysis was done to check if all the variables load on the right factors. The analysis was done by extracting 2 factors each time. First an analysis with Varimax rotation was done and after that an analysis with Oblimin rotation was done. With Varimax you assume that the variables are uncorrelated whereas with Oblimin you assume that they are correlated. For a first analysis it is always a good idea to start with Varimax and if there are problems then you can check if they also occur with another method of rotation. With Oblimin you also have the option to change the level of correlation with delta. However, for this research the delta was untouched. Almost all the items seemed to load on the right factor, but there was one variable that kept loading on the wrong factor. This was item 2 of Willingness to accept advertisements (WTAA). When taking a look at the factor analyses this item was doing weird a couple of times, both with Varimax rotation and Oblimin rotation (See appendix a). The item was loading quite high on the wrong construct a couple of times and therefore it is decided that this item should be deleted. This leaves us with item 1 and 3 for Willingness to accept advertisements (WTAA). The rest of the items were all taken into account into the rest of the analyses.

Table 3 - Correlations

Correlations (N=216)									
	Income	Free mentality	Perceived Customer Value	Attitude towards privacy	Satisfaction	Willingness to pay	Willingness to accept advertisements	Number of hours listening to free music streaming services	Number of hours listening to paid music streaming services
Income	1	-0,102	-0,133	-0,061*	-0,023	0,123	-0,068	-0,101	0,131
Free mentality	-0,102	1	-0,331**	-0,060	0,401**	-0,468**	0,009	0,392**	-0,367**
Perceived Customer Value	-0,133	-0,331**	1	0,471**	-0,190**	0,375**	0,085	-0,203**	0,413**
Attitude towards privacy	-0,161*	-0,060	0,471**	1	0,043	0,079	0,247**	-0,066	0,169*
Satisfaction with online free music streaming services	-0,023	0,401**	-0,190**	0,043	1	-0,429**	0,065	0,455**	-0,405**
Willingness to pay	0,123	-0,468**	0,375**	0,079	-0,429**	1	0,046	-0,279**	0,521**
Willingness to accept advertisements	-0,068	0,009	0,085	0,247**	0,065	0,046	1	0,093	-0,080
Number of hours listening to free music streaming services	-0,101	0,392**	-0,203**	-0,066	0,455**	-0,279**	0,093	1	-0,367**
Number of hours listening to paid music streaming services	0,131	-0,367**	0,413**	0,169*	-0,405**	0,521**	-0,080	-0,367**	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

### 5.3 Hypothesis testing

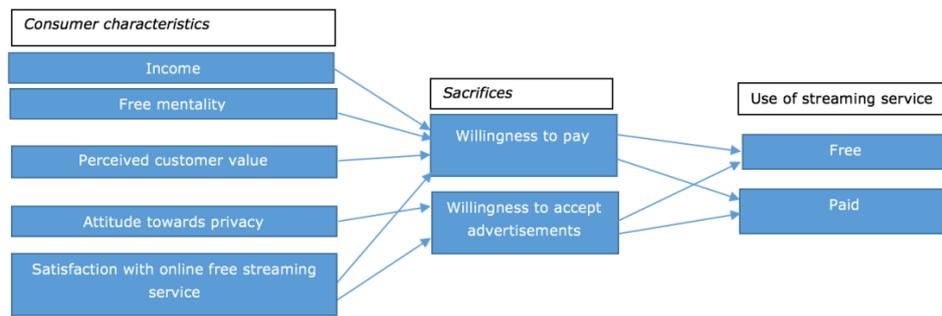


Figure 6 - Theoretical framework

After this factor analysis, multiple regression was performed to learn more about the relationship(s) between the independent variables and the dependent variables in the model. The relationships are shown above in figure 6 for clarification. For multiple regression the same assumptions apply as for simple regression. These assumptions are no multicollinearity, homoscedasticity, normality and independence of residuals (Aljandali, 2017).

The multicollinearity is tested using the tolerance and the VIF. For Homoscedasticity a graph was made between ZSRESID and ZPRED. Normality was tested using a normal probability plot. The independence of residuals was tested using the Durbin Watson test.

The VIF showed values around 1, so there was no reason for concern. The tolerances aren't too low either, because they are all well above 0,1 (See appendix b). The plots for testing homoscedasticity looked also quite good, because there were no significant relationships to be seen in the plots. The normal probability plots looked also fine, but the plot with dependent variable WTAA seemed to deviate a little from the straight line (See appendix d). The independence of residuals condition was also satisfied because the values of the Durbin Watson test were all between the critical values of 1,5 and 2,5 (See appendix c).

The outcomes of the multiple regression can be found on the following pages. It was decided to use the standardized beta coefficient because there were different kind of measures in this research. For example, income is something that is measured in Euro's and use of music streaming services (Free/Paid) is measured in hours. With the standardized beta coefficient, you will get better interpretation of the results and then it is possible to compare effects across different kinds of measures. And adjusted R-Square was used to see how much variation would be explained by the model. R-Square could have also been used, but adjusted R-Square gives the variation while taking only the independent variables that have an effect on the dependent variable into account.

The overall regression model for the dependent variable "Willingness to pay" and the predictors (Income, Free mentality, Perceived Customer Value, Attitude towards privacy, Satisfaction with online free music streaming services) was significant at an alpha of 0,05  $F(5, 210)=22,636$  ,  $p<0,000$  and adjusted R Square =0,335. The predictors are thus able to account for a significant amount of variance in "Willingness to pay". The results for "Willingness to pay" are: Income  $\beta = 0,121$

( $p=0,035$ ), Free mentality  $\beta = -0,261$  ( $p=0,000$ ), Perceived Customer value  $\beta = 0,268$  ( $p=0,00$ ), Attitude towards privacy  $\beta = -0,032$  ( $p=0,617$ ) and Satisfaction with online free music streaming services  $\beta = -0,269$  ( $p=0,000$ ). ATP is the only one that is not significant, the rest of the predictors are significant for Willingness to Pay. Thus the more income an individual has the more he is willing to pay for a music streaming service. And the relationship with Free mentality indicates that the more an individual thinks that online music should be free, the less the individual is willing to pay for an music streaming service. Perceived customer value had a positive relationship with WTP, this means that the more an individual thinks that a premium (paid) version of a music streaming service offers many benefits, the more this individual is willing to pay for a music streaming service. Satisfaction with online free music streaming services had a negative relationship with WTP, this indicates that if a person is satisfied with the existing online free music streaming services, he is less willing to pay for a music streaming service.

The second regression model for the dependent variable “Willingness to accept advertisements” and the predictors (Income, Free mentality, Perceived Customer Value, Attitude towards privacy, Satisfaction with online free music streaming services) was significant at an alpha of 0,05  $F(5,210)=2,949$ ,  $p=0,014$  and adjusted R Square= 0,043. The predictors are thus able to account for a significant amount of variance in “Willingness to accept advertisements”. The results for “Willingness to accept advertisements” are: Income  $\beta = -0,031$  ( $p=0,655$ ), Free mentality  $\beta = -0,011$  ( $p=0,889$ ), Perceived Customer value  $\beta = -0,033$  ( $p=0,687$ ), Attitude towards privacy  $\beta = 0,255$  ( $p=0,001$ ) and Satisfaction with online free music streaming services  $\beta = 0,052$  ( $p=0,483$ ). ATP is the only predictor that is significant. Thus people who are generally positive about the privacy of music streaming services also are more willing to accept advertisements on the free music streaming services.

The third regression model for the dependent variable “Number of hours Listening to free music streaming services” and the predictors Willingness to pay and Willingness to accept advertisements was significant at an alpha of 0,05  $F(2,213)=10,378$ ,  $p=0,000$  and adjusted R Square = 0,080. The predictors are thus able to account for a significant amount of variance in “Number of hours Listening to free music streaming services”. The results for “Number of hours Listening to free music streaming services” are: Willingness to pay  $\beta = -0,283$  ( $p=0,000$ ) and Willingness to accept advertisements  $\beta = 0,106$  ( $p=0,107$ ). WTAA is not significant in this case and thus Willingness to pay is the only significant predictor. The negative relationship with WTP indicates that the more people are willing to pay for a music streaming service, the less people are listening to free music streaming services.

The fourth regression model for the dependent variable “Number of hours Listening to paid music streaming services” and the predictors Willingness to pay and Willingness to accept advertisements was significant at an alpha of 0,05  $F(2,213)=41,959$ ,  $p=0,000$  and adjusted R Square =0,276. The predictors are thus able to account for a significant amount of variance in “Number of hours Listening to paid music streaming services”. The results for “Number of hours Listening to paid music streaming services” are: Willingness to pay  $\beta = 0,526$  ( $p=0,000$ ) and Willingness to accept advertisements  $\beta = -0,104$  ( $p=0,076$ ). WTAA is again not significant in this case and thus is Willingness to pay the only significant predictor. The positive relationship between WTP and “Number of hours

listening to paid music streaming services” indicates that the more people are willing to pay for a music streaming service, the more they are listening per week to paid music streaming services.

*Table 4.1 - Multiple regression*

Dependent variable: Willingness to pay

Parameter	Standardized Beta coefficient	t	Significance
Constant		4,847	0,000
Income	0,121	2,121	0,035
Free mentality	-0,261	-4,070	0,000
Perceived customer value	0,268	3,947	0,000
Attitude towards privacy	-0,032	-0,500	0,617
Satisfaction with online free services	-0,269	-4,381	0,000

*Table 4.2 - Multiple regression*

Dependent variable: Willingness to accept advertisements

Parameter	Standardized Beta coefficient	t	Significance
Constant		1,862	0,064
Income	-0,031	-0,448	0,655
Free mentality	-0,011	-0,140	0,889
Perceived customer value	-0,033	-0,403	0,687
Attitude towards privacy	0,255	3,309	0,001
Satisfaction with online free services	0,052	0,703	0,483

*Table 4.3 - Multiple regression*

Dependent variable: Number of hours listening to free music streaming services

Parameter	Standardized Beta coefficient	t	Significance
Constant		11,621	0,000
Willingness to pay	-0,283	-4,328	0,000
Willingness to accept advertisements	0,106	1,618	0,107

Table 4.4 - Multiple regression

Dependent variable: Number of hours listening to paid music streaming services

Parameter	Standardized Beta coefficient	t	Significance
Constant		4,678	0,000
Willingness to pay	0,526	9,057	0,000
Willingness to accept advertisements	-0,104	-1,785	0,076

Table 4.5 - Multiple regression

Dependent variable: Number of hours listening to free music streaming services

Parameter	Standardized Beta coefficient	t	Significance
Constant		0,992	0,322
Income	-0,085	-1,414	0,159
Free mentality	0,221	3,257	0,001
Perceived customer value	-0,045	-0,623	0,534
Attitude towards privacy	-0,060	-0,888	0,376
Satisfaction with online free services	0,358	5,516	0,000

Table 4.6 - Multiple regression

Dependent variable: Number of hours listening to free music streaming services

	Standardized Beta coefficient	t	Significance
Constant		0,729	0,467
Income	-0,084	-1,372	0,172
Free mentality	0,224	3,180	0,002
Perceived customer value	-0,044	-0,593	0,554
Attitude towards privacy	-0,082	-1,173	0,242
Satisfaction with online free services	0,356	5,236	0,000
Willingness to pay	0,009	0,116	0,908
Willingness to accept advertisements	0,086	1,404	0,162

Table 4.7 - Multiple regression

Dependent variable: Number of hours listening to paid music streaming services

	Standardized Beta coefficient	t	Significance
Constant		2,356	0,019
Income	0,161	2,769	0,006
Free mentality	-0,126	-1,928	0,055
Perceived customer value	0,311	4,489	0,000
Attitude towards privacy	0,053	0,805	0,421
Satisfaction with online free services	-0,294	-4,700	0,000

Table 4.8 - Multiple regression

Dependent variable: Number of hours listening to paid music streaming services

	Standardized Beta coefficient	t	Significance
Constant		1,117	0,265
Income	0,120	2,144	0,033
Free mentality	-0,046	-0,713	0,477
Perceived customer value	0,224	3,275	0,001
Attitude towards privacy	0,092	1,435	0,153
Satisfaction with online free services	-0,204	-3,284	0,001
Willingness to pay	-0,114	-2,034	0,043
Willingness to accept advertisements	0,311	4,641	0,000

## 5.4 Mediation analysis

We also looked at the results to see if there would be mediation. Mediation occurs when a variable affects a second variable and that second variable affects a third variable. For full mediation the mediator should be able to fully convey the effect to the dependent variable, if the first variable still has an effect on the dependent variable and the second variable has an effect then there is partial mediation. Baron and Kenny (1986) developed an approach with 4 steps which you can test for mediation. Often the independent variable is called

X, the “possible mediator” is called M and the dependent variable is called Y. The first step to check is whether X determines Y, the second step is to check if X determines M, then thirdly check if M determines Y and if that is also the case you check X+M determines Y. X should be non-significant and M should be significant to have full

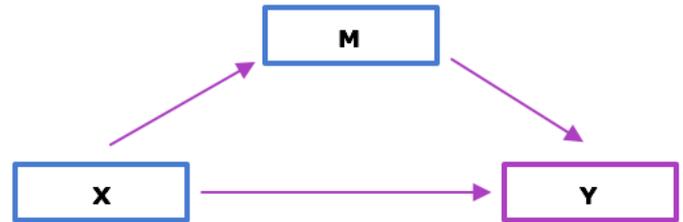


Figure 7 - Mediation

mediation. X in this case is often left in a model, Y is in the “middle” and Y is often on the right side of a model. The output to see if there the relationships are significant can be found above in table 4.1-4.7. There are 4 cases where mediation could occur, these are:

### Case 1:

**X**



**Y**

*Income (p=0,159)*

***Free mentality (p=0,001)***

*Perceived customer value (p=0,534)*

*Attitude towards privacy (p=0,376)*

***Satisfaction with online (p=0,000)***

*free music streaming service*

*Use of free music streaming services*

***Use of free music streaming services***

*Use of free music streaming services*

*Use of free music streaming services*

***Use of free music streaming services***

**X**



**M**

*Free mentality (p=0,000)*

*Satisfaction with online (p=0,000)*

*Free music streaming services*

*Willingness to pay*

*Willingness to pay*

**M**



**Y**

*Willingness to pay (p=0,000)*

*Use of free music streaming services*

X + M → Y  
*Free mentality (p=0,002) WTP (P=0,908) Use of free music streaming services*  
*(no mediation, because X is significant and WTP is not significant)*

*Satisfaction (p=0,000) WTP (P=0,908) Use of free music streaming services*  
*(No mediation, because X is significant and WTP is not significant)*

**Case 2:**

X → Y  
**Income (p=0,006)** **Use of paid music streaming services**  
*Free mentality (p=0,055) Use of paid music streaming services*  
**Perceived customer value (p=0,000)** **Use of paid music streaming services**  
*Attitude towards privacy (p=0,421) Use of paid music streaming services*  
**Satisfaction with online (p=0,000)** **Use of paid music streaming services**  
**free music streaming service**

X → M  
*Income (p=0,035) Willingness to pay*  
*Perceived customer value (p=0,000) Willingness to pay*  
*Satisfaction with online (p=0,000) Willingness to pay*  
*Free music streaming services*

M → Y  
*Willingness to pay (p=0,000) Use of paid music streaming services*

X + M → Y  
*Income (p=0,033) WTP(p=0,000) Use of paid music streaming services*  
**(both are significant, partial mediation)**

*Perceived customer value (p=0,001) WTP (p=0,000) Use of paid music streaming services*  
**(both are significant, partial mediation)**

*Satisfaction (p=0,001) WTP (p=0,000) Use of paid music streaming services*  
**(both are significant, partial mediation)**

**Case 3:**

X → Y  
*Income (p=0,159) Use of free music streaming services*  
**Free mentality (p=0,001)** **Use of free music streaming services**  
*Perceived customer value (p=0,534) Use of free music streaming services*  
*Attitude towards privacy (p=0,376) Use of free music streaming services*  
**Satisfaction with online (p=0,000)** **Use of free music streaming services**  
**free music streaming service**

**M**  **Y**  
*Willingness to accept advertisements (P=0,107)*      *Use of free music streaming services*  
*So no need to go further because relationship between M and Y is not significant (no mediation).*

**Case 4:**

**X**  **Y**

<i><b>Income (P=0,006)</b></i>	<i><b>Use of paid music streaming services</b></i>
<i>Free mentality (P=0,055)</i>	<i>Use of paid music streaming services</i>
<i><b>Perceived customer value (P=0,000)</b></i>	<i><b>Use of paid music streaming services</b></i>
<i>Attitude towards privacy (P=0,421)</i>	<i>Use of paid music streaming services</i>
<i><b>Satisfaction with online (P=0,000)</b></i>	<i><b>Use of paid music streaming services</b></i>
<i>free music streaming service</i>	

**M**  **Y**  
*Willingness to accept advertisements (P=0,076)*      *Use of paid music streaming services*  
*So no need to go further because relationship between M and Y is not significant (no mediation).*

From the results it appeared that none of the variables had full mediation, only partial mediation occurred. The variable Income ( $p=0,033$ ) and Willingness to pay ( $p=0,043$ ) were both significant when predicting Use of paid music streaming services. This means that partial mediation occurs, because the mediator cannot fully predict the dependent variable Use of paid music streaming services on its own. Beta's in this case are Income  $\beta =0,120$  and WTP  $\beta =-0,114$ .

In the case of Perceived customer value ( $p=0,001$ ) with Willingness to pay ( $p=0,043$ ) and Use of paid music streaming services, partial mediation also occurred. Thus the mediator Willingness to pay cannot fully predict the Use of paid music streaming services. Beta for Perceived customer value in this case is  $\beta =0,224$  and for Willingness to pay  $\beta =-0,114$ .

The last case where partial mediation was found is Satisfaction with online free music streaming services ( $p=0,001$ ) with Willingness to pay ( $p=0,043$ ) and Use of paid music streaming services. Again the mediator Willingness to pay cannot fully predict the Use of paid music streaming services, it “needs” the variable satisfaction with online free music streaming services. The beta in this case for Satisfaction with online free music streaming services is  $\beta =-0,204$  and for Willingness to pay  $\beta =-0,114$ .

## 6. Discussion

The outcomes related to the first part of the theoretical framework were overall in line with what we expected. We saw however that Attitude towards privacy did not have a significant relationship with Willingness to pay. Attitude towards privacy however also wasn't part of the relationships in the theoretical framework, so theoretically this relationship does also not exist. The predictor however was put in the regression model simply to see if it would have a significant relationship.

The second part of the theoretical framework was about the dependent variable Willingness to accept advertisements. It appeared that only Attitude towards privacy had a significant relationship. According to the theoretical framework Satisfaction with online free music streaming services should also have a relationship with Willingness to accept advertisements. But the relationship was found to be not significant.

The other part of the framework was about the the dependent variable "Number of hours listening to free music streaming services". The predictor that was significant in this case was Willingness to pay and it had a negative relationship with the use of free music streaming services. According to the theoretical framework Willingness to accept advertisements should also have an effect because advertisements are specifically on the free version of a music streaming service. But unfortunately this relationship turned out to be insignificant.

The last part of the theoretical framework was about the dependent variable "Number of hours listening to paid music streaming services". Again the only significant predictor was Willingness to pay which now had a positive relationship with "Number of hours listening to paid music streaming services". This is again not what we expected because in the theoretical framework we assumed that both WTP and WTAA would have an effect on Number of hours listening to paid music.

During the analysis of the results it was clear that the variable Willingness to accept advertisements wasn't the best part of the theoretical framework. Only one predictor (Attitude towards privacy) was able to explain some variance of WTAA. And WTAA itself could not explain the dependent variables "number of hours listening to free music streaming services" and "number of hours listening to paid music streaming services". The second item was deleted of WTAA but if this second item was taken into account, then it would not have created better results.

Mainly young people participated in the survey which makes it difficult to generalise the results to the whole population of the Netherlands. In an ultimate situation you would have a really large sample with respondents with totally different demographic profiles. Also the research has been conducted in the Netherlands among Dutch speaking people and therefore it can also not be generalised to outside the Netherlands.

In this study the features that offer value were not thoroughly examined. Further research could be done into this area, but this research will be challenging because companies keep innovating and the features of music streaming services keep changing.

## 7. Conclusion

There seemed to be not one type of streaming service that consumers particularly choose, lots of people use a combination of both a free and a paid version of a music streaming service. The determining factor for the amount of hours that people listen per week to music streaming services appeared to be the Willingness to pay, both for the free version and paid version of music streaming services. Willingness to accept advertisements did not have an effect on the use of streaming services both for the free and paid version.

Respondents who do choose for a paid streaming service tend to listen more hours per week to music. And the Willingness to pay for most consumers lays between 7,50 euros and 10,00 euros per month for a paid subscription. Determining factors that positively influence the Willingness to pay are Income and Perceived customer value. The factors that negatively influence the Willingness to pay are Free mentality and Satisfaction with online free music streaming services.

So what about the free services? In this research we also looked at the Willingness to accept advertisements because advertisements generally occur on free music streaming services. Determining factor for this willingness to accept advertisements is the attitude that people have towards privacy. People who trust music streaming services and trust that their privacy is in the rights hands, are also more likely to accept advertisements on the service.

But can a company make a choice between the two types of music streaming services? Well this answer is quite difficult. Even if a company offers a paid subscription model it has difficulties to make profit. For example, Spotify, the biggest streaming service, still hasn't succeeded in making profit while they have a lot of paying customers (Statista, 2018). We think that a company can optimally perform if they choose to offer only a paid music subscription.

## 8. Implications

There is a broad range of services available on the music streaming market, this makes it difficult for a consumer to choose one. Rivalry among firms will mainly be about the paid version and specifically perceived customer value, so what can a company add to make their service more appealing to the consumer? Music streaming companies should try to keep their fee around 7,50 to 10,00 euros per month to have the highest amount of customers. The difference between the features offered for free and paid (premium) offers is still not enough for a lot of consumers to switch fully to paid music streaming services. Companies will have to keep innovating in new and interesting features to offer enough value for their customers and potential new customers. They really need to convince consumers that their service is the best if they want to increase market share. Thus companies should actively invest in the features of their paid services.

Free mentality is also an aspect that needs to be taken serious by music streaming services because we saw that it negatively influences the Willingness to pay of consumers. Companies could invest in marketing campaigns about the fact that paying for music is normal for example and that you support your favourite artist by listening to paid music. Such campaigns may lower the Free mentality among consumers and increase the Willingness to pay of consumers.

Also the results suggested that satisfaction with online free music streaming services negatively influences the Willingness to pay. Companies could try to stop entirely with the free version of some music streaming services. Hereby they “force” consumers to get a subscription to one of the many paid services. They could still keep the free try out period of a month or a couple of months to convince their customers that it’s worth paying for. But again this will impose a risk for music streaming companies. If company A stops with offering a free version of their service while company B keeps offering a free version, customers may go to the company B and company A loses customers in that case. Another risk is that consumers may start downloading music illegally again and this may harm the music industry.

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## 10. Appendix

### a. Factor analyses

#### Factor analysis (extract two factors) (Varimax)

##### Willingness to accept advertisements

*Willingness to accept advertisements (WTAA) with satisfaction with online free services*, there seems to be a problem that the second item of WTAA seems to also load on the satisfaction with online free services. Possible solution would be to delete this second item.

	Component 1	Component 2	Rotated component 1	Rotated component 2
Item 1 WTAA	0,421	<b>0,664</b>	0,014	<b>0,786</b>
Item 2 WTAA	<b>0,775</b>	0,174	<b>0,571</b>	0,553
Item 3 WTAA	0,425	<b>0,693</b>	0,002	<b>0,813</b>
Item 1 Satisfaction	<b>0,782</b>	-0,419	<b>0,886</b>	0,050
Item 2 satisfaction	<b>0,747</b>	-0,511	<b>0,904</b>	-0,046

##### Free mentality

*Free mentality (FM) with Willingness to accept advertisements (WTAA)*, this seems to cause no problems. Only thing to see is that item 2 of WTAA again is a little bit high with component 1.

	Component 1	Component 2	Rotated component 1	Rotated component 2
Item 1 FM	<b>0,898</b>	-0,213	<b>0,922</b>	0,038
Item 2 FM	<b>0,875</b>	-0,146	<b>0,882</b>	0,096
Item 3 FM	<b>0,883</b>	-0,221	<b>0,910</b>	0,026
Item 1 WTAA	0,056	<b>0,794</b>	-0,160	<b>0,780</b>
Item 2 WTAA	0,487	<b>0,563</b>	0,317	<b>0,673</b>
Item 3 WTAA	0,268	<b>0,727</b>	0,062	<b>0,772</b>

#### Factor analysis (extract 2 factors, Oblimin)

##### Willingness to accept advertisements

*Willingness to accept advertisements (WTAA) with satisfaction with online free services*  
Item 2 still loads on different factor, both with pattern and structure matrix.

	Component 1	Component 2	Pattern 1	Pattern 2	Structure 1	Structure 2
Item 1 WTAA	0,421	<b>0,664</b>	-,049	<b>0,792</b>	0,076	<b>0,785</b>
Item 2 WTAA	<b>0,775</b>	0,174	<b>0,532</b>	0,512	<b>0,613</b>	0,596
Item 3 WTAA	0,425	<b>0,693</b>	-0,063	<b>0,820</b>	0,066	<b>0,811</b>
Item 1 Satisfaction	<b>0,782</b>	-0,419	<b>0,890</b>	-0,020	<b>0,887</b>	0,120
Item 2 satisfaction	<b>0,747</b>	-0,511	<b>0,916</b>	-0,119	<b>0,898</b>	0,025

b. Multicollinearity test (tolerance and VIF)

	<b>Tolerance</b>	<b>VIF</b>
Income	0,949	1,054
Free mentality	0,753	1,328
Perceived customer value	0,669	1,495
Attitude towards privacy	0,749	1,335
Satisfaction with online free music streaming services	0,823	1,215
Willingness to pay	0,998	1,002
Willingness to accept advertisements	0,998	1,002

c. Independence of residuals

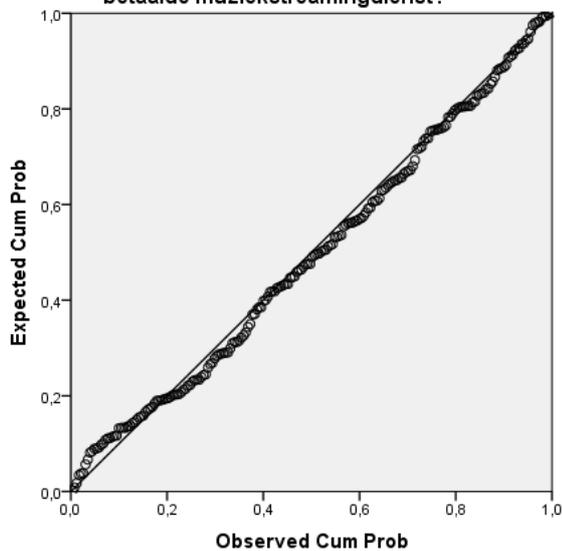
<b>Dependent variable</b>	<b>Durbin-Watson</b>
Willingness to pay	1,933
Willingness to accept advertisements	2,050
Use of free music streaming services	1,957
Use of paid music streaming services	1,922

d. Normality + Homoscedasticity

**Dependent variable: Willingness to Pay**

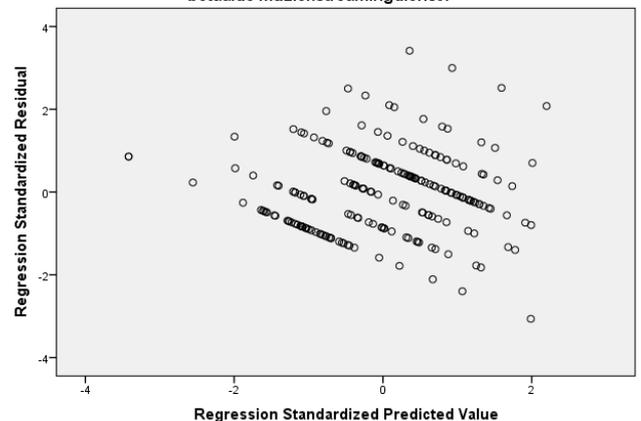
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Wat bent u bereid om maandelijks te betalen aan een betaalde muziekstreamingdienst?



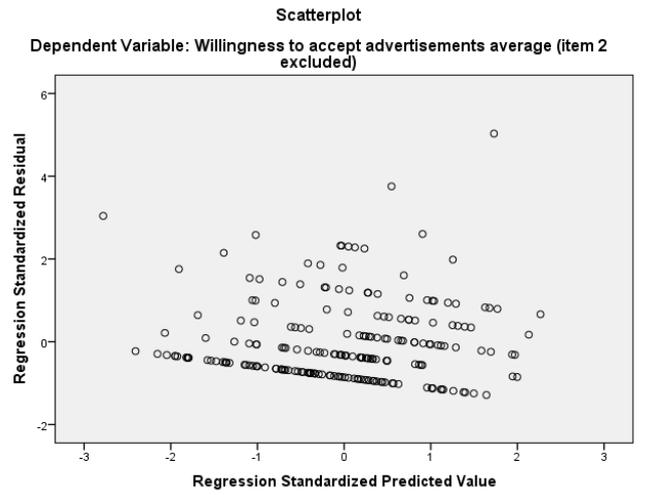
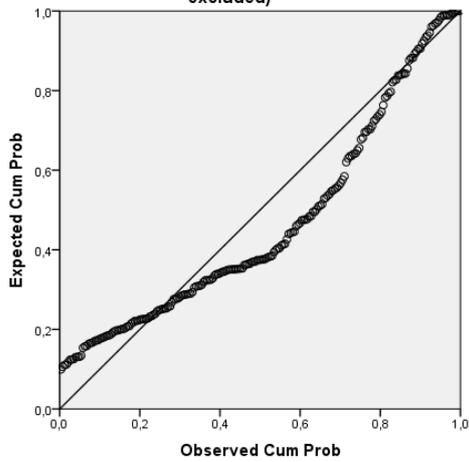
Scatterplot

Dependent Variable: Wat bent u bereid om maandelijks te betalen aan een betaalde muziekstreamingdienst?



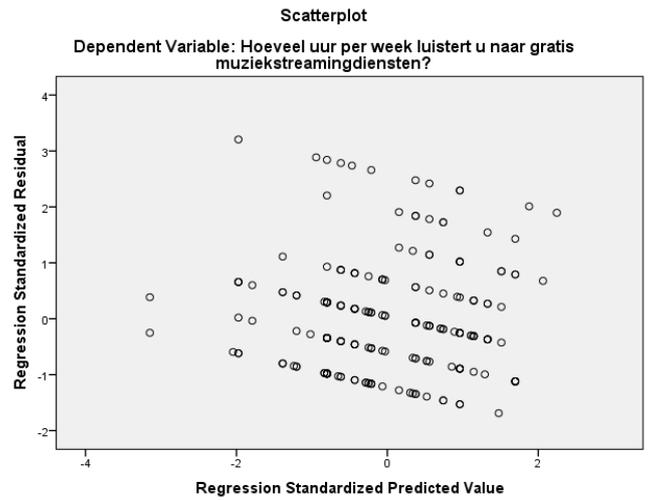
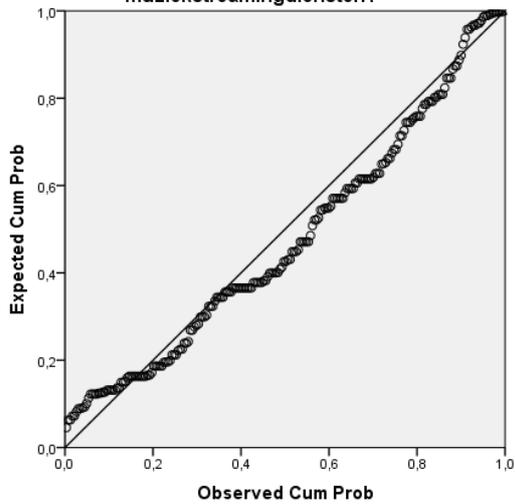
## Dependent variable: Willingness to accept advertisements

Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: Willingness to accept advertisements average (item 2 excluded)



## Dependent variable: hours of listening to free music

Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: Hoeveel uur per week luistert u naar gratis muziekstreamingdiensten?



**Dependent variable: hours of listening to paid music**

**Normal P-P Plot of Regression Standardized Residual**  
Dependent Variable: Hoeveel uur per week luistert u naar betaalde muziekstreamingdiensten?

