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Research Topic

What role do streaming platforms play in affecting popularity of songs?

Bachelor Thesis

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Table of Content

Table of Content	2
Declaration of Authorship	3
Abstract	4
Chapter 1: Introduction	5
Chapter 2: Literature Review	7
Chapter 3: Methodology	122
Chapter 4: Findings	166
Chapter 5: Summary, Conclusions, and Recommendations	233
References	26
Appendices	278
Appendix I. Interview questions	288
Appendix II. List of the companies	289
Appendix III. Interviews	30

Declaration of Authorship

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Date: 28.05.2020

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Abstract

The creation of smartphones, mobile applications and smart tvs has led us into an era of streaming services. Downloading songs and buying CDs has gone into the past. This has changed the music industry forever, nowadays the users consume content through platforms like YouTube, Spotify and Apple Music. According to Spotify's financial statement for 2020, the platform had 271 million monthly active users by the end of 2019, 124 million of which were premium subscribers which means that they pay monthly subscription fee. For many individuals who operate in the music industry it is important to understand how exactly streaming platforms affect popularity, discovery and consumption of songs. This study will answer the question of "What role do streaming platforms play in affecting popularity of songs?". Relevant literature has been analysed and presented in this work. That includes existing studies on the topic of effects of Spotify on music consumption, discovery, revenue generation and internet piracy. Studies that analyse other factors that affect popularity of songs have been presented, those studies include effects of social influence, familiarity, voice quality and involuntary musical imagery. This thesis presents original research that consists of the interviews of a variety of music streaming platforms on the topic of playlist creation since from the literature review it is evident that playlists have a significant impact on songs in terms of revenue and plays. Important findings have been discovered in the process of that research. It has been discovered that most of the platforms form their playlists based on what is played the most on the platform. Even though streaming platforms do not have the influence to decide which songs will become popular and which do not, they can significantly boost revenue generation for already popular songs and facilitate discovery for the unpopular ones if they are on the platform. However there were also exceptions discovered during the study which are platforms that use different methods for playlist creation that include usage of machine learnings and advice from record labels. That suggests that further studies are needed in order to develop the understanding of playlist creation.

Chapter 1: Introduction

Because of the advancements in the technologies the music industry has experienced major changes in the discovery and consumption of the products as well as consumer behaviour in general. By 2020 most of the consumers have already switched from downloading songs and buying CDs to using streaming platforms such as YouTube and Spotify. The debate of how music streaming platforms affect the industry and the artists has been a topic of discussion since 2014 when Taylor Swift pulled all of her songs off Spotify thus making a statement against the streaming platform suggesting that it affects the musicians negatively as Tunison (2018) explains. Since then it has been a controversial topic in the music community because there are a lot of opinions but only a few studies on the effects of streaming platforms on song's consumption and popularity. The purpose of this thesis is to summarise relevant literature on the subject matter and to conduct an original research that would provide a deeper understanding on the effects of streaming platforms on song's popularity.

The literature presented in this study tackles the question from psychological, economical and social perspectives. One study that was particularly relevant for the thesis was the study of Aguiar and Waldfogel (2018) which showed that the inclusion on Spotify playlists causes a significant increase in generation of revenue and plays of a song. This study formed the foundation for the original research of the thesis. Another study that is worth mentioning is the one of Datta and their colleagues (Datta et al., 2017) which revealed that streaming platforms facilitate discovery and consumption for the users of the streaming platforms. This information was valuable when developing conclusions on the findings from the original research. Based on the literature that was directly related to the streaming platforms, it was concluded that music streaming platforms have the most impact on the song's popularity when featuring it on its playlists. Other studies presented the findings on how human psychology and biology plays a role in affecting song's popularity. According to Salganic and their colleagues (et al., 2006), social influence plays a significant role in affecting consumer behaviour in cultural markets. This study is highly relevant for the subject matter because the authors created an "artificial music market" and recorded the choices that the participants were making. Since the market was created online it was very similar to how a music streaming platform works. Pereira and their colleagues (et al., 2011), explain that familiarity of a song can be an even more important factor affecting popularity than the individual musical preferences. In the study the authors found out that familiar songs cause an activation in the emotional centers of the brain that are responsible for the reward system.

Moreover familiar songs cause even more activation than liked songs. Based on these studies it was concluded that there are other factors that affect popularity of songs. That diminishes the effects of streaming platforms on the popularity of songs. The information that is not available from the existing literature is how the streaming platforms decide which songs should be added to the playlists. That is crucial for understanding exactly the impact that streaming platforms can have on a song's popularity. Since there are only 2 sources available that are directly related to the research question: "Platforms, promotion, and product discovery: evidence from spotify playlists" Aguiar, L. & Waldfogel, J. (2018) and "How Consumers Adoption of Online Streaming Affects Music Consumption and Discovery" Datta and their colleagues (et al., 2017), further research is needed.

The idea of the research was to conduct a series of semi-structured interviews on the topic of playlist creation in order to understand their potential impact on the music industry. The companies chosen for the interviews are the ones that offer music streaming services and offer a feature of playlists such as "Global Top 50" of Spotify. The companies are of different sizes, influence levels and operate in a variety of markets world wide. That was done in order to make the sample studied as representative as possible. The research was supposed to tackle twenty different companies however due to certain limitations only six were able to participate. The interviews were expected to be held online using software for online conference however other means of communication were used. The interview questions were focused on playlists that are oriented towards a mass audience rather than playlists that have a specific theme because it was important to research playlists that had more potential influence on the users of the platform. During the interviews not all of the questions were answered therefore it created limitations of the study. Some of the topics that remained unanswered are the impact of the playlists on the artists and their other songs, the performance of the songs that were not included to the playlists and the personal opinion on the most important factors that affect song's popularity from the perspective of the company's representatives. The sample size of only 6 companies is another limitation of the research, it is important to study more companies because they could be creating playlists differently. Analysing the findings from the research, evident patterns have been spotted. First of all four out of six companies mentioned that they have a team of editors who are curating the playlists. The companies also mentioned that the main criteria they use for playlist creation is the most played songs on the platform. However there were other companies who claimed that they base their playlists on the famous music charts such as "Billboard's Hot 100" or "Top 100" of the Rolling Stones magazine or the recommendations of the record labels that they

have contracts with. Those were only two companies out of six so it was more of an exception in the observed patterns. The final conclusion that was made from the research and the existing literature on the subject matter is that big streaming platforms can make popular songs even more popular by adding them on their playlists thus boosting the generation of the revenue and plays. They can also facilitate the discovery of unpopular songs by having them on their platform. However streaming platforms do not have the decision making power to choose which song will become popular and which will not because most of them are profit based organisations and they are accountable to their shareholders.

Chapter 2: Literature Review

The research discussed in this literature review is interlinked. The paper of “Music in Everymind: Commonality of Involuntary Musical Imagery” complements the study of “Music and Emotions in the Brain: Familiarity Matters” as in both of these papers, the researchers tackle what effect music has on a psychological level to us. In the studies the authors talk about things such as how familiarity has an effect on how we like the songs, how we get attached to them and the commonality of the phenomenon of having involuntary musical imagery. The studies complement each other, answering the overall question of “What role do streaming platforms play in affecting popularity of songs?”

According to Berger and Packard (n.d.), the more differentiated a song’s lyrics are from its genre, the more popular the song is. The authors examined why some items become popular and others do not. More specifically, the relationship between lyrical differentiation and song popularity. First they collected data from Billboard’s digital download rankings which capture major streaming services for music such as iTunes, Google Play etc. Those services are more likely to be driven by individual preferences rather than broadcasting time on the radio for example. Then they divided the data into 7 major musical genres: Christian, Country, Dance, Pop, Rap, Rock, R&B. And using word co-occurrence, determined the themes across songs. For example, country songs themes were “girls and cars”, rap songs themes were “street creed” etc.

Lyricaly differentiated songs turned out to be more popular, for example, in country music songs that are not about “girls and cars” are more popular. This, however, does not apply to genres where lyrics are not a predominant feature such as dance music (Berger and Packard, n.d.).

Berger and Packard (n.d.) used online streaming platforms to sample their data, however, they did not take into account the effect the streaming services themselves have on the popularity of the songs. According to Aguiar and Waldfogel (2018), Spotify does have a significant effect on the number of plays and the revenue that songs generate. Their study examines whether Spotify has the power to influence song’s success using its general playlists in terms of number of plays and consumption decisions. The paper analyzed the effects on the songs after the inclusion to the Global Playlists, effects of the Global “Top 50 Playlist”, effects of the New Music Friday Playlists and Artist Discovery feature. Aguiar and Waldfogel (2018, p. 27) found the following: getting on Today’s Top Hits is worth almost 20 million additional streams, which translates to \$116,000 and \$163,000 in additional revenue from Spotify alone.

The fact that Spotify’s playlists have a significant impact on which songs are being streamed heavily is also analysed in the study “Music and Emotions in the Brain: Familiarity Matters” by Pereira, Teixeira, Figueiredo, Xavier, Castro and Brattico (2011). The researchers investigate how musical preferences and familiarity modulate the activity of the brain regions that are responsible for emotions and the reward system. Using the functional magnetic resonance imaging, they measured the brain activity in the emotion-related regions of the brain, stimulating it with familiar songs and songs of preference (unfamiliar). They found the following: familiarity was a greater factor responsible for increased blood flow in the brain area and activation of emotion related regions. In other words, familiar songs would trigger a greater emotional response rather than liked songs. Moreover, the emotional centers of the brain are more active when listening to familiar songs rather than liked songs, even if the familiar song does not match the musical preferences of that individual.

Individuals getting attached to familiar songs is a common phenomenon. According to Lassi (2008), regular people often experience involuntary musical imagery. The study investigates how common the Involuntary Musical Imagery (INMI) also known as “earworm” is among regular people as well as music students. The study was conducted among 12,420 Finnish internet users. Lassi’s (2008, p. 1) study found out the following: INMI appears to be a common phenomenon. 91.7% of people reported experiencing this phenomenon at least

once a week. 68.4% of respondents were female and 49.9% of whom had at least 1 year of musical education.

Some studies suggest that the success of a song is only partly determined by the quality. According to Salganic and their colleagues (et al., 2006), social influence can contribute to both inequality and unpredictability in cultural markets. In the study of “Inequality and unpredictability in artificial cultural markets” the authors created an artificial “music market” of 48 songs by different artists and recorded the choices that the participants have made. The study was conducted among 14,341 participants that were attracted to the research from the Internet. All the participants were divided into 2 conditions: “independant” and “social influence”. Individuals in the independant conditions were given the name of the songs and the artists and the option to rate the song from 1 to 5 and to download it. Those who were in the conditions of social influence were given all the same options except that they could also see how many times each song was downloaded by other participants. According to Salganic et al. (2006, p. 1), “By comparing outcomes in the independent and social influence conditions, we can directly observe the effects of social influence both at the individual and collective level”. The study (Salganic et al., 2006) found the following: “Our results support the hypothesis that social influence, which here is restricted only to information regarding the choices of others, contributes both to inequality and unpredictability in cultural markets” (p. 1). In an environment where social influence is applied, popular songs are more popular and unpopular songs are less popular, comparing it to the environment where participants made the decisions independently (Salganic, 2006, p. 2). It is important to mention that the research method used in this study does not include other factors that make the social influence in the real world, such as marketing, media exposure, advertisement etc. Therefore we can only have an insight in regards to this topic and not the full accuracy. Examining this study we can see that there are other factors that affect the popularity of songs, such as social influence. In this study, the social influence factor that was used was that the participants could see how many times each song was downloaded by other participants. Since the users of streaming platforms like Spotify for example, can see the “play count” of each song in particular, we could argue that Spotify contributes to the social influence and therefore has an impact on the popularity of songs. However there are no studies that prove that the “play count” on Spotify has the same impact as the social influence in study (Salganic et al., 2006).

However there are other studies that suggest that popular songs tend to have unique features which possibly contributes to the reason why they become

popular. According to Interiano and their colleagues (et al., 2018), “Successful songs are quite different from the majority of songs and their features sometimes follow their own trends” (p. 14). The authors analyzed more than 500 000 songs in the United Kingdom between 1985 and 2015 to understand the dynamics of success. In the study they base success on the appearance in the top of the music charts. They took the songs from the “Official Singles Chart”, a community-generated public database “MusicBrainz”, and “AcousticBrainz”. The charts are based on the sales, downloads and the audio streams of the songs and the online communities are based on the activity of the users. Interiano et al. (2018) found the following: comparing acoustic characteristics of songs, it is evident that the successful songs are quite different from the majority of songs and their features sometimes follow their own trends (Interiano et al., 2018, p. 14). Interiano and their colleagues (et al., 2018) also found that: While we found that the prediction accuracy can be greatly improved when the superstar variable is included, the fact that we are able to predict success with an accuracy of 0.74 based on acoustic features only suggests that truly musical characteristics are very important. (p. 14). The authors analyzed the dynamics of success of songs throughout the years and they found that successful songs tend to have unique acoustic features, this broadens the perspective of which factors affect the popularity of a song and suggests that the characteristics of a song itself play an important role in the success of that song. Therefore we could argue that the streaming platforms affect the popularity of a song only to a certain extent and do not have the decision on which song becomes popular and which does not.

On the other hand, there are other papers that suggest that streaming platforms have increased the total consumption of music and facilitate product discovery. In the study of Datta and their colleagues (et al., 2017) the authors demonstrate the short, medium and long term effects of adoption of online streaming on quantity, variety in consumption and new music discovery. Understanding how the streaming platforms affected the listening behaviour, helps to understand the bigger picture because the success of songs is directly dependent on the consumers. Since the study used only a sample of the population for their research, it is worth mentioning how they collected the data. They have collaborated with a third party music recommendation service that wished to remain anonymous. The authors recorded the age, gender and country of 5 003 randomly selected users from the service’s database and retrieved their music consumption histories for a period of 2.5 years, January 2013 to August 2015 (Datta et al., 2017, p. 8). When making conclusions, It is important to take into consideration that 5 003 people is not a representative sample of the entire

population of the world. Study found the following: “We find that streaming increases total consumption, leads to more variety, and facilitates discovery of more highly valued music” (p. 31). Even though the study does not show specific reasons for why the consumption behaviour has changed, it gives a valuable insight for understanding the effects of streaming platforms. The authors also suggest that those changes are impacted by the price, higher availability in terms of variety and platform-specific features e.g., personalized recommendations (Datta et al., 2017, p. 31).

It is also important to take into account the quality of the performance, perhaps this factor has a greater effect on the popularity of a song rather than the streaming platforms. Research by William and Hamlen (1991) counters two opposing views regarding the music market, one is whether the consumers of music care about the “voice quality” and the other is how the “Superstar Phenomenon” affects the music industry. The authors brought the “Superstar Phenomenon” from a discussion by Alfred Marshall (1947) where he implies that “relatively small numbers of people earn enormous amounts of money and seem to dominate the fields in which they engage”. According to William and Hamlen (1991), “Using an external measure of voice quality, provided by the literature on voice, the estimated elasticity of record sales to voice quality is found to be significantly greater than zero but less than one” (p. 1). William and Hamlen’s (1991) study found the following: “The above results indicate that the consumers of popular music recognize quality but that the degree of proportionality between record sales and quality is significantly less than unity” (p. 4). In other words, quality of the voice has a lesser impact on popularity of a song rather than a combination of different factors. Therefore, the results from this study strengthen the findings from previous papers regarding the impact of streaming platforms and social influence.

In the previous studies we have examined how streaming platforms can affect songs in regards to increasing the number of plays and generating more revenue, however we have not looked at the negative impacts that music streaming can have. Borja and their colleagues (et al., 2014) research in their study the effects of music streaming services on music piracy among college students. Using a sample of 197 surveys, the authors evaluated correlations between the groups. They mentioned that: “We develop a Logit regression model to test five hypothesis regarding music piracy” (p. 2). Study found the following: Results from a Logit model show that college students who are frequent users of music streaming are also more likely to download music illegally. A plausible explanation is that those engaged in music streaming are

also heavy users of computer technology, software downloading, and digital sharing – factors that facilitate the conditions for music piracy (p. 5). If music streamers are more likely to download music illegally, then the streaming platforms can have an adversary effect on the songs because the more users download them illegally, the less profits it will generate. However, the research method that the authors have used, is a survey and it was conducted only among 197 participants, therefore it is not representative of the entire customer base.

Reviewing different sources and literature to answer my thesis question, It has been found that for the current moment there are no books available that are related directly to studies on music streaming platforms. Also, out of all the online research papers that were discussed, there are only two that are directly related to the question: “Platforms, promotion, and product discovery: evidence from spotify playlists” Aguiar, L. & Waldfogel, J. (2018) and “How Consumers Adoption of Online Streaming Affects Music Consumption and Discovery” Datta and their colleagues (et al., 2017). That underlines the importance of this thesis work since that question has not been tackled yet.

From reviewing different literature on the subject matter I came to a conclusion that the major effects that streaming platforms have on a song’s popularity are increased exposure and revenue generation. We have also found studies that provide sufficient research and prove that there are other factors affecting the popularity of a song such as social influence, artistic quality etc. Therefore we can conclude that there are other factors affecting the popularity besides the streaming platforms. It is evident that streaming platforms make the most impact on a song’s popularity when featuring it on their playlists, for example “Today’s Top Hits” from Spotify. However we are missing the information on how they decide which songs are added to the playlists and to what extent the appearance on the playlist affects the popularity. Would the songs that are added to the playlist become popular without the appearance on the playlist?

Chapter 3: Methodology

Analyzing the existing work in regards to the thesis question gave us important insights into what information is available but also what aspects have not been

tackled in the work of previous researchers. The purpose of this paper is to find out the missing information and to further develop the existing work. From the literature review we found out that music streaming platforms have the most effect on songs when adding them to their playlists. Research showed that it significantly increases the generation of revenue and the number of plays on the platform. However in order to assess the impact that streaming platforms have on the popularity of songs, we need to know what is the decision making process behind the creation of the playlists. Are the playlists created by adding songs that are already in the music charts or do the streaming platforms have enough influence to boost the revenue and plays of unknown songs?

The premise of this research is to conduct a series of interviews with representatives of music streaming companies that would give us a clear and in-depth understanding of the formation and the creation of their playlists. First of all we will settle what is meant by a “playlist” and what kind of playlists we would be referring to in this study. According to Cambridge University Press (2020) a playlist is a list of all the pieces of music chosen to be broadcast on a radio show or radio station. In our case, broadcasted on a streaming platform. The playlists chosen in this study are those that have the most influence on the consumer. E.g. Spotify’s Global Top 50, Apple’s Best of the Week or Tidal’s Pop Hits. Because those are not just collections of music by genre or theme. According to our hypothesis these playlists are more likely to influence the consumer behaviour because they are oriented towards the general public. We have contacted 20 different companies in the industry of music streaming platforms, from big multinationals to medium sized to small companies. This study uses a qualitative research method because that is what suits it the most. The reason for that is that to answer the question of “how do streaming platforms decide which songs would be added to the playlists?” we need to research the platforms themselves and not the customers because they don’t have that information. Conducting a quantitative research on the streaming platforms would require too much resources in order for the data to be representative. Since the data collected is of qualitative type, the analysis method would be appropriate for that kind of data, putting the emphasis on content analysis. The strategy for presenting the data is to categorize it, present common patterns and themes and to summarise the findings. The relationship between the hypotheses of the study would be linked with the findings from the research and the conclusions made from the literature review. The findings will also be used to answer the research question: how do music streaming platforms choose which songs would be added to their playlists?

The study was conducted during the months of April and May of 2020. It was important to tackle a variety of companies in order to get a broader view of the situation, to make the research as representative as possible and to increase the chances of getting the answers. Those specific companies were chosen for the research because they all offer a service of music streaming and they all have the playlists that are targeted towards a large customer base. For the sake of the data analysis the companies will be categorised into 3 groups: small, medium and big companies. Spotify will be categorised as a big company; Patari, Qobuz, Yandex Music will be considered as medium size companies and Muz.moscow will be considered as a small company. The candidates that have been interviewed will be categorised into two groups: individuals and company's representatives. The playlists offered by these streaming companies will be categorized as influential and themed playlists. E.g. Spotify's "Global Top 50 is an influential playlist, "Songs to sing in the car" is a themed playlist. Spotify, Patari, Yandex Music and Muz.moscow provided data that is coming from company's representatives. From Qobuz we have received data from both customer representatives and an individual David Solomon who has been asked for consent for the purpose of ethical considerations. Having companies of different sizes in the study helps to see how companies with different resources and influence, deal with the same objective. It is important for the study because it allows us to assess the impact on song's popularity of companies of different influence capabilities. Unfortunately, out of 20 companies only 6 replied to the request: Spotify; Patari; Qobuz; Stingray, Yandex Music and Muz.moscow. The means of communication for contacting the companies were the following: Email, Facebook and LinkedIn. Even though the dialogue with the company's representatives varied from case to case, the initial message was the same: "Hello! I'm doing a thesis work about music consumption and factors that affect popularity of songs. I'm very interested in the case of (name of the company) and I was wondering if you would be interested in participating in a short interview (10-15 minutes) or to answer it in a written format?" (for a full interview, see Appendix III).

However some of the questions were modified during the interview and also the companies wouldn't want to answer certain questions for unknown reasons. The most important part was to understand the decision making process when it comes to playlist creation of each of these platforms. Even though the interviews were semi-structured, it did not weaken the results because in a qualitative study like this one, it is important to gather perspectives on the topic from varying participants to understand their approach. The data gathered in the study is considered to be relevant because it was gathered directly from the

company's representatives and there were no intermediaries. All of the companies that were interviewed are currently active (May 2020) and operate in the music, entertainment industry. Since the research uses a qualitative method, the patterns and relationships in the data were analysed through a number of common methods for that type of research. The data was analysed for the usage of the same or similar words or expressions used by the candidates. Because that indicates the same or similar thinking from the candidates. The data from the research was analysed and compared with the secondary data found in the literature review regarding the playlists in particular. It has been noted how that data complements each other but also outlines the differences. The data was also analysed from a perspective of which questions the candidates did not respond and what information is still missing in the research. The new collected data was also compared with the secondary data from the literature review related to other factors apart from the streaming platforms, that affect popularity of songs. All the findings regarding the patterns and commonalities were then summarised and compared to the hypothesis and the main objective of this paper, to assess the influence of music streaming platforms on the popularity of songs.

It is also worth mentioning some of the limitations of this research method. It was very difficult to get interviews with people who are actually responsible for the creation of the playlists, due to the lack of resources and contacts in the industry. So in many cases throughout the research the questions were asked directly to a company's representative rather than an individual who specializes in the field of playlist creation. Interviewing personally experts in that area, can give deeper insight on the subject matter for the future studies. Also, a bigger sample for the study, would be more representative of the industry and could be more exact, thus contacting more companies could improve the results of the study. Another limitation of the research is that the companies did not answer all of the questions and chose to avoid some of the questions. Some of the topics that were ignored by the company's representatives were their personal opinion on what factors affect song's popularity the most, if a song gets a large number of plays on the platform without the appearance on the playlist and the algorithms used for the creation of the playlists. Therefore the data collected in the study is not very detailed and that could cause lack of depth in the analysis of the subject matter. The future researches on this topic could gather more developed answers from the music platforms to further develop the understanding of the impact that playlists have on songs. One of the things missing from this research is the analysis of the performance of the songs that generate high revenue and plays on the platform without the addition to the

playlist. If we could understand the factors that contributed to the increased revenue and plays of those songs, we would further assess the influence of the playlists using comparative analysis.

Chapter 4: Findings

The interviews of music streaming platforms gave us valuable data that we can use to answer the main research question and to further understand the existing studies. The hypothesis for this research is that the music streaming platforms chose songs for their playlist that would generate them plays and attract users to their platform because they are profit oriented organisations, thus sales and customer satisfaction are important to them.

The data collected from the interview with the Spotify's representative, provided the study with important insights for an in depth analysis. From the interview we understood that they have a team of editors that are curating the playlists. This suggests that the subjective element of the decision making is reduced because there is more than one individual making decisions on which songs should be added to the playlist. In regards to the playlists, they inform us that songs are added to the playlists such as "Global Top 50" based on the number of plays of that particular track world wide. This is particularly valuable for the study because the playlist that they have provided as an example "Global Top 50" does not have a theme as some of the other Spotify playlists like "Songs to sing in the car" or "Evening commute". "Global Top 50" is a playlist that is orientated towards a mass audience and has a potential to influence a larger customer base. "As for lists such as the Top 50, this includes criteria based on the streaming performance of the track globally." (Spotify, personal communication, May 16, 2020). Later on in the interview they specify that they are referring to the performance of the track, on their platform in particular: "The most streamed songs globally on the app are the ones included in this playlist" (Spotify, personal communication, May 16, 2020). This is a very important finding for the study because it suggests that there is no subjectiveness in their method for choosing which songs to add to the playlist. They simply add songs that have the highest number of plays on their platform in particular. Therefore it is the

users of Spotify who play the most important part in the creation of “Global Top 50” because they vote for which songs to add to the playlist by playing those songs. From that we can make a conclusion that the Spotify playlist influences popularity of songs only in the way of making popular songs even more popular. From the literature review it was evident that the inclusion of a song to a Spotify playlist would significantly boost its revenue and the number of plays on the platform. If it was proven that Spotify would influence the popularity of songs the most through featuring it on its playlists, then we can conclude that Spotify’s influence on the popularity of songs, as a music streaming platform is limited to boosting revenue and plays of already popular songs. One aspect that was not mentioned by the candidate is whether there are instances on the Spotify platform that a song gets a lot of revenue and play counts without the appearance on one of their playlists such as “Global Top 50”. That would give a deeper insight on the subject matter because theoretically Spotify could indirectly serve some songs as a platform for the customers to discover them since Spotify has a large customer base. Moreover the candidate did not mention how the inclusion of a song to a playlist would affect the artist. Theoretically the increased plays and the attention to a song after the inclusion to the playlist could potentially draw more attention to that particular artist and consequently generate more plays and revenue for other songs of that artist. That is something worth researching to fully understand the impact that Spotify has as a streaming service on popularity of songs.

One of the interviews that immediately shows similarities with the Spotify’s interview, is the interview of Patari which is a medium sized company. It is important to take it into account because as a medium sized company they have a smaller customer base and reach, therefore they have less influence and negotiation power with big record labels so they do not have the resources to purchase the streaming rights for all the big artists. Thus it is valuable for the study to see how their process of creation of the playlists differs from a big multinational company such as Spotify. Another difference is that Patari specialises in the Indian music market whereas Spotify operates worldwide. Patari’s specialization is a factor that could play a role in their decision making process when it comes to playlist creation because of cultural differences. From the interview we know that Patari, just like Spotify has a team that is curating the playlists. However the big difference between these two cases is that in the case of Spotify, the performance of the track on the platform is stated as one of the criterias that the curation team uses to validate tracks for the playlist. Whereas Patari informed that their curation team works on the themed playlists and the “Weekly Top 20” is based on the number of plays on their platform, “ our Weekly

Top 20 is decided based on what's played the most on our app" (Patari, personal communication, May 15, 2020). The similarity between these two platforms is that they both create their influential playlists using the criteria of the highest number of plays on the platform. It makes sense from a business perspective because they need their playlists to have songs that their customers enjoy listening to, otherwise they would lose money and clients. Comparing this data with the information discovered in the literature review further develops our understanding of creating playlists that have the tracks with the highest number of plays on the platform. Pereira and their colleagues (et al., 2011) suggest that familiar songs would trigger a greater emotional response rather than liked songs. Therefore it makes sense to feature the most played songs to the playlist because it increases the chances of the listener to be familiar with those songs. Another similarity with Spotify's interview is that the same topics were not mentioned. The topic regarding the influence of the song's inclusion on the playlist and the above average generation of plays and revenue for a song without the inclusion to a playlist. Since it is a recurring topic in both of the interviews it could be that these companies do not want to share that information. We can make a conclusion that Patari and Spotify use the same model for creation of their influential playlists.

Qobuz is a medium sized music streaming platform that specializes on the French market which is valuable for the research because it adds variety to the sample. The interview with Qobuz gave a different perspective to the study and brought about variety in terms of candidates as for this company we interviewed a specialist in high resolution music, David Solomon. Getting information from a specialist in a particular field of music industry is useful for the study because it narrows down the data and could potentially give deeper insights on the subject matter. From the interview we found out that Qobuz also has a team that is responsible for creating the playlists. However it was not mentioned whether that was referred to influential or themed playlists. That is a similarity that we could observe with the cases of Spotify and Patari. On the other hand a difference that was very evident from the interview was that Qobuz features on their playlists those songs that have been sent to them or approved by the record labels "We sign with all of the labels and upload what they send or have okayed for streaming"¹ (D. Solomon, personal communication, May 13, 2020). This is not statistical information, therefore it could have various interpretations and meanings. It could be interpreted that Qobuz's playlist creation is objective and that they select songs from all the record labels that they have signed a contract with. Or it could be interpreted that Qobuz does not have the decision making

¹ For full interview see Appendix III

power to decide which songs would go on the playlist and that the record labels are dictating them which songs to add. The clarification that followed this up, plays a role in understanding the meaning behind these words. David Solomon then clarifies: "Micro choices are rarely involved". That sentence can also have various interpretations. One of which is that by "micro choices" he is referring to biased decisions based on personal preferences and what he means is that it does not happen during the playlist creation process. Another interpretation would be that he is referring to "micro choices" as the decisions of Qobuz's team and that the record labels have the final say. Since David Solomon works for Qobuz it would be logical to assume that part of his duties is to represent the company and their public image. Taking that into account. We can conclude that what he was trying to say in the interview is that Qobuz tries to minimize the subjectiveness in their playlist creation and choses from all the songs offered and approved by the record labels that they signed a contract with. One thing that was missing from the interview is the personal opinion on what factors influence song's popularity the most. Having a personal opinion of an expert on this topic could be valuable for the study because he works in that industry, knows everything about this subject and is exposed to the decision making process that is happening inside of the business.

The interview with Yandex Music was insightful because they have explained their playlist creation process more in depth compared to other candidates. The fact that Yandex Music operates in the Russian music market, gives the study a broader perspective on things in terms of sample variety. Yandex Music is a medium sized streaming platform even though they have a large market share in Russia. We would be able to see if there are any similarities with other medium sized streaming platforms. From the interview we know that Yandex Music has a playlist that we categorise as influential which is formed based on the most played tracks on the platform. We can observe a clear pattern with other streaming platforms that we have interviewed. Spotify and Patari also have influential playlists that are created based on what is listened the most on the platform such as "Global Top 50" or "Weekly Top 20". From that we can conclude that it is a common method for music streaming platforms for playlist creation. However there was one major difference between Yandex Music and other streaming platforms that we have interviewed. Yandex Music has a playlist called "playlist of the day" which falls into the category of influential playlist but this playlist is not formed based on what is played the most on the platform. This playlist is based on machine learning that uses analytical models to identify patterns and make decisions on what songs should be included in the playlist. It is formed based on the musical preferences of the users and they are available

right after the user starts listening to music and adding songs to the music library. It is refreshed automatically everyday. We were also informed that the playlist “playlist of the day” has a unique set of songs for each user. It is an important finding for the study because it shows that the influence of this playlist is limited since each user has different songs in that particular playlist. Therefore the playlist is unable to expose a certain set of songs to a large number of audience. Another point that is worth mentioning is that even though “playlist of the day” is a playlist that is orientated towards a mass audience and therefore considered to be influential, is highly specialised for the customer and thus can not be analysed on the same criteria as other influential playlists such as Spotify’s “Global Top 50”. Some data that is missing from this interview is the impact the playlists of Yandex Music have on the artists in featuring some of their songs on the playlist and what effect it has on other songs of that artist. Moreover, researching which of Yandex’s playlists the customers use more, the ones that are based on the most played songs on the platform or the ones that are formed with machine learning algorithms, would provide a better understanding of the impact that the playlists can have on the listeners.

The interviews tackled a small streaming company Muz.moscow that is operating in the Russian market. It is very valuable to compare the method of creation of playlists of a small company to medium and big companies to achieve a deeper understanding. From the interview we understood that their influential playlist “Chart Music” is a list of twenty most popular songs according to the platform and that it is refreshed on a daily basis. Digging deeper into how exactly this playlist is formed we found out that it is created based on a number of factors. First of all the number of plays that the song has on the platform is taken into consideration. We have seen this method used by other companies so this is definitely a pattern visible across all of the study. Another factor is the chart of “Muz Tv” which is a Russian music television channel. This chart is based on the votes that people can do on the Muz Tv website online. It is worth mentioning that Muz Tv is not a streaming platform however Muz.moscow still uses its chart to base their playlist on. On the other hand Muz.moscow is a small company so it is understandable that they try to gain credibility for their playlists relying on a big name in the industry. Another criteria for the creation of the “Chart Music” playlist of Muz.moscow is a chart of a social media platform called “VK”. The information on how VK forms its chart is unavailable. It makes sense why Muz.moscow uses the chart of VK for the creation of their playlist. VK is the most used social media in Russia and it is convenient to use their brand name. Another criteria that they use for the creation of their playlist is the chart of “Europa Plus” radio station called “EuroHit Top 40”. Like in the case with Muz

Tv, people can vote for their favourite tracks online on Europa Plus website. Europa Plus is a famous radio station in Russia. Based on that we could assume that they were selected for the same reasons as Muz TV. Another criteria that they used is the playlist of Yandex Music called "Popular on Yandex". Yandex is a popular search engine in Russia that offers a variety of internet services including music streaming platform. Another criteria that Muz.moscow uses for creation of their playlist is the chart of DFM radio station called "D Chart". This chart is based on the votes of the listeners of that radio station. We can observe an evident pattern of the criteria that Muz.moscow uses to create their playlist. They use charts of famous radio stations, music websites and activity on their own platform to form the playlist "Chart Music". From all the cases from this research this is the only company that partly outsources their playlist creation decisions. Since they are a small company it could be that they chose to do that because of lack of experience and credibility in the industry.

Another interview that added variety to the sample of the study is the interview with Stingray music as it is a streaming platform that is based in Canada but has users from various countries. From the interview we know that Stingray also has a team of editors who are working on the playlists "We offer up to 3,000 music channels, all curated by music experts" (Stingray, personal communication, May 14, 2020). Similarly to other streaming platforms interviewed during the research like Spotify and Patari. One of the Stingray's playlists "Today's Top 40" that was discussed during the interview as it is categorised as an influential playlist, is based on the market sales according to the Stingray's representative "As for the tops, they are based on market sales". When asked what criterias they take into account when evaluating the market sales they specified that they base it on the music charts such as Billboard's "Hot 100" or the "Top 100" of the Rolling Stones magazine. Which makes sense because one of the criterias based on which these charts are formed is physical music sales along with digital downloads and streams. Therefore we could conclude that Stingray tries to minimize the subjectiveness in their playlist creation process by using quantitative metrics of market sales and music charts of famous music magazines. It would be logical to assume that Stingray uses this method of playlist creation in order to ensure that the songs that they add to their playlists are performing well and would provide high engagement on their platform. That would prove the hypotheses of the research that music streaming platforms chose songs to their playlists that would generate them plays and user engagement. Another factor that could play a role in their decision making process is the fact that Stingray is not a big company therefore they could be using the big names in the industry such as Billboard and the Rolling Stones magazine to gain credibility and attract users,

like we saw with the example of Muz.moscow. There is missing information in this interview which is the question on whether there are songs on Stingray's platform that get a lot of play counts without them featuring it on their "Today's Top 40" playlist. Since they are basing their playlist on someone else's charts it would be valuable for the study to understand the dynamics of organic growth of the songs on the Stingray's platform. Another important piece of information that was meant to be achieved with the interview but was not, is the effects of the inclusion of songs to the playlist on the artists and his or her other songs. That would show us the influence that a streaming platform can have on music discovery and we would be able to compare the performance of songs that were not featured on the playlist to those that were.

Summarising the findings from the interviews we can observe a number of clear patterns. First of all the majority of companies mentioned that they have a team of editors who are curating the playlists. Those companies include Spotify, Patari, Qobuz and Stingray. Three out of four mentioned companies refer to their teams as "editors". That is a contradiction in the data because from the interviews we know that in most cases the influential playlists are not affected by personal decisions but they refer to it as editors. On the other hand, it could have a different interpretation, they could mean that they only manage and edit the playlists on a technical level but not on a decision-making level. Another interpretation could be that they are referring to teams that are curating the themed playlists which makes more sense because in most of the cases they clarified the difference between the creation of influential playlists and the themed ones. Another clear pattern from the research is that the companies use the most played songs on their platform as a criteria for playlist creation. Spotify, Patari, Muz.moscow and Stingray are the companies that mentioned that. This pattern is a valuable finding for the study because it is something that four out of six companies interviewed share in common. Moreover, it shows the commonality in their playlist creation process which is the primary topic of research for this study. Another pattern is the fact that two out of six interviewed companies use the data from third party music charts in order to create their own playlists. Those companies include Muz.moscow and Stingray music. Since they are small and medium sized companies, the reasoning that this study suggests is that they apply this method in order to compensate for their lack of credibility and experience by using big names in the industry. The last pattern observed from the interviews is that none of the companies mentioned how the inclusion of any of the songs on the playlists affects the artist and his or her other songs that were not added to the playlist. It is worth mentioning some of the exceptions that were observed from the interviews. Yandex Music has an

influential playlist that is formed by the individual preferences of the users rather than what is the most popular tracks on the platform. However we came to a conclusion that the influence of that playlist is less than of other influential playlists because it is individually crafted for each user. Qobuz includes songs to their playlists that were provided to them and approved by the record labels that they have signed a contract with. Linking the findings to the hypotheses of the research we can say that the methods used by the streaming companies for the playlist creation are primarily focusing on the mass appeal of their playlist. In conclusion, the primary pattern that can be drawn from the research is that the music streaming companies include songs to their influential playlists that have the most plays on their platform.

Chapter 5: Summary, Conclusions, and Recommendations

After analysing the patterns from the findings in the research we gained a deeper understanding of playlist creation. The study of Aguiar and Waldfogel (2018) found that the inclusion on a Spotify playlist can significantly boost the revenue generation and plays of songs. From this study it was concluded that streaming platforms have the most impact on song's popularity when featuring it on their playlists. However, from the interviews it is evident that most of the streaming platforms form their playlists based on what is listened the most on the platform. This means that streaming platforms indeed can influence the song's popularity, however, their influence is mostly related to generating more plays to songs that already had a large amount of plays. In the study of Salganic and their colleagues (et al., 2006), it was proven that social influence makes an impact on the consumption and discovery of products in cultural markets. Linking it to the findings from the interviews it is evident how social influence is incorporated in the creation of the playlists. Since social influence plays an important role in music consumption and discovery, music streaming platforms apply this concept to their playlists in the way of creating playlists that are listened to by the majority of the users thus encouraging other users to listen to it. From the business perspective it makes sense that these companies do that as their goal is to maximize activity and engagement on their platform.

Another study from the literature review that backs up this point is the study of Pereira and their colleagues (et al., 2011), that showed the impact that familiarity has on the activation of the emotional centers of the brain. Moreover, familiar songs would trigger more activation of the emotional centers of the brain than liked songs. Adding the most played songs on the platform to the playlist increases the chances of it being familiar for the listeners. In the interviews there was a clear pattern of missing information in regards to the effects of inclusion of the song to the playlist on the artist and his or her other songs. Looking back at the literature review it is evident that the inclusion to the playlist would facilitate consumption and discovery of other songs of that artist too. Because in the study of Datta and their colleagues (et al., 2017) the authors demonstrate that the streaming platforms increase the total consumption and discovery of music. The missing information from the interviews regarding the performance of songs that were not included in the playlists can be further understood using the findings from the Datta and their colleagues (et al., 2017) study. It would be logical to assume that there are songs on the platform that get a lot of play counts without the inclusion to the playlists because just the presence on the streaming platform itself is facilitating the discovery of those songs for the users.

The intent of the research was to understand how streaming platforms decide which songs should be added to the playlists. 4 out of 6 interviewed companies gave the same answer but using different words which has provided a solid understanding of how those 6 companies in particular create their playlists and also an understanding of the concept of playlist creation for streaming platforms in general. The definitive conclusion on the main thesis question “What role do streaming platforms play in affecting popularity of songs?” is that big streaming platforms such as Spotify can generate significant revenue and plays to the songs that are already popular by featuring them on its playlists and also increase discovery for songs that are on the platform but are not featured on the playlists. The study suggests that streaming platforms do not have enough influence to decide which song will become popular and use its means to promote it.

There are many incidents of music artists showing their concerns in regards to music streaming platforms, it is claimed that streaming platforms could hurt the music industry, increase the problem with internet piracy and decrease the demand for CD sales. Tunison (2018) explained that in November of 2014 Taylor Swift pulled her entire library of songs from Spotify to make a statement expressing her position contrary to the streaming services trend. However it is important to understand that with the recent developments of the technologies,

the changes to the music industry are inevitable. With this study it has been proved that streaming platforms would generate additional revenue and plays for the big artists and increase exposure and discovery for the small ones. On the other hand the study of Borja and their colleagues (et al., 2014) found that college students who are the frequent users of music streaming platforms are also more likely to download music illegally. Therefore streaming platforms indeed could have negative impacts on the music artists. It is important to take into account that this study used a relatively small sample of 197 students, so further studies on that topic are needed in order to make a definitive statement.

From the literature review and from the research it can be concluded that streaming platforms have more positive impact on the artists rather than negative. The recommendations that can be made are the following: managers, music producers and investors can use the appearance on the playlists as a criteria for evaluation of an artist from a business investment perspective along with the market sales and radio streams because the streaming platforms take into account what songs are played the most on the platform and in some cases the market sales too. The managers, music producers and the artists themselves should not set the objective of getting included to a playlist in order to increase the following base because the inclusion on a playlist is a by-product of having a large following base. Therefore it would be counterproductive to set such an objective. The users of the streaming platforms can use this study in order to further understand what their music preferences are influenced by. Researchers in that topic can use this study to further develop the topic of what factors influence song's popularity.

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Appendices

Appendix I. Interview questions

1. How does the platform decide which songs are featured on the playlists?
(For example in case of Spotify: Today's Top Hits)
2. What are the algorithms behind the creation of the playlists?
3. How does an appearance on the playlist affect the song/artist?
4. Does it happen on your platform that a song gets a lot of "play counts" without you featuring it on your playlists? (Organic growth)
5. In your opinion, what are the main factors that influence a song's popularity the most?

Appendix II. List of the companies

Big multinationals:

- SiriusXm
- Apple Music
- Spotify
- Amazon Music
- Bandcamp
- Napster

Medium sized companies:

- ❖ Earbits
- ❖ Jango
- ❖ KKBOX
- ❖ Music choice
- ❖ Patari
- ❖ Qobuz
- ❖ Stingray
- ❖ Hoopla

Small companies:

- Ru-music
- Muz.moscow
- Yandex Music
- Music-2020.net
- Newtopmp3.org

Appendix III. Interviews

Interview with Spotify:

- Hello, I would like to know how Spotify creates their playlists.
- Hello there, thanks for reaching out. We understand you have some questions about playlists. No worries, we can look into this together. As for your other concern, Spotify-curated playlists are made by our editors based on a number of factors. As for lists such as the Top 50, this includes criteria based on the streaming performance of the track globally. That should clear things up. If there's anything else, just get back to us. We're here to help always.
- What do you mean by "streaming performance globally"? Is it the number of plays on Spotify? What other criteria are you referring to?
- Hi again, thanks for emailing us back. We'd like to apologize for the confusion. To clarify, the most streamed songs globally on the app are the ones included in this playlist. Hope that answered your query. We'll be here if you need anything else. Kind regards.

Interview with Patari:

- Hello, I really like the playlist "Weekly Top 20" and I was wondering how you decide which songs would be added there?
- Hi Max, our Weekly Top 20 is decided based on what's played the most on our app.
- Okay, thank you for your answer. Does that apply to all the playlists or only the weekly top 20?
- Weekly Top 20. Other playlists are curated by our curation team.
- How do you decide which songs will be added to the playlist "Top Indie Tracks" ?

Interview with David Solomon (Qobuz):

- Hello David! I'm doing a thesis work about music consumption and factors that affect popularity of songs. I'm very interested in the case of "Qobuz" and I was wondering if you would be interested in participating in a short interview (10-15 minutes) to answer a few questions?
- Hi Max, I would be happy to help.
- So my main question is how do you decide which songs would be added to the playlists of Qobuz? From what I've read, I know that many streaming platforms have a team of editors, is it the case with Qobuz as well?
- We sign with all of the labels and upload what they send or have okayed for streaming. Micro choices are rarely involved.
- Thank you for your answer David.

Interview with Stingray:

- Hello, I'm wondering how you form your channels? How do you decide which songs would go to "Today's Top 40" channel for example?
- Hello Max, depending on where you're located, we offer up to 3,000 music channels, all curated by music experts. Our curators are very knowledgeable in their own genre: from country music, to RnB, metal, hip-hop, oldies, rock, pop... you name it. As for the tops, they are based on market sales.
- What are you referring to when you say "market sales"?
- It refers to the number of sales a song made (digitally) and how often it has been streamed.
- Sales and streams on the Stingray platform?
- No, according to charts. We don't sell songs per say.
- Charts like Billboard or Rolling Stones magazine?
- Yes, exactly. But I would say that the Stingray Music experience is most of all offered via all the playlists curated according to a genre, an era, an artist, a mood, an activity... etc.
- Okay, thank you, that clears some doubts. Does it happen that a song gets a lot of plays on your platform without the inclusion to one of the playlists?