Who Pays For Music?

The Honors Program

Senior Capstone Project

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Abstract

The purpose of this capstone project was to determine the attributes of consumers that pay for music, specifically music streaming services. The recent decline in current individual track sales and the increase in the number of streamed songs, highlights the relevance of this topic. The increasing popularity in music streaming has caused much contreversy in the music industry. Many artists are unhappy with the low revenue they receive from songwriting royalties from these streaming services that offer a free platform. Artists are not the only ones who need consumers to pay for music, the music streaming sites that provide free tiers also need their consumers to pay for premium content if they evenutaully want to earn a profit. To research this topic a survey was created and results were collected about consumers' listening and purchasing habits. Once survey results were collected, regression analysis was conducted in order to determine correlations between the traits of consumers and whether or not they pay for streaming services, individual songs, and digital albums.

Literature Review

Introduction

"Music is art, and art is important and rare. Important, rare things are valuable. Valuable things should be paid for" (Taylor Swift 2014 para 4). These lines by pop musician Taylor Swift in an open editorial with the *Wall Street Journal* demonstrate the frustration many artists have with the availability of free music via the internet. Popular artists such as Swift and Pharrell Williams have voiced complaints that streaming services do not pay artists the song royalties they deserve for the songs aired on the services. While popular musicians such as Taylor Swift and the Beatles are able to keep their music catalogs from music streaming sites, new and upcoming musicians do not have this power. Recently, the market for music has radically changed, leaving artists and their labels struggling to generate profit within the new digital environment.

In the 1980s there was a fear among many in the music industry that those who used blank cassette tapes to tape music for free would not purchase music, severely hurting music sales. Instead, research from an independent study by the Recording Industry of America proved that those who were more likely to tape music using their own cassettes were also more likely to purchase records as well (Moreau, 2013). Today, there is a similar fear among major music companies that the availability of free music will prevent consumers from paying for music products or paying for subscription music services.

Today, people consume music differently due to recent technological advancement. Many perceive music as a service instead of a product (Larsen, 2010). The internet has significantly changed the distribution system of music. It allows users to access a large library of free music both easily and legally. As a result there has been a shift in power from music producers to music

distributors (Waelbroeck, 2013). However, while music may be available for free, that does not necessarily mean that the music industry cannot make money.

In his books *Free* (2006) and *The Long Tail (2009)*, Chris Anderson discusses the nature of the digital economy. He outlines the positive aspects of free content and that the low marginal cost and limitless shelf-space for providing content on the internet makes it feasible for companies to provide free content to their users (Anderson, 2009). In his books, Anderson points out that it costs practically nothing to copy and distribute music on the internet (Anderson, 2006). This means the marginal cost of providing music is practically zero. In markets where it is easy to make an abundance of goods, economist Joseph Bertrand's' view on the prices of goods in competitive markets tends to hold true, as the price of a goods often falls to its' marginal costs (Anderson 2009, pg127). Thus, many would consider it reasonable that users can access music for free since the marginal cost to provide the songs (not including royalties) is zero.

There are different ways to sell music in the digital environment. As pointed out by Bahl and Sharma in their research, the digital market is made up of two market segments, the digital download market and the digital streaming market. Some streaming sites are free for users and are supported by advertisements. This means listeners make a trade-off by listening to free music with only the cost of having to listen to advertisements in-between some of their songs (Bahl & Sharma, n.d.). Other streaming services require users to pay and do not offer a free tier. In most cases they must subscribe on a monthly bases, similar to subscribing to a phone service. Many companies offer two tiers of services, a free ad-based version as well as a version that requires a subscription.

In the last few years streaming sites have become increasingly popular. Despite the increase in streaming usage (up 54% between 2013 and 2014 (Nielson, 2014)) many are skeptical of the

streaming business model. An article in *Bloomberg BusinessWeek* by Joshua Brustein, "Streams of Tears Why Spotify –And the Streaming Music Industry – Can't Make Money" explains that the business model for many popular streaming sites is unprofitable. It discusses the fact that Spotify, as well as Pandora, spends a fixed proportion of their total revenue on royalties. As a result even if they expand their customer base they will not be able to make a profit. For example, the more free users Pandora has, the more money it generates from advertisements. At the same time, the amount of royalties and licensing fees increases every time a user listens to a song. Thus, increasing the amount of free users does not increase revenue for many of these services that offer a free version of their service. These companies must convince users to upgrade to a premium model in order to experience success in the future (Brustein, 2014). One of the main goals of this project is to determine whether or not listeners are willing to pay for subscription based streaming services.

Music Industry Background

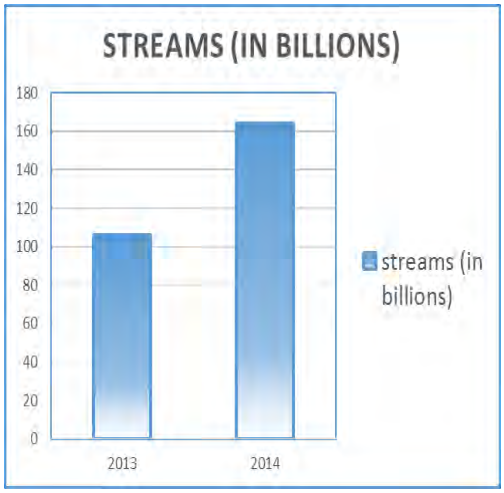
The fact that each artist creates different and unique products in the form of songs and albums makes music one of the most interesting commodities on the market. Songs are often personalized by their listeners and irreplaceable by other songs. Consumers may like and want a limitless number of songs, and one song cannot be replaced by another as most songs are unique.

The term "music industry" encompasses many different players that are involved in the production and distribution of music. Historically, an artist took many steps in order to transition from composing a song to having a finished product ready for distribution. Due to technological innovation much of this process has been streamlined. For example, artists are no longer required to produce albums in expensive studios. Many artists can produce quality recordings using

equipment in their own homes (Gateau, 2014). The reduction in these costs affects distribution as a lower number of songs/albums need to be sold to cover the costs of production. Also, the new digital age allows different options for marketing musicians. While in many cases there are huge fees for promoting artists, there are also more options for lower costing promotion via the internet.

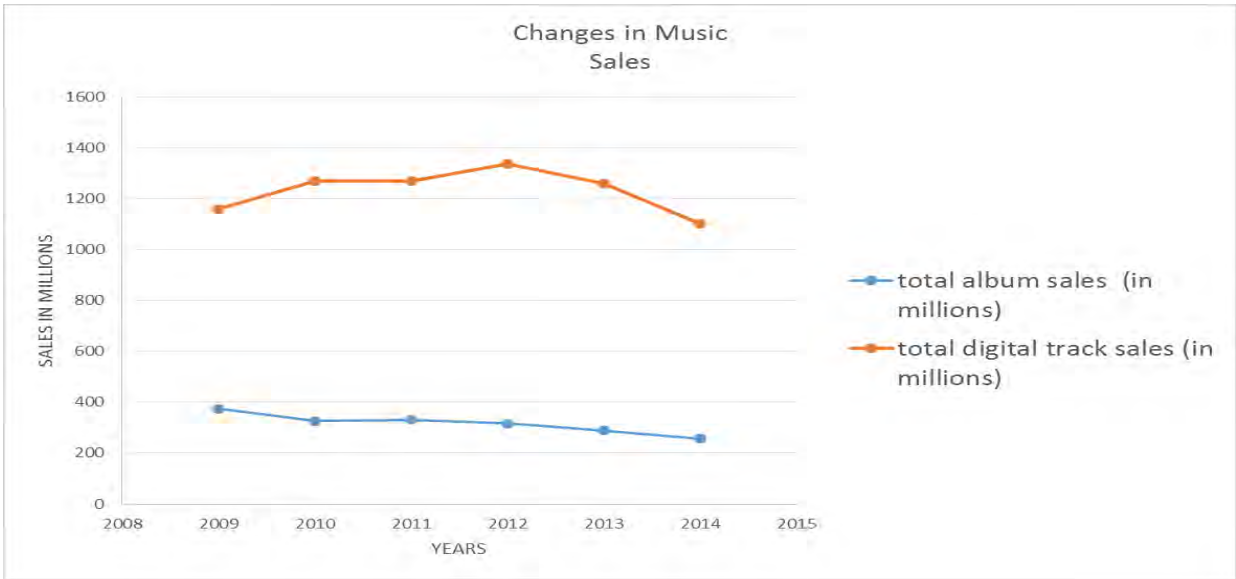
During the second half of the twentieth century the music industry experienced immense commercial growth. In the 1990s, the music industry was making immense profits, specifically due to album sales. However, starting in the early 2000s, illegal peer to peer (p2p) music sites started to infiltrate the music business. From 2000 to 2003, CD sales dropped 26% (Kusek, 2005). Soon after illegal music downloading sites became popular, legal digital music stores, such as iTunes began to appear. Recently, services that stream music using the internet or cloud based services have entered the music market. Many of these services offer features such as creating and sharing playlists, creating radio stations based on your favorite artists or genres, and song recommendations. As a result, providing music has begun to shift from a product to a service. While it seems consumers are still interested in consuming music, the main question is how they will continue to consume music and whether the music business can capitalize off the music consumption of consumers as they have in previous decades.

The Problem



The music industry has experienced several changes in recent years. According to data from Nielson, the number of streamed songs has increased by 54% from 2013 to 2014 (Nielson, 2015). People are exposed to music through online digital stores such as iTunes, and streaming sites such as Spotify and Pandora. However, this has come at the expense of the traditional record industry which has been losing sales. Thus, whether or not the music business can find an effective way to monetize the distribution of music in the digital age remains the most important question.

In the past five years the sales of albums have rapidly fallen compared to sales of individual digital tracks and music streams. In 2013 and 2014 sales of digital tracks began to decline for the first time since Nielson started tracking sales. Many have attributed the decrease in the sales of digital singles to the increase in streams (Nielson, 2015). In fact, one report stated



that 2014 was the, "worst sales year since the advent of Nielson Music in 1991" (Christman, 2015). An article in the *Wall Street Journal* noted that the use of streaming increased to 164 billion songs from 106 songs. As a result, "paid downloads of albums and songs declined 9% and 12% respectively" in 2014 (Smith, 2015 para.2). Thus, as these changes have radically occurred in the music industry it is important to try to understand how the music industry can react to these changes and whether or not people will eventually be willing to pay to stream music. This may be difficult considering that many consumers have begun to consider music as a free service. The major question is whether or not free music that can be accessed online acts as a substitute or a complement to the legal purchasing of music (DangNguyen, 2012).

The Music Industry: Overview

The music industry involves the productions, distribution, and licensing of music. The three largest record companies in the music industry are Sony Music Entertainment, Universal Music Group and Warner Music Group. Record companies manage the production, manufacturing, distribution, marketing, promotion, and enforcement of copyrights for musical recordings. An industry update by *First Research* broke down some of the current attributes of music consumers. They noted that consumers of music were split evenly between men and women and that 10% of consumers of recorded music are between the ages 13-17, 15% are between the ages 18-35, 20% are between the ages 26-35, 30% between the ages 35 and 50, and 25% are 51 and older (*Music Production & Distribution - Quarterly Update,* 2015). The industry update notes some important trends outside of the increasing use of streaming services. Other trends affecting the music industry include the new mobile music platforms. More people are listening to music on portable devices via their smart phones. Thus, the fact that consumers have

mobile access to the internet has increased the use of cloud music players. Also, there has been an intensification of efforts to control piracy. The Recording Industry Association of America has been working to shut down more websites that provide illegal and peer-to-peer music sharing files. Finally the music industry has been hit by the lower prices of albums in general. Not only has the prices of albums fallen but the sales of physical CD's have shifted to discount stores (such as Wal-Mart) that are more consolidated and powerful than the independent stores that once sold music (*Music Production & Distribution - Quarterly Update* 2015).

The Changing Music Market

The digitization of music has changed the structure of the market for music in several important ways. In their article, "The Future of Music: Manifesto for the Digital Music Revolution", Kusek and Leonhard explain the importance in the difference and distinction between the artist and the record label (Kusek & Leonhard, 2005). People are interested in the artist, record labels mean very little to consumers, this means if artists can find a way to reach their consumers, the fact that they are or are not associated with a label may not be as important. There was a time where major labels had full control over which albums, songs and artists were available to mass audiences. Now with the help of the internet, artists do not need a record label in order to reach their audience. Kusek and Leonard also discuss the fact that consumers are less dependent on devices such as the radio in order to learn about new artists. Perhaps the most important point from Kusek and Leonard is the "liquidity" of music, or the availability of music to consumers in more places and at more times than ever (Kusek & Leonard, 2005) . The demand for music to be convenient has been an important element to the new market for music. Due to digitalization, consumers can reach almost any song they want to hear from almost

anywhere due to a combination of portable music players and internet based music services. As a result of this new 'liquidity' of music, supplying music has become a service.

How Can Music be Free?

Chris Anderson discusses why the availability of free music economically makes sense in his books *Free* (2009) and *The Long Tail* (2006). He states that in a market where goods are abundantly available, prices fall to the marginal cost. In the digital market the marginal cost of adding and copying songs is practically zero. As a result it is logical that songs would be available for free online, since they are practically free to provide. However, the availability of free music does not mean death to the music industry. Anderson discusses the importance of being able to, "make money around free" (Anderson 2009, pg 14). The idea is that items that are in abundance and have a marginal cost of zero should be free. Anderson states that the music should be free and points out that artists and the music industry can make money off of touring and merchandise. Anderson points out that bands such as the Rolling Stones earn ninety percent of their revenue off of touring. Anderson states that the music industry can survive with 360 contracts, which means that the management of artists will earn more money from concerts and merchandise. Thus, according to Anderson the music industry can survive with free music as long as the extras surrounding it, concerts and merchandise charge a premium price (Anderson 2009).

Technology has not only made it possible to provide free music but has also lowered the cost of providing music to consumers. Not only has the digitalization of music lowered the cost of distributing music to consumers, it now cost less to produce music. Ian Jeffrey Reynolds, in his thesis "Navigating the Modern Music Industry: From Production to Distribution" discusses

the increasing amount of album and song recordings that can be done on a smaller budget and recorded in homes versus the traditional recording studio (Reynolds 2014) . The lower production budgets change the environment of the music business in many ways. First, it gives more power to the artist who can now bypass traditional production methods in order to create recordings that can be made available to their consumers at a lower price. Artists can also promote themselves through websites and social media sites at a limited cost.

More or Less Music?

The internet has drastically changed the way consumers' access music. However, there is an ongoing debate as to whether the digitalization of creative works such as music, will follow the market structure of the winner take all theory or the Long Tail theory. The Long Tail theory implies that an unpopular music track can reach a paying consumer without costing too much to provide, due to the low cost of adding it to the digital shelf (Anderson, 2006). In the digital environment, the unlimited shelf space available on the internet allows for unpopular songs to become available to consumers. These songs would not have been available to consumers if music was restricted to physical sales where a large number of copies must be sold in order to make a profit. Instead, the Long Tail takes advantage of niche markets. If streaming services with a large library of music are able to create the right features and connect each of their users with niche songs that only that user and a few others may like, then streaming services can create value for their users.

In theory, if the Long Tail does apply to an economic reality in the music business, then fewer songs would account for higher percentages of sales of individual songs. This occurs because more people will buy songs that they like and that are not popular or considered hits.

Chris Anderson states in his book *The Long Tail* that the Long Tail does not get rid of the 80/20 rule (that 80 percent of the profits come from 20 percent of the sales) but lessons the effect of the 80/20 rule (Anderson 2006). Anderson believes that Long Tail markets do this because more products can be offered, and due to filters and recommendations it is easier to find these products. Then, because the economics of niches is roughly the same as hits, there are profits to be found at all levels of popularity. This is important in trying to understand why consumers are attracted to paying for subscription services. If subscription services are interested in convincing consumers to pay for subscriptions they must adequately filter music and figure out what their audience listens too. If a music service can find all the niche songs that their consumers are interested in they will be perceived as more valuable from the consumer's perspective.

However, while that theory looks good on paper, others argue differently. Anita Elberse, in her book "Blockbusters," argues the opposite of Anderson. She believes that even with the digitalization of music, the market has become even more concentrated with fewer hits and superstars, a winner-take-all market. She points out that in 2011, "0.001 percent of the eight million tracks sold that year generated almost a sixth of all sales" (Elberse 2013, pg 160). Thus, Elberse believes that the digitalization of music has pushed the 80/20 rule in the opposite direction, where even less of the songs make up most of the revenue. She even states that for albums she believes, "it is closer to an 80/1 rule" (Elberse 2013 pg 162). Elberse reasons that now that one can individually download songs, consumers do not have to buy an entire album to access a few songs. As a result consumers are allowed to dedicate their money to the few songs they actually do want. Elberse also discusses the fact that people like to be part of groups, and thus the majority of people are only interested in listening to songs that everyone else is listening too. This also helps keep the music market concentrated among a few songs.

The discussion of whether the digital market for music adheres to the Long-Tail theory or the winner-take all theory is relevant to the research in this project. If the Long-Tail theory holds true instead of the winner-take all theory this would mean that the internet could be used to expose people to new music that they would be interested in purchasing. However, if the winner-takes-all theory holds true, then the websites and filters that expose potential listeners to new music may not hold much power if consumers flock to the few blockbusters.

In his article *Digital Music: Economic Perspectives*, Patrick Waelbroeck discusses a report for the French Hadopi on the digital music sector and its profits. The report provides insight on the music market in France stating that 66% of Amazon.fr sales are not in the Top 1,000 bestselling list (Waelbroeck, 2013). However, the report also acknowledges that there are several million titles available on the website that are not generating revenues. This article suggests that streaming sites and the internet's ability to expose consumers to music that will eventually lead to sales is still limited. This does not mean that if the right site with the right filters existed that there isn't potential for streaming sites. While there are still skeptics from the analysis of the French music services about the benefits of the Long Tail, it seems neither theory has been proven.

The Importance of Sampling

Sampling allows a consumer to hear a song before deciding whether or not to buy it. Since consumers are able to sample songs online for free, they may decide to listen to songs that they would not have otherwise listened to if they had to buy the song/album before listening to it. Thus, it is possible that music is an experienced good and as a result many people prefer to listen to songs or familiarize themselves with an artist before deciding to buy a song and/or purchase

an album. Under the notion that people will want to sample music before buying music, the availability of free music on the internet may help consumers decide which music they want to buy. Martin Peitz and Patrick Waelbroeck conducted a study on whether or not music labels were hurt from music sharing on illegal Peer to Peer Networks. They determined in their research that in many instances consumers are able to make more informed decisions about what songs they would like to buy (Peitz 2006). Rafael Rob and Joel Waldfogel did a study on the illegal downloading of music and its effects on sales displacement and social welfare among a sample of college students. One result from the survey was that illegal digital downloading lowered the amount of expenditures for paid music. However, the music that was illegally downloaded was not valued as much by the consumers of these products (Rob & Waldfogel 2006). The results suggest that people who have access to free music will listen to music that they would not have normally listened to. Even if consumers are not interested in purchasing most of the songs they listen to for free, it does give listeners the opportunity to explore new music. Also, the listener has the opportunity to find a song that they may not have been able to find otherwise.

Waldfogel also conducted another study on illegal downloading. Throughout his research he found that, "stolen music reduces purchased music," (Waldfogel 2009). However, the results from his survey also demonstrated that illegal downloading contributes to only a small percentage of sales displacement. An even more important result from this study is the increase in consumer welfare from having access to a large amount of music. This is important as this project examines whether or not streaming sites that provide a large library of music may entice more people to subscribe. The results from this study imply consumers enjoy having access to a large library of music. Overall, this study provides evidence that consumers benefit from having

access to a lot of music even if this includes music that the consumers would not have initially been willing to pay for it.

The Network Effect

Digital music stores and streaming sites have been able to gain momentum and popularity through network effects. Network effects are used by websites and online communities to maintain their customer base by making it difficult for users to switch to new entrants. Companies such as Spotify, rely on a large consumer base to succeed and rely on network effects in order to increase their amount of customers. For example, the more artists available on a streaming service the more likely consumers will want to use the service. The more users that subscribe to the service the more artists will want to provide their music on the service. Continuing this pattern, more users will want to sign up if the know other people are using the service and that the artists they enjoy listening to are available on the service. Thus, as a result of network effects a streaming site will gain more users and available content. However, many debate whether or not network effects can help incumbent companies stay in power as much as it was previously believed.

Research by Rajiv Muckherjee and Anitesh Barua in their article, "The Incumbency Protection Power of Network Effects: Hype or Reality," suggests that the network effect has limited power in the digital environment. Due to modern day technology, switching costs are not as high in the online community. As a result of the similarity of online sites, the learning curve of new products has been scaled down. Muckherjee and Barua's research discusses the importance of consumers' ability to incrementally adapt to new entrants. As a result of this it is becoming

easier and easier for new entrants to enter the market and detract audiences from the incumbents (Muckherjee 2012).

In another article, Thomas Eisenmann, Geoffrey Parker and Marshall W. Van Alstyne discuss business strategies for two-sided markets. They discuss the importance of subsidizing one of the two sides of users of a two-sided market. In the case of streaming music sites such as Spotify, these sites have subsidized music labels as they have paid a large amount of money in order to recruit labels and artists to provide music on their site. Although there has been controversy as many artists have come forward stating that they have not received enough money for the amount of times their songs have been streamed. For example, hit songwriter and producer Pharrell Williams has stated that he has only received $3000 from Pandora for more than $43 million streams (While, 2014). Ideally, the companies are subsidizing the artists. However, a large portion of this money most likely goes to the record label. Streaming sites subsidize record labels/artists knowing that the more music they have available on their site the more demand they will receive from a consumer base. Though, in the case of Spotify, the users in many situations incur little cost (just listening to advertisements) in order to use the site. The question is how long can this continue? As one can see, the ultimate goal here is to attract a large number of users. This is called a "cross-side" network effects. The core of the theory behind the "cross-side" network effects is if the provider can gain enough users on the subsidy side, those who are on the paying side will spend more, thus creating more valuable content leading to a higher demand from the subsidy side (Eisenmann, Parker, Alstyne, 2006) .

In the case of streaming sites like Spotify, the goal is to create a large audience in order to encourage more artists and record studios to provide music on the site. The better and more music that is provided on the site the more users want to join or continue to use the site. This

increasing demand by consumers is important as sites such as Spotify want to entice customers to upgrade to paid subscriptions.

The article by Eisenmann, Parker, and Van Alstyne also highlights that one of the biggest challenges encountered by markets with network effects is a winner take all battle. This results from the fact that these companies with products using network effects rely on having such a large customer base that it is difficult for many companies to survive in these markets (Eisenmann, Parker, Alstyne 2006). Since in this online market it is easier for consumers to switch to other services, online streaming companies are extremely competitive with each other, since many of them know they must achieve a large number of users to become successful. Thus many sites may try to entice customers by offering many free features to consumers to entice them to their streaming service. Overall, the fact that these streaming sites need a lot of users but it is easy for users to switch to a different service, places these companies in a difficult position.

Why Streaming and Digital Music Stores?

There are many reasons why consumers are interested in streaming services and digital music stores. In a thesis by Jens Peter Larsen, Larsen discusses the evolving needs of music consumers and why these new digital music stores and streaming sites meet these consumers' needs. Larsen found that the four most important needs to be meet for consumers are, (in decreasing order of importance) convenience, quality, pricing and connectivity (Larsen 2010). Larsen discusses the fact that consumers now expect these new "music services" to be presented as a bundle, meaning that music platforms now have an increasing amount of pressure to provide multiple features. Many of these new streaming sites and digital music stores are able to provide these features to their consumers. In terms of convenience, streaming sites and digital music

stores, along with devices such as phones and portable music players, give consumers the option and ability to listen to music both online and offline. Also, the convenience of having the ability to find a song online in just seconds allows more consumers to access songs faster than ever before. Overall, the consumers' need for music services to provide convenience over price is important when analyzing whether or not music service sites will be able to grow and keep consumers. As music streaming services continue to work to bring more music to more devices and increased availability, more people may be willing to incur a cost in order to conveniently access their music.

Different Streaming Models

It is important to note that not all streaming services, even the free ones, are the same. For example, Spotify's free service differs from Pandora in that Sportify provides a free on-demand streaming platform where Pandora works similarily to a radio service in which users cannot pick a specific song that they want to listen. Free on-demand streaming services such as Spotify lets users pick the specific song they want to listen too. Many companies and artists are far more upset with Spotify's on-demand free streaming services. Paid for on-demand streaming services such as Rhapsody believe that Spotify has the wrong business model since they allow users to listen to whatever song (that is available in the library) they want too whenever the user wants to. Rhapsody executives Jason Epsetin and Rob Glaser, in an article for *Billboard*, stated they believe that the best streaming models require users to pay for the newest and exclusive songs and albums before they are available. Thus, adding an incentive to paying for subscribtion based services. Epstein and Glasser both believe that streaming can be a good business model for distributing music but it has to be done in the correct way (Epsteine, 2014).

Spotify's business model has recently received even more attention after popular musician Taylor Swift removed her music from the streaming services in late 2014. This was significant as Taylor Swift was Spotify's most streamed artist for the month of September. Also, after leaving the free streaming site her album went on to become the highest selling album in 2014, with 3,661,000 album sales (Nielson, 2014). Taylor Swift was able to take her music off streaming sites because she is an already established and popular artists. Also, she is the most successful artist on the Big Machine Record Label. For artists attempting to break into the industry this is not an option. It is important to note that while Taylor Swift took her entire back catelog of music off Spotify, her back catelog of music is available on other streaming sites that are not on demand such as Pandora or paid sites such as Tidal.

These action by Taylor Swift as well as other major artists that have dropped from streaming sites, causes more tension between the different business models. Many have discussed whether or not streaming models such as Spotify are acceptable business models. Spotify's CEO Daniel Ek has defended his business model stating that 70% of their revenue is given to artists and that if consumers were not listening to Spotify they would be illegally accessing music instead. Daniel Ek has also stated that 80% of his paying customers originally used the site for free, and thus the paid service could not survive without the option for a free service. (Brustein , 2014) Overall, recent events have called into question which type of streaming services will become the leading business model for streaming services and which types of streaming services could help increase profits in the music business.

Hypotheses:

In order to determine what the attributes are of consumers who trade up for premium music services I created hypotheses to test using regression analysis. For the first hypothesis I

wanted to see if the amount of free music a consumer listens to would persuade them to trade up to premium services. Many of the streaming services available to users provide a two-tier streaming platform. This means they offer a free version and a premium subscription version. Spotify CEO Daniel Ek has defended this system stating that without the free version of the product consumers would be less likely to upgrade to premium services (Brustein, 2014). So it is from this logic that the following hypothesis is created,

> ***Hypothesis 1****: Consumers who spend more hours listening to free music are more likely to upgrade to a subscription service.*

Research by M. Peitz and P. Waelbroeck suggests that the ability to sample songs allows consumers to make informed decisions about the songs they are downloading (Peitz & Waelbroeck 2006). As a result of this knowledge a hypothesis was created about sampling. Sampling includes listening to music on streaming sites, on You-Tube, the radio, etc.

> ***Hypothesis 2****: Those who sample a song for free are more likely to download a song than those who have not sampled a song before.*

Internet subscription based companies have become very popular in recent years. Many have made comparisons between services such as Netflix and music streaming services. An article in the Harvard Business Review discusses the fact that people have been renting and borrowing movies for decades, yet until the past decade, music was mostly bought. Since music has a greater repeat value than movies and TV shows many people may not want to subscribe to music services, for they can only access those songs as long as they subscribe, and if they stopped subscribing they would lose a large library of music (Allworth, 2011). Knowing that many of these subscriptions services have similar features but provide different products lead to the creation of the following hypothesis.

Hypothesis 3*: Those who subscribe to other media sites such as Netflix are more likely to subscribe to music subscription sites.*

Nielson ratings found a correlation between the artists that have the most twitter followers and the artists who that have sold the most albums (Swift, 2014). Knowing this, a hypothesis was created about those who actively follow artists on social media and whether or not they buy the albums of those artists that they follow.

Hypothesis 4*: Those who actively follow an artist using social media are more likely to purchase an artist's album.*

Many people listen to music while exercising. Thus, it seemed appropriate to create a hypothesis testing whether those who exercise frequently and listen to music while they exercise are more likely to pay to download music.

Hypothesis 5*: Those who listen to music while working out are more likely to upgrade to subscription services*.

The car is another place where people frequently listen to music. Many internet streaming companies have worked hard to make their services available in cars in hopes that the portability option will increase the amount of users (McBride, 2007). Thus, we thought it was important to create hypotheses about the amount of hours someone drives and whether or not they can plug portable devices into their cars or have Bluetooth wireless capability was appropriate.

Hypothesis 6 a*: Those who listen to streaming services while driving are more likely to upgrade to a subscription service.*

b. *People who drive more hours are more likely to upgrade to subscription services.*

The more technology devices a person owns the more options they may have for listening to music via an internet streaming account/data. Thus, the more devices a person has they would have more opportunities to take advantage of their paid streaming account.

Hypothesis 7*: The more technological devices a person has the more likely they are to subscribe to subscription music services.*

Based on the concept of network effects, for music streaming sites, the more people who participate/subscribe to something the more likely others will subscribe to the service (Eisenman, 2006). As a result of these studies the following hypothesis was created about whether or not those who know more people who subscribe to premium services were more likely to subscribe to premium services themselves.

Hypothesis 8*: The more friends a person has that have subscribed to premium services the more likely the person will subscribe.*

The car is another place where people frequently listen to music. Many internet radio/streaming companies have worked to make their services available in cars in hopes that the portability option will increase their amount of users (McBride, 2006). Thus, a hypothesis was created about the amount of hours someone drives and whether or not they can plug portable devices into their cars or have Bluetooth wireless capability.

Hypothesis 9*: Those who have an USB drive or Bluetooth capability in their car are more likely to subscribe to premium services versus those who do not have an USB drive in their car. Those without a USB drive will purchase music from digital music stores to burn onto CDs to play in their car.*

Those who already have a large library of music may not want to pay a subscription to streaming sites as they already have access to a large library of music. It is important to study the

relationship between a digital music library and streaming because sales of digital tracks have decreased in the past two years and there has been a large increase in streaming. Digital music stores such as Apple have looked to get into the streaming music market most likely as the result of a decrease in the purchase of individual songs (Karp, 2014). Knowing that digital stores such as Apple are making the effort to move into streaming, a hypothesis was created about the relationship between ones' digital library and their willingness to pay for streaming services.

Hypothesis 10*: The larger the size of a consumers iTunes/ digital music library the less likely they will upgrade to premium streaming services.*

One of the main ways artists and their labels generate revenue is through concert performances. In fact, the most profitable element of the music industry is from concert attendance (Anderson, 2009). Thus, a hypothesis was generated about whether or not there is a relationship between concert attendance and streaming music.

Hypothesis 11*: **a)** The more concerts a consumer attends each year the more likely they will subscribe to a paid streaming service.*

b) The more concerts a consumer attends each year the more likely they will download purchased music.

The next hypothesis was created to see if a consumers' favorite genre determines whether or not a consumer will pay for a subscription streaming service.

Hypothesis 12*: a) Those who prefer to listen to Pop Music are the most likely to pay for Subscription based services*

b) Those who prefer to listen to Country are the least likely to pay for Subscription based services.

Method

To acquire the data needed to complete this study, a survey was created and given to music consumers. After building the survey and collecting the results, regression analysis was completed in order to determine whether or not the predicted hypotheses about the consumers of music will pay for music were true.

Survey Design

A series of survey questions consisting of both multiple choice questions and open ended questions were given to participants. The total amount of survey questions a participant could respond to was thirty-seven questions. However, the number of questions answered varied based on responses. Those who said that they paid for streaming services were asked more questions about their streaming habits and the paid services they use. When creating the survey it was piloted by three people who added imput as to whether or not the questions were easy to understand and how long it took to complete the survey. The questions were based on the hypotheses created before the survey was administered. Many of the questions required either a yes or no answer. Other questions ranked aswers on Likert Scales (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always). Overall, the survey was designed to gain an understanding of whether or not consumers subscribe to music services. The survey also aimed to gain an understanding of which services consumers are using, where they listen to these services, and how many hours a week they use each service.

Survey Administration

This survey needed several participants of various age groups, gender, and life experiences in order to determine the characteristics of people that are subscribing to premium

music services. The participants of this survey vary in age, gender and lifesytle. The table below demonstrates the age breakdown of the participants in this survey. Out of the respondents, 55% were female, 43% were male, and 2% were undisclosed. Participants completed an approximately ten minute survey via Qualtrics on their own time and at their own convience.

Age Breakdown	
Under 18	3
18-25	98
25-35	7
36-45	19
46-55	16
56-65	8
65+	1
Not disclosed	37

Many of the particpants were students of Bryant University as well as people I knew throughout the community. Before taking the survey each participant was given information about why they were asked to take the survey. In total 189 surveys were completed. This gave the survey approximately a 70% completion rate.

The Models

In order to analyze the results from this survey, regression analysis was conducted using the SPSS version 19 program.To analyze these results it was important to determine which variables were appropriate for each of the regression models. Regression models were created for determing who pays for streaming services, who pays to download individual songs, and who pays to download full albums. In order to determine the models, I first conducted single linear regressions based on the variables needed for each hypothesis. After that I conducted a multilinear regression testing all the variables hypothesized to be associated with each hypothesis. After conducting this research I chose the variables that were most appropriate for each of the models based on the p-values or levels of significance for each of the variables. The variables that had very high p-values, (>.1) and/or did not seem to be relevant were not included

in the final models. From these finalized regression equations, I was able to determine which hypotheses failed to reject.

The Model for Do You Pay was a run as followed,

Do You Pay = $\beta_0 + \beta_1$FREEHW + β_2EXCDEV2 + β_3DIGLIB + β_4STREX + β_5MADIF + β_6LISFREE + β_7DIFDEV + β_8DEV6 + β_9PLUCAR

The Variables in the model are as follows.

Table 1

Variable	Meaning	Coding	
DOYOUPA	Do You Pay For Streaming	1=yes	2=no
FREEHW	Hours listening to free music	Actual Value	
EXCDEV2	Use mp3 player while exercising	0=no	1=yes
DIGLIB	Number of songs in a person's digital library	actual value	
STREX	Do you stream music while exercising	0=no	1=yes
PLUCAR1	Can you plug in your MP3 player in your car	0=no	1=yes
MADIF	How many artists do you follow on Social Media	actual value	
LISFREE	Do you Listen to Music using free streaming services	1=yes	2=no
DIFDEV	Number of different devices do you use to stream one account?	actual value	
DEV6	Use a car stereo system to listen to music	1=yes	2=no

These variables were choosen after testing the variables in both linear and multiple regression analysis, where they were determined to be the most significant and thus the most approriate for the model. The variable FREEHW measure the amount of hours of free music a consumer listens to a week. This variable accounts for the amount of hours spent listening to free

music before some consumers traded up for paid for premium services. The variables in the model such as ECXDEV2 and STREX are intended to test if streaming music while excercising or excercising with an ipod/mp3 affect whether or not the consumer will eventually pay for streaming services. The variables PLUCAR and DEV6 are intended to test if a consumers' listening habits in their car help determine whether or not they will subscribe to a music service. The variable MADIF was included in the model as many have claimed the importance of social media for artists. This variables tests to see if the more artists that a consumer follows on social media affects whether or not they pay for streaming services. The variable DIFDEV is appropriate for this model as many premium streaming services include offline feautures that are more likely to be utilized and taken advantage of if using different devices. Finally, since streaming services such as Spotify emphasize the importance of having a free tier of serivce in order to create an incentive for consumers to trade up, it is approaptiate to add the variable LISFREE to the model. The correlations for the variables for this model can be found in Appendix B.

Table 2

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
DOYOUPA	188	1	2	1.86	0.346
PLUCAR1	189	0	1	0.76	0.427
DEV6	189	0	1	0.80	0.389
MADIF	187	0	50	4.90	7.524
EXCEDEV2	189	0	1	0.22	0.417
FREEHW	189	0	84	7.84	10.576
LISFREE	188	1	2	1.19	0.395
DIGLIB	180	0	18000	882.37	1817.865
STREX	188	1	5	3.12	1.543
DIFDEV	189	0	5	1.96	1.056
VALID N	177				

After running the model the results were as follows.

Note: The results of the model are as follows, the R-squared statistic is omitted from the report as it is not relevant in models where the dependent variable is a dummy variable. The appropriateness of these models was based off of whether or not it was logical to use the variables in the model.

Table 3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.222	.143		15.526	.000		
	FREEHW	-.014	.002	-.418	-5.612	.000	.788	1.270
	EXCDEV2	-.036	.058	-.041	-.617	.538	.972	1.029
	DIGLIB	-3.407E-5	.000	-.168	-2.340	.020	.847	1.181
	STREX	.008	.017	.037	.489	.625	.783	1.278
	MADIF	.005	.004	.101	1.393	.166	.833	1.200
	LISFREE	-.165	.069	-.188	-2.405	.017	.714	1.401
	DIFDEV	-.055	.028	-.164	-1.979	.050	.631	1.584
	DEV6	.070	.063	.075	1.098	.274	.941	1.063
	PLUCAR1	-.030	.059	-.037	-.515	.607	.864	1.157

a. Dependent Variable: DOYOUPA

The results of the regression analysis display that the variable FREEHW, DIGLIB, LISFREE and DIFDEV. These variables are significant at a five percent level. The results from this model depict a correlation between those who listen to free music and those who eventually pay for a subscription to a streaming service. In this model the dependent variable was coded as 1=yes, 2=no, thus a negative coefficient infront of an explanatory variable implies a positive relationship. For this model interaction terms were tested between DIGLIB (digital library size) and DIFDEV(Different Devices) and between DIGLIB (digital library size) and AGE (age). However, the results of these variables were insignificant.

The model for downloading invidual songs is as follows,

$$ALBSTO1=\beta0 + \beta1MADIF + \beta2DIGLIB + \beta3AGE + \beta4SOC1 + \beta5FAN01 + \beta6IND01$$

Where the variables stand for,

Table 4

Variable	Meaning	Coding	
ALBSTO	User Downloads Digital Albums	0=no	1=yes
SOC	Do you follow artists on social media	0=no	1=yes
MADIF	Number of artist you follow on social media	actual value	
DIGLIB	Number of songs in digital library	actual value	
FAN	Consumer considers themselves a fan of music	0=no	1=yes
AGE	Age of Consumer	actual value	
INDSON	User Downloads Individual Songs	0=no	1=yes

There are many reasons why the variables chosen where included in this model. First, when conducting linear regressions and multiple regression models, these variables were the most significant within the model. This model was built to test the hypothesis that consumers following artists on social media were more likely to download albums. Since album sales have been decreasing it seemed appropriate to include variables such as a consumers' age, their digital library size, whether or not they consider themselves a fan of music, and whether or not they download individual songs. The correlations for this model can be found in Appendix B.

The descriptive stats for this model are as follows.

Table 5

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ALBSTO1	189	0	1	0.31	0.463
MADIF	187	0	50	4.90	7.524
DIGLIB	180	0	18000	882.37	1817.865
AGE	189	0	74	31.10	15.607
SOC1	189	0	1	0.58	0.434
FAN01	189	0	1	0.92	0.279
IND01	189	0	1	0.49	0.501
Valid N	178				

Where the result are,

Table 6

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.205	.133		-1.546	.124		
	MADIF	.008	.006	.115	1.395	.165	.590	1.695
	DIGLIB	1.379E-5	.000	.051	.764	.446	.881	1.135
	AGE	.002	.002	.057	.839	.403	.881	1.135
	SOC1	.061	.075	.065	.810	.419	.629	1.589
	FAN01	.184	.108	.113	1.704	.090	.912	1.097
	IND01	.442	.060	.474	7.334	.000	.958	1.044

a. Dependent Variable: ALBST01

In this model the dependent coefficient is coded as 0=no, 1=yes. Thus a positive coefficient infront of an explanatory variable indicates a postive relationship. These results suggest that a correlation exists between consumers that download individual songs and download full albums. This correlation is significant at a five percent level. At a ten percent level of significance the variable FAN01, whether or not the considers themself a fan of music, is significant. The other variables in the model are not significant. The varience inflation factors are low, below five, for all the variables in the model and thus indicate that there are no multicollinearity problems in the model.

The model for purchasing an Individual song was built as follows,

$$INDSON = \beta 0 + \beta 1WHESON2 + \beta 2WHESO38 + \beta 3WHESON4 + \beta 4WHESON6 + \beta 5WHESON9 + \beta 6WHESON0 + \beta 7SOC + \beta 8MAdif + \beta 9CARWC + \beta 10AGE + \beta 11DEV6$$

Table 7

Variable	Meaning	Coding	
INDSON1	Downloads individual songs	1=yes	2=no
WHESON2	Hears a Song on YouTube before deciding to download	0=no	1=yes
WHESON38	Hears a song using online streaming before deciding to download	0=no	1=yes
WHESON4	Hears a song on television before deciding to download	0=no	1=yes
WHESON6	Hears a song via a digital store sample before deciding to download	0=no	1=yes
WHESON9	Hears a song through social media before deciding to download the song	0=no	1=yes
WHESON0	Hears a song through friends before deciding to download a song	0=no	1=yes
SOC	Follow an artists on social media	1=yes	2=no
MADIF	The among of artists followed on social media	actual value	
CARBWC	Car Bluetooth Wireless Capability	1=no	2=yes
AGE	Age	actual value	
DEV6	Listens to music in the car	0=no	1=yes

These variables were choosen because they were signficant when conducting single linear regressions and a multiple regression including many of the variables tested. With this model we are trying to determine the traits of consumers who download individual songs. Many view sampling as an important factor when determing whether or not individuals will buy music. It seemed appropriate to test whether or not where someone listens or "samples" music helps determine if they will purchase individual songs. Other variables were included to test whether or not listening to music in cars and how people listen to music in cars determine whether or not individuals will download individual songs.

After specifying the model, descriptive stats were generated to better understand the collected data for the variables in the model. The correlations for this model can be found in Appendix B. The descriptive stats are listed as below.

Table 8

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
INDSON	189	0	2	1.50	0.512
WHESON2	189	0	1	0.34	0.474
WHESON38	189	0	1	0.33	0.473
WHESON4	189	0	1	0.19	0.394
WHESON6	189	0	1	0.08	0.279
WHESON9	189	0	1	0.01	0.073
SOC	189	0	2	1.40	0.501
MADIF	189	0	50	4.90	7.524
CARBWC	189	0	2	1.57	0.508
AGE	189	0	74	31.10	15.607
DEV6	189	0	1	0.80	0.398
Valid N	189				

After running the model the results were reported as follows.

Table 9

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.985	.127		15.679	.000		
	WHESON2	-.484	.062	-.457	-7.866	.000	.526	1.902
	WHESO38	-.414	.065	-.389	-6.404	.000	.481	2.081
	WHESON4	-.067	.066	-.053	-1.015	.312	.657	1.522
	WHESON6	-.176	.082	-.099	-2.150	.033	.839	1.191
	WHESON9	-.806	.290	-.118	-2.778	.006	.981	1.019
	WHESON0	-.409	.206	-.085	-1.988	.048	.980	1.021
	SOC	-.031	.052	-.031	-.591	.556	.665	1.504
	MADIF	-.003	.003	-.052	-1.045	.298	.718	1.392
	CARBWC	.041	.044	.041	.940	.348	.943	1.060
	AGE	-.004	.002	-.128	-2.724	.007	.800	1.250
	DEV6	-.014	.055	-.011	-.248	.805	.940	1.064

a. Dependent Variable: INDSON

In this model the dependent variable is coded as 1=yes, 2= no. Thus a negative coefficient infront of an explanatory variable indicates a positive relationship. The results above suggests that at a significance level of five percent, the variables WHESON2, WHESO38,WHESON6, WHESON9, WHESON0, and AGE are statistically significant. This implies that hearing a song on Youtube, via streaming service, digital sample, through social media, and through friends will influence whether or not a consumer decided to download an individual song. The varience inflation factors of less than three indicates that the model does not have issues with multicollinearity.

Results:

Hypothesis 1*: Consumers who spend more hours listening to free music are more likely to upgrade to a subscription service.*

This hypothesis was tested using the Do You Pay Model. The variable FREEHW measures how many hours a week a consumer listens to free music. This variable accounts for people listening to free music before they decide to subscribe to a service as well as people who listen to free music and do not subscribe to subscription based streaming models. With a p-value of .000, the variable FREEHW is statistically significant at a 5% level and has a coefficient of -.014 (which indicates a relationship since 1=pay and 2=does not pay). Thus, we fail to reject the hypothesis, and can infer that the more hours of free music a person listens to the more likely they will pay to subscribe to a music service.

Hypothesis 2*: Those who sample a song for free are more likely to download a song than those who have not sampled a song before*.

According to the INDSONG regression model, a positive correlation at a 5% level of significance was found between consumers who pay to download individual songs and

consumers who sample songs through YouTube, Online Streaming Services, Digital Store Samples, Social Media and through friends.

Hypothesis 3*: Those who subscribe to other media sites such as Netflix are more likely to subscribe to music subscription sites*.

The results from the Do You Pay Model indicate that the variable accounting for a subscription to multiple music sites is statistically insignificant at a 5% level. Thus, the total amount of other subscription sites a consumer subscribes too does not affect whether or not the person will subscribe to a music streaming service. Not only is the total number of subscription services a person subscribes too irrelevant, but which specific service, for example Netflix, the consumer subscribes to does not matter as well. This was determined earlier when choosing the variables that were most significant when building this model.

Hypothesis 4*: Those who actively follow an artist using social media are more likely to purchase an artist's album*.

This hypothesis was tested using the model for determining who buys albums. When looking at all of the different variables that affect whether or not a consumer will buy a full album, the variables SOC and MADIF, representing do you follow artists on social media, and how many different artists do you follow, were insignificant. Thus, not enough statistical evidence exists to support this hypothesis.

Hypothesis 5*: Those who listen to music while exercising are more likely to upgrade to subscription services*.

Overall, when analyzing the regression model that includes all the variables that were hypothesized to be relevant in the Do You Pay Model, the variables EXCTT (do you exercise at

least 3 times a week) and STREX (Do you stream while exercising) were not statistically significant at a five percent level of significance. It does not seem that this hypothesis can be supported by the results from the data. Thus, it is necessary to reject the hypothesis that those who listen to music while exercising are more likely to upgrade to subscription services.

Hypothesis 6 a*: Those who listen to streaming services while driving are more likely to upgrade to a subscription service.*

b. *People who drive more hours are more likely to upgrade to premium services*

Whether or not a person listens to streamed music in their car proves to be statistically insignificant at a five percent level of significance. Also, the amount of hours the music consumer drives does not have an effect on whether or not a consumer chooses to stream music. Thus, there is not enough evidence to support either of these hypotheses.

Hypothesis 7*: The more technological devices a person has the more likely they are to subscribe to subscription music services.*

Using the results from the Do You Pay Model, this hypothesis failed to reject and thus is plausible. The variable DIFDEV (which measures how many devices one uses for one account) was significant at a five percent level of significance. Thus, the more devices one has to use for a specific streaming account the more likely they will pay to subscribe to a music streaming service. Using the model built with the most significant predictors, the significance of the DIFDEV variable is .047 and the coefficient is -.055 signifying a positive relationship.

Hypothesis 8*: The more friends a person has that have subscribed to premium services the more likely the person will subscribe.*

The variable NFF was proven statistically insignificant after testing the Do You Pay model. Thus, the more friends/family a person knows that pay for streaming services, does not factor into whether or not a consumer will pay to subscribe.

Hypothesis 9*: Those who have USB drive or Bluetooth capability in their car are more likely to subscribe to premium services versus those who do not have an USB drive in their car and thus will purchase music from digital music stores to burn CDs to play in their car.*

Both the variables BWC (Bluetooth Wireless Capability) and PLUCAR1 (can you plug in a USB chord) were statistically insignificant at a level of 5% significance in the Do You Pay Model. This implies that having the ability to plug a portable device into your car or use a Bluetooth wireless system to listen to music does not correlate with a consumers' choice to subscribe to premium music services. However, if a consumers' car has Bluetooth wireless capabilities they are less likely to buy individual songs. This can be inferred from the fact that the variable BWC is significant at a five percent level of significance and has a positive coefficient and has a positive coefficient in the Do You Pay Model.

Hypothesis 10*: The larger the size of a consumers iTunes/ digital music library the less likely they will upgrade to premium streaming services.*

According to the result of the Do You Pay Model, the regression model implies that the opposite of this hypothesis is true. With a p-value of .021 it is statistically significant at the .05 percent level. Thus, it seems the more music a consumer has in their digital library the more likely they will upgrade to a premium streaming service.

Hypothesis 11*: **a)** The more concerts a consumer attends each year the more likely they will subscribe to a paid streaming service.*

b) The more concerts a consumer attends each year the more likely they will download purchased music.

The results from the regression analysis reject both of these hypotheses. The model does not imply a correlation between the amounts of concerts a consumer attends and whether or not they will subscribe to a paid streaming service or download purchased music. This result was surprising as many have suggested that the main revenue source for musicians are concerts and that albums and singles are used for concert promotion. After conducting the regression analysis I believe that the reason this hypothesis was rejected is due to the fact that many people, even the most ardent music fan does not attend many concerts each year (Although they may pay a high ticket price for the concerts they do attend). This was supported by the fact that out of those who responded to the survey the average number of concerts an individual attended was around 3.54.

Hypothesis 12*: a) Those who prefer to listen to Pop Music are the most likely to pay for Subscription based services*

b) Those who prefer to listen to Country are the least likely to pay for Subscription based services.

The results of the regression model show that no correlation exists between whether or not considering yourself a fan of a certain genre of music dictates whether a consumer will upgrade to premium services. Thus we can reject both of these hypotheses.

Disccussion of Results

After analyzing the model for determining who pays for streaming services a few significant variables were found. The most important result from the analysis was the discovery of the correlation between those who have larger libraries of music and those who pay for

streaming services. This result from the model was different than the predicted hypothesis that a negative correlation exists between a large number of songs in a digital library and paid for streaming services (p=0.20). This important discovery implies that people are willing to consume music in different formats. While it cannot be determind that those who pay for streaming services do so because they download individual songs or those who download individual songs do so because they pay to stream music, this correlation is still important. Many have suggested that streaming will replace the digital music market. Though it is true that digital sales have decreased in the past two years in favor for streaming, the results from this study provide evidence that the two distribution systems can not only coexists but may be able to support each other. It is possible (though more research needed) that streaming services give users a chance to sample new artists which will then lead to more purchases of individual songs and albums and as a result larger music libraries.

It seems one of the key attributes of consumers that inevitably paid to subscribe to a music subscription service was the amount of hours of free music they listened to each week before they began subscribing to a music service. The variable FREEHW has a negative coefficient (which in this case implies a positive correlation) and is statistically significant (p<.0001). Similar to the positive correlation between the amount of hours a person listens to free music, a positive correlation exists between listening to free music and subscribing to a music service (p<.017). Also, a positive correlation exists between the amount of devices a consumer owns that are used to stream one account, and whether or not a person decided to subscribe to a music subscription services (p=.050). This is logical as many premium music services offer the ability to listen to music on portable devices offline. Thus, if a consumer was

just using one device to listen to their music, they are probably less likely to subscribe to music subscription services.

The model for determining the characteriscs for downloading full albums appears next. The explanatory varibles in this model includes how many diferent artist the consumer follows on social media, the size of a digital library, the age of the person, whether or not they follow an artist on social media, whether or not they consider themselves a fan of music, and whether or not they download individual songs. The most significant variable was IND01 (p-value <0.0001). The results from this model imply that those who purchase individual songs are more likely to download abums. Also, the variable of whether or not the person considers themselves a fan of music may somewhat determine (p value of .088, significant at 10% level of significance) whether or not the individual may download a full album.

Finally, for the model for determining whether or not a consumer will download an individual song, the model included several variables about where people hear songs they eventually download. Overall, this finialized model determined that the most significant variables are WHESON2 and WHEON38, determining that consumers who hear a song on Youtube and online streaming services are the most likely to pay to download individual songs (p<.0001). Another significant variable is CARBWC (p = .041), meaning that if a car has Bluetooth wireless capability the consumer is less likely to download individual songs. The models' other significant variables at a five percent level of significance were listening to songs through a digital store sample (WHESON6), social/media (WHESON9), and friends (WHESON0). Finally, the results from the variable AGE imply that the older someone is the more likely they are to download individual songs.

Implications

The results from this study suggests the importance of sampling in the music industry. These implications derive from the correlations found between those who pay for music services and have large digital libraries. As well as the correlation found between those who listen to music on streaming sites and download individual songs. This could imply that people who believe they should pay for music, pay for it in different mediums (both streaming and downloading from a digital store/uploading from CDs' ect.). At the same time those who percieve music as free will not pay to download individual songs or subscribe to streaming services. Another important correlation exists between listening to music from online streaming services and paying for subscription services and/or downloading individual songs. It is plausible that those who sample songs are more likely to buy songs or pay for a certain artists' music if they can sample songs for free. These results could suggests (although more research needed) that companies could benefit from providing music samples.

The significance of the correlation between listening to free music and willingness to pay for music has several implications for companies that stream music. It suggests that there may be some benefits in allowing a free sample of certain artists and songs. However, these streaming companies must find a way to convince consumers to trade up to paid subscription services. Thus, the ideal streaming companies may provide some free music. At the same time these companies may want to charge for new and exclusive content.

Limitations

There are several limitations to this study. Since many people who participated in taking the survey are from the same community there could be a bias in the results. It is possible that the

survey population does not fully represent the total population of music consumers. Also, survey takers may not have fully thought through the answers to all of the survey questions they were asked, or possibly did not fully understand some questions, thus distroting the results. It is also possible that the surveys taken were rushed and that particpants did not answer the questions as accureately as they could have. Also, due to the use of cross sectional data for this study it cannot be concluded that because correlataion exists between two of the variable that causation also exists. Conducting more experiments could help determine whether or not different variables are casual versus correlational.

Further Research:

The results from the analysis imply that there are many areas for further research when trying to determine whether or not consumers will subscribe to premium music services. First, while this regression analysis implied that there was a correlation between many of the variables, in order to determine causation it is imperative to conduct more research. There are other areas of this field to research as well. This includes what characteristics of premium streaming music services attract customers. For example, does features such as sound quality, song recommendations, and portability matter when determining whether or not a consumers will upgrade to a premium service?

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Appendix A

Survey

1.Default Question Block

You are invited to participate in a study of the traits of music consumers. I hope to determine the attributes of consumers that pay for premium music streaming sites. If you decide to participate in this study you will take a brief survey about your music consumption habits. Your answers to this survey will not be released to the general public. Participation in this survey is voluntary, and if you decide to participate you are also free to discontinue your participation in this survey. If you have any additional questions please contact Meg Aman at maman@bryant.edu. By clicking yes you will continue with the survey and you are stating that you have decided to participate and that you have read the information provided above. If you check no the survey will end.

Yes No

2. Do you listen to music using free online streaming services?

Yes No

3. Which free online subscription based streaming service do you use? (check all that apply)

- Spotify
- Pandora
- 8tracks
- Radio
- iheartradio
- Groveshack
- iTunes radio
- Last.fm
- Other (please write

4. Do you pay for subscription based services?

Yes

No

5. If you currently pay a subscription to a streaming service did you use a free service before deciding to subscribe?

- Yes
- No

6. About how long did you use the free service before upgrading to a subscription based services?

7. About how many hours a week did you listen to music using free services before upgrading to subscription based services?

8. Which paid subscription based online streaming services do you use? (check all that apply)

- Spotify
- Pandora
- Beats
- Groveshark
- Rhapsody
- Sony Music
- Google Play
- Other

9. Do you download individual songs from online music stores?

- Yes
- No

10. Do you listen to a song, using free Internet based streaming services, before paying to download them?

- Never
- Rarely
- Sometimes
- Frequently
- Always

11. Do you download albums from online music stores?

- Yes
- No

14. About how many hours a week do you listen to....

	Hours
Music via free streaming sites	
Music via paid streaming sites	
Music downloaded legally through digital music stores	
Illegally downloaded music	
Physical Cd's	
Radio	

15. Do you listen to the full album via the Internet (streaming, YouTube, etc...) before downloading it from an online music store?

- Never
- Rarely
- Sometimes
- Frequently
- Always

16. Where do you hear a song before you pay to download it? (check all that apply)

- Radio
- You-tube
- Online Streaming Site
- Television
- At a sampling station at a brick and mortar store
- Digital Store Sample
- Online Radio Station
- Pandora
- Other

17. What devices do you use to listen to music? (check all that apply)

- ☐ Phone
- ☐ Computer
- ☐ MP3 Player
- ☐ Tablet
- ☐ TV
- ☐ Car Stereo System
- ☐ Other

18. How many devices do you use for one streaming account?

19. Where do you listen to music when using paid subscription services? (check all that apply)

- ☐ Home
- ☐ Car
- ☐ Gym
- ☐ Work
- ☐ Other

20. Do you use social media to engage with your favorite artists? For example have you "liked" an artist's Facebook page or follow an artist on Instagram, Myspace, tumbler, or any other form of social media?

- ○ Yes
- ○ No

21. Do you purchase the albums of artists that you follow on social media?

- ○ Never
- ○ Rarely
- ○ Sometimes
- ○ Frequently
- ○ Always

22. About how many different artists (in total) do you follow on social media?

23. Approximately how many hours do you drive a week?

24. How often do you listen to music using music streaming sites when you exercise?

- Never
- Rarely
- Sometimes
- Frequently
- Always

25. How often do you listen to music that was purchased through a digital store while exercising?

- Never
- Rarely
- Sometimes
- Frequently
- Always

26. If you listen to music while you exercise what device do you use?

- Phone
- MP3 Player
- Other
- N/A

27. Do you subscribe to any of the following non-music subscription based services? (check all that apply)

- Netflix
- Hulu
- Dropbox
- Flicker
- Newspapers
- Shutterfly
- Linked-in
- LastPass
- Xmarks
- Etc.
- I do not subscribe to non-music subscription based services

28. About how many family/friends do you know pay to use subscription based services?

29. Can you connect your phone/mp3 player/etc. to your car's stereo system?

- ☐ Yes
- ☐ No

30. Does your car have Bluetooth wireless capability?

- ○ Yes
- ○ No

31. About how many songs (both legal and illegal) do you have in your digital library?

32. In the past two years about how many concerts did you attend?

33. Of the following music genres, which would you identify as being your favorite?

- ○ Country
- ○ Rock
- ○ Hip/Hop & Rap
- ○ R&B
- ○ Pop
- ○ Jazz
- ○ Classical
- ○ Folk
- ○ Blues

34. Do you enjoy listening to and regularly listen to music from these following decades (check all that apply)

- ☐ 1950 - 1959
- ☐ 1960 - 1969
- ☐ 1970 - 1979
- ☐ 1980 - 1989
- ☐ 1990 - 1999
- ☐ 2000 - 2010
- ☐ 2011 - Today

35. Age?

36.Gender

- Male
- Female

37. Education Level

- High School
- Some College
- Associates Degree
- Bachelor's Degree
- Master's Degree or higher

Appendix B

Correlation Tables

Correlation Table for Do You Pay Model

Correlations

		DOYOUPA	FREEHW	EXCDEV2	DIGLIB	STREX	MADIF	LISFREE	DIFDEV	DEV6	PLUCAR1
DOYOUPA	Pearson Correlation	1	-.437**	-.007	-.202**	-.080	-.027	-.040	-.263**	.040	-.112
	Sig. (2-tailed)		.000	.923	.007	.277	.717	.586	.000	.586	.125
	N	188	188	188	179	188	186	188	188	188	188
FREEHW	Pearson Correlation	-.437**	1	-.006	.128	.312**	.242**	-.178*	.377**	.021	.166*
	Sig. (2-tailed)	.000		.939	.088	.000	.001	.014	.000	.770	.022
	N	188	189	189	180	188	187	188	189	189	189
EXCDEV2	Pearson Correlation	-.007	-.006	1	-.039	-.041	.047	-.066	-.027	.103	-.030
	Sig. (2-tailed)	.923	.939		.605	.578	.525	.366	.714	.157	.683
	N	188	189	189	180	188	187	188	189	189	189
DIGLIB	Pearson Correlation	-.202**	.128	-.039	1	.000	.329**	-.098	.258**	-.006	.048
	Sig. (2-tailed)	.007	.088	.605		.998	.000	.191	.000	.934	.519
	N	179	180	180	180	179	178	179	180	180	180
STREX	Pearson Correlation	-.080	.312**	-.041	.000	1	.149*	-.327**	.283**	-.104	.271**
	Sig. (2-tailed)	.277	.000	.578	.998		.042	.000	.000	.157	.000
	N	188	188	188	179	188	186	188	188	188	188
MADIF	Pearson Correlation	-.027	.242**	.047	.329**	.149*	1	-.178*	.179*	-.043	.086
	Sig. (2-tailed)	.717	.001	.525	.000	.042		.015	.014	.564	.243
	N	186	187	187	178	186	187	186	187	187	187
LISFREE	Pearson Correlation	-.040	-.178*	-.066	-.098	-.327**	-.178*	1	-.450**	.168*	-.178*
	Sig. (2-tailed)	.586	.014	.366	.191	.000	.015		.000	.021	.015
	N	188	188	188	179	188	186	188	188	188	188
DIFDEV	Pearson Correlation	-.263**	.377**	-.027	.258**	.283**	.179*	-.450**	1	-.108	.320**
	Sig. (2-tailed)	.000	.000	.714	.000	.000	.014	.000		.137	.000
	N	188	189	189	180	188	187	188	189	189	189
DEV6	Pearson Correlation	.040	.021	.103	-.006	-.104	-.043	.168*	-.108	1	-.025
	Sig. (2-tailed)	.586	.770	.157	.934	.157	.564	.021	.137		.729
	N	188	189	189	180	188	187	188	189	189	189
PLUCAR1	Pearson Correlation	-.112	.166*	-.030	.048	.271**	.086	-.178*	.320**	-.025	1
	Sig. (2-tailed)	.125	.022	.683	.519	.000	.243	.015	.000	.729	
	N	188	189	189	180	188	187	188	189	189	189

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

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

Correlation Tale For Download Album Model

Correlations

		ALBST01	MADIF	DIGLIB	AGE	SOC1	FAN01	IND01
ALBST01	Pearson Correlation	1	.186*	.140	-.021	.162*	.202**	.492**
	Sig. (2-tailed)		.011	.060	.774	.026	.005	.000
	N	189	187	180	189	189	189	189
MADIF	Pearson Correlation	.186*	1	.329**	-.257**	.540**	.159*	.093
	Sig. (2-tailed)	.011		.000	.000	.000	.030	.205
	N	187	187	178	187	187	187	187
DIGLIB	Pearson Correlation	.140	.329**	1	-.104	.129	.129	.124
	Sig. (2-tailed)	.060	.000		.165	.083	.085	.097
	N	180	178	180	180	180	180	180
AGE	Pearson Correlation	-.021	-.257**	-.104	1	-.301**	-.187**	-.033
	Sig. (2-tailed)	.774	.000	.165		.000	.010	.650
	N	189	187	180	189	189	189	189
SOC1	Pearson Correlation	.162*	.540**	.129	-.301**	1	.208**	.073
	Sig. (2-tailed)	.026	.000	.083	.000		.004	.320
	N	189	187	180	189	189	189	189
FAN01	Pearson Correlation	.202**	.159*	.129	-.187**	.208**	1	.147*
	Sig. (2-tailed)	.005	.030	.085	.010	.004		.043
	N	189	187	180	189	189	189	189
IND01	Pearson Correlation	.492**	.093	.124	-.033	.073	.147*	1
	Sig. (2-tailed)	.000	.205	.097	.650	.320	.043	
	N	189	187	180	189	189	189	189

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

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

Correlation Table for Individual Song Model

Correlations

		INDSON	WHESON2	WHESO38	WHESON4	WHESON6	WHESON9	WHESON0	SOC	MADIF	CARBWC	AGE	DEV6
INDSON	Pearson Correlation	1	-.697**	-.689**	-.473**	-.296**	-.071	-.101	.051	-.077	.159*	.074	-.016
	Sig. (2-tailed)		.000	.000	.000	.000	.331	.168	.484	.292	.028	.312	.831
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESON2	Pearson Correlation	-.697**	1	.656**	.507**	.184*	-.052	.035	-.134	.096	-.071	-.215**	.015
	Sig. (2-tailed)	.000		.000	.000	.011	.476	.630	.067	.193	.329	.003	.839
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESO38	Pearson Correlation	-.689**	.656**	1	.514**	.309**	-.052	.037	-.149*	.131	-.037	-.201**	.038
	Sig. (2-tailed)	.000	.000		.000	.000	.481	.617	.043	.075	.614	.006	.606
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESON4	Pearson Correlation	-.473**	.507**	.514**	1	.143*	-.035	.082	-.061	.077	-.090	-.096	.070
	Sig. (2-tailed)	.000	.000	.000		.050	.629	.265	.407	.294	.218	.191	.342
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESON6	Pearson Correlation	-.296**	.184*	.309**	.143*	1	-.022	-.031	.140	-.090	-.115	.020	-.089
	Sig. (2-tailed)	.000	.011	.000	.050		.762	.667	.055	.220	.116	.783	.221
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESON9	Pearson Correlation	-.071	-.052	-.052	-.035	-.022	1	-.008	-.058	.050	.063	.060	.036
	Sig. (2-tailed)	.331	.476	.481	.629	.762		.918	.430	.498	.393	.409	.623
	N	189	189	189	189	189	189	189	187	187	189	189	189
WHESON0	Pearson Correlation	-.101	.035	.037	.082	-.031	-.008	1	.022	-.033	-.014	-.067	.051
	Sig. (2-tailed)	.168	.630	.617	.265	.667	.918		.768	.652	.854	.359	.486
	N	189	189	189	189	189	189	189	187	187	189	189	189
SOC	Pearson Correlation	.051	-.134	-.149*	-.061	.140	-.058	.022	1	-.514**	-.116	.338**	.034
	Sig. (2-tailed)	.484	.067	.043	.407	.055	.430	.768		.000	.115	.000	.646
	N	187	187	187	187	187	187	187	187	185	187	187	187
MADIF	Pearson Correlation	-.077	.096	.131	.077	-.090	.050	-.033	-.514**	1	.063	-.257**	-.043
	Sig. (2-tailed)	.292	.193	.075	.294	.220	.498	.652	.000		.393	.000	.564
	N	187	187	187	187	187	187	187	185	187	187	187	187
CARBWC	Pearson Correlation	.159*	-.071	-.037	-.090	-.115	.063	-.014	-.116	.063	1	-.064	.104
	Sig. (2-tailed)	.028	.329	.614	.218	.116	.393	.854	.115	.393		.382	.154
	N	189	189	189	189	189	189	189	187	187	189	189	189
AGE	Pearson Correlation	.074	-.215**	-.201**	-.096	.020	.060	-.067	.338**	-.257**	-.064	1	.181*
	Sig. (2-tailed)	.312	.003	.006	.191	.783	.409	.359	.000	.000	.382		.013
	N	189	189	189	189	189	189	189	187	187	189	189	189
DEV6	Pearson Correlation	-.016	.015	.038	.070	-.089	.036	.051	.034	-.043	.104	.181*	1
	Sig. (2-tailed)	.831	.839	.606	.342	.221	.623	.486	.646	.564	.154	.013	
	N	189	189	189	189	189	189	189	187	187	189	189	189

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

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