

#### National College of Ireland

#### **Project Submission Sheet**

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Program me:	BAHBMD3	Year:	3
Module:	Capstone		
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Submissio n Due Date:	 19/07/2024		
Project Title:			
Word Count:	11,053		

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### **Capstone Report**

By Lennon Walsh.

Supervisor Robert MacDonald.

## "The impact of music streaming services and how they have effected physical purchasing."

An examination of three main streaming services, Spotify, Apple Music and YouTube Music.

Hand in date: 19/07/2024.

Programme: BAHBMD3. National College of Ireland.

## **Submission of Thesis and Dissertation**

## National College of Ireland Research Students Declaration Form (Thesis/Author Declaration Form)

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Degree for which thesis is submitted: BAHBMD3.\_\_\_\_\_

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#### Abstract.

This research aims to examine the rise of music streaming services, how popular music streaming services are today, and examine how music streaming services have affected consumer behaviour and the music industry. This investigation will analyse three main streaming services including Spotify, Apple Music, known as iTunes, and YouTube Music analysing customer engagement, accessibility, and market influence. Spotify with over 615 million users, Apple Music having a vast range of music with over 100 million songs available to consumers, and YouTube Music with over 2.5 billion monthly users highlights important trends and effects for the future. Our aim through this investigation is to have a deeper understanding of traditional sales are impacted by online streaming services. This investigation will analyse whether technology has reduced traditional sales, purchasing of CD's and tapes, and analyse it has improved consumer access to music consumption. This study will focus on the impact that music streaming services have on consumers' choices whether they would prefer to purchase traditional sales or prefer to access music through streaming services and if technology plays a factor on consumers decisionmaking. Throughout piracy will be discussed. This investigation will analyse different age categories and genders to view the transition from offline to online streaming when analysing our data. Spotify, Apple Music and YouTube Music will be discussed, focusing on their impact on the music industry. The results ae found in the analysis and findings section, analysing both physical and streaming music. This research will examine how online music streaming services have affected physical purchasing behaviours, understanding how purchasing behaviours have impacted by technology advancements, affecting consumers influence on traditional sales. There are results from a sample of 128 participants for this investigation, which will analyse how often they apply music streaming services and when they purchase physical music. The main objective is to indicate the shift between physical media and online streaming usage, including how often they purchase and stream music. The information is broken down into two categories, age and gender to determine if online streaming influences the younger population.

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#### Chapter 1 – Introduction.

Spotify, the most favoured streaming services, "We are the world's most popular audio streaming subscription with more than 615 million users, including 239 million subscribers in more than 180 markets." (Spotify, 2024: online). Apple Music, which Apple Inc developed, is another giant streaming service. "Apple Music reached the 100 million songs milestone in its streaming catalogue in October 2022". "As of May 5, 2023, the most streamed song of all time on Apple Music is "Shape of You" by Ed Sherran with more than 930 million plays worldwide". (Wikipedia contributors, 2024: online). YouTube Music, which was developed by Steve Chen, Chad Hurley, and Jawed Karim, "has more than 2.5 billion monthly users", "As of 2021, there were approximately 14 billion videos in total". (Wikipedia contributors, 2024b: online).

"A music streaming service is a type of online streaming media that focuses primarily on music, and sometimes other forms of digital audio content such as podcasts. These services are usually subscription-based services allowing users to stream digital copyright-restricted songs on-demand from a centralized library provided by the service over the internet" (Wikipedia contributors, 2024c: online). Streaming services offer consumers a vast catalogue of music. These services can be accessed through smart devices, such as smartphones and laptops (Coffey, 2016: online). The goal of the music industry is to offer multiple services in one location. With the rise of technology advancements, technology is always incorporating new technologies, from manufacturing to distribution.

This investigation will demonstrate how online music streaming services have affected the music industry overall. This study will view the rapid advancing internet technologies are promoting this expansion. With the rise of the internet, there is no doubt that the music industry has expanded. Economies including China and South Korea play a significant role in the growth of global music business. K-Pop displays huge success with the South Korean music business (Rahimi and Park, 2020). Throughout this study the shift from physical purchasing sales to digital streaming will be examined. Technology advancements are a crucial role within the shift from physical to streaming, which makes music more accessible to consumers.

The usage of online streaming services has increased over the number of years, especially in Western countries. Online streaming services are in high demand, in 2010 there was 8 million subscriptions, 28 million subscribers in 2013 and 42 million subscribers in 2014 (Hagen, 2015: online; IFPI, 2015). This research will focus on how digital streaming has expanded and if these services have an impact on the music industry focusing on consumers who use digital streaming. Digital streaming has significantly changed the market sales from traditional purchasing to streaming purchasing. Streaming services wore related back to revenue reductions and piracy

was a big problem. With the increase in technology, these services have become very successful. Due to these advancements of online streaming, the industry seen an increases in revenue in the 2000s (Lee et al, 2016).

With the rise of streaming services, there are worries around long-term issues. Digital streaming creates significant profit from premium subscriptions and allows access to vast amounts of catalogue. Free subscriptions offer users to access music but with less mobility and listening to music with adverts. This can lead to increased music usage and complex algorithms (Aguiar, 2017).

The income model is what streaming services have affected. Physical purchasing, mostly CDs, have decreased. Streaming subscriptions are the industry's main income. Record labels, artists and consumers are affected due to online streaming. Regarding advancements on streaming services, there are concerns regarding fair pay to artists. The growth of smartphones is related to the growth of streaming services. This is evidence that technology advancements have impacted this shift.

These services allow artists to reach greater audiences, help up and coming artists that offers users a vast music catalogue (Waldfogel, 2012). According to Wlömert and Papies (2016), streaming boots overall music sales. Customers can download new music through these services, which boosts sales and lowers piracy (Aguiar, 2017).

According to Coffey (2016), music streaming services have emerged as the most popular way for people to listen to music. Users can download music when they are offline, and servers allow consumers to access music offline with a premium subscription and users can stream music with a free or paid subscription. With the growth of technology, this demonstrates how technology improvements and music streaming services are related.

This paper will analyse Spotify, Apple Music and YouTube Music. Spotify and YouTube been selected due to their popularity and Apple Music due to its evolution. Readers will have a greater understanding of music streaming services.

This study will analyse data that is currently available. It will acknowledge how streaming services effected traditional sales, music consumption, and piracy (Coffey, 2016).

#### Chapter 2.1 Literature review.

The music industry has been significantly effective by online streaming, especially concerning physical sales. Technology advancements in the last 20 years has had a positive and negative effect on the music industry. One major problem that has changed with technology is piracy. In the past, piracy meant illegal copies, creating and distribution recording music from the radio into tapes. With the introduction of CDs, piracy became a bigger issue. Technology developments made it easier to obtain free music online, which increased the level of piracy.

Apple Music was viewed as a solution to combat piracy by offering music at affordable prices. Streaming services like Spotify, which offers users a "freemium", has been issued for been the newest wave of piracy. Spotify stated in a US Copyright Office report that "we are competing with piracy, it's a reality that we all face on every level of the ecosystem, we are all competing with free" (Gardner, 2015). Streaming services are seen as competitors to piracy, which highlights the challenges to create a balance between technology and fair pay to artists.

The consumption of music has been altered by streaming services. Copyrights and artists pay have not changed to reflect these developments and these services have created pressure on business models (Gardner, 2015). Artists like Taylor Swift expressed concerns about their music been given away for free (Passman, 2015). Due to technological improvements, the music business has been pushed to review their rules and regulations. Record labels had doubts about online streaming until they played a crucial role of the industries distribution strategy. This highlights the industry's power, even though it is adapting (Coffey, 2016).

Streaming usage has played a significant role on sales of physical purchasing. Physical music sales have decreased because of streaming, which gives customers immediate access to large music catalogues. For instance, physical sales decreased in accordance with the increase in streaming subscriptions, which increased to 42 million in 2014 from 8 million in 2010 (Hagen, 2015: online; IFPI, 2015). Customers no longer need to purchase physical CDs since streaming services make it easy for them to listen to music wherever they are. Technological improvements have made digital access more important than owning music.

Research indicates that by giving users access to a large selection of music securely and decreasing music piracy, streaming services boost total music sales (Wlömert and Papies, 2016: online; Aguiar, 2017: online). These services provide customers with limitless access to vast music libraries and are accessible through their devices. The rise of smartphones contributes to the growth of streaming usage. With the help of these sites, musicians may now share their music with a worldwide audience. Unknown musicians have benefited most from these as streaming services making their music available to a global audience (Waldfogel, 2012: online). Digital consumption has replaced physical purchases in consumer behaviour due to streaming services' accessibility and convenience.

The business model has significantly changed due to online streaming and CD sales have significantly declined. The industry's main revenue streams are ad-supported models and streaming subscriptions. Customer, record label, and artist relationships have all been influenced by the transition from traditional sales to digital streaming. Even though there are many advantages to music streaming services, questions remain regarding the music industry's capacity to make ends meet and how artists should be compensated fairly (Coffey, 2016).

Advanced algorithms have a significant impact on how people listen to music. Based on user preferences, these algorithms make music recommendations, exposing listeners to a wider range of genres and shows independent musicians expanding their fan base. This feature of streaming services promotes the discovery and promotion of new music in addition to improving user experience (Aguiar, 2017).

There are many different business strategies streaming services use. The free model, used by Spotify, uses advertisements and makes revenue on ads. Spotify also offers a subscription-based strategy where users can pay a monthly subscription for additional features and ad-free listening. Apple Music, a subscription-based service, offers consumers a range of over 60 million songs, offline access and specific suggestions. Googles YouTube Music offers users a free subscription with the use of adverts but has merged with YouTube Premium offering consumers ad-free streaming and extra features on a monthly subscription. Spotify is the most popular streaming service due to features like networks, carefully selected playlists, and an effective platform for artists to display their work (Rahimi and Park, 2020).

The recorded music market saw substantial growth in 2023. In 2013, it reached a valuation of \$28.6 billion and increased by 10.2%. This represents an increase in sales and engagement with consumers. These revenues have risen by 10.4% to \$19.3 billion, and 67.3% of the market's value. Online streaming services became the primary source of growth. Online streaming services increased by 11.2% alone and are accountable for 48.9% of the market worldwide. Non-streaming digital media grew by 2.6%, which only makes up 3.2% overall (IFPI, 2024). Increased sales of CDs saw an increase in physical sales, with revenues increasing by 13.4%. In 2013, the value contained \$5.1 billion, and Asia contributed to this increase, mainly from K-Pop sales. The market share accounted for 9.5% of performance rights, which covers the execution of audio files by individuals and broadcasters. These rights have had an increase of 9.5% to \$2.7 billion. The usage of songs featured in movies, advertisements, and shows, syncing income increased by 4.7% to \$632 million, which is equivalent to 2.2% of the market.

#### 2.2. Spotify

Spotify was established in 2006 by Daniel Ek and Martin Lorentzon and introduced as a music streaming service in 2008. Firstly, Spotify was launched in Europe and quickly spread, making its US debut in 2011 (Swanson, 2013). Spotify offers users a "freemium" and paid subscription choice, compared to Apple Music. Through Spotify's free membership, consumers can access it through internet versions, the free subscription has fewer features, less skips, and advertisements are shown throughout. Within Spotify's paid subscription, this offers users unlimited skips, offline access to music, no advertising all accessible for \$11.99 monthly premium subscription (Spotify, n.d).

The main objective of Spotify "freemium" strategy is to draw people's attention to Spotify with a free service before persuading them to buy a monthly subscription. Spotify pays artists an average of \$0.004 per stream, even though the service dedicates up to 70% of its profits to royalties (Swanson, 2013). Due to their investments in Spotify, major record companies now enjoy better terms. With more than 20 million songs in its catalogue, Spotify employs more than 300 individuals (Swanson, 2013).

Music technology advanced significantly with the release of CDs in 1983. However, the 1999 release of Napster, which enabled the free sharing of MP3s and influenced music sales, changed the distribution of music. In 2001, music streaming became widely available with the release of Apple iTunes. When Spotify was launched, they further improved music consumption allowing music to be stored on cloud servers, which reduced the need for physical media. Even though online streaming is more useful, piracy remains an issue. Even though online streaming is more convenient for consumers, touring is still a good source of revenue for artists (Coffey, 2016).

Artists opinions on Spotify are mixed. While some, like Jamie Levinson of White Rabbits, find Spotify helpful for finding new music, others, like Bob Nanna, criticise the platform's royalty payments (Swanson, 2013). Paying artists remains a problem for Spotify despite musicians' success. To boost or increase early sales, artists like Adele postpone their Spotify launches, highlighting disagreements over streaming payments. Spotify needs to keep improving their services due to fierce competition from other platforms like Apple Music and YouTube Music grows (Coffey, 2016).

With the launch of Spotify, many believed it was the solution to piracy. Swanson (2013) stated that when Spotify first launched, it had over 24 million users and approximately 6 million paying subscribers and was the fastest growing streaming service. Firstly, Spotify offered users three subscription types, premium, unlimited and free, their unlimited option provided users with no adverts but did not offer offline listening. Spotify removed this option only providing users with either a premium service or a free service which included advertising. Lewis (2009) suggested that

Spotify was "the future of music". According to Camp (2015), Spotify doubled the number of subscriptions in two years, with over 50 million users across the world. The rise can be related back to improvements in technology, with increased access to Spotify's app. While both Apple Music and YouTube Music are becoming popular, spotify still remains the most popular streaming service (Roettgers, 2015). Spotify's popularity can be linked to their 'Discover Weekly' playlists, which provides users with music recommendations, however, artists pay remains an issue.

Artists constantly argue that Spotify "freemium" underpays them. Swanson (2013) states that Spotify's payment scheme, which gives 70% of its earnings to royalties, gives an average pay of \$0.0004 per stream. Many artists have removed their music from Spotify due to their poor pay. According to Marshall (2015), Spotify's royalties wore called upon when Lada Gaga only received \$167 for a million streams of "Poker Face". Many artists have implied that Spotify removes their free subscription and switch to only a paid subscription because of the injustice.

Disagreements can occur due to Spotify having different payments systems for Europe and the US. Newer artists receive more hardship making revenue from streaming services. Bigger artists receive more revenue due to their fan base been bigger. Although Spotify is aware of this issue, there is no evidence that they are willing to eliminate their free model.

Spotify offers its service across several platforms due to the different options on the service. Consumers can purchase subscriptions from Spotify's website and the business has full control over user experience. Spotify can be found through app stores, such as Google Store and Apple app store. Spotify's mobile access offers users a vast library of music, tailored suggestions and podcasts. Advertising and paid subscription is the main source of income. The software platform, content creator licencing agreements, and vast amounts of user data for personalisation are among Spotify's resources. Organising playlists, processing data, handling licences, and platform maintenance are important tasks. For device integration, Spotify collaborates with record labels, musicians, podcast hosts, digital businesses, and marketers. Royalty transactions, structured technology, advertising, and customer support are major expenses. Spotify pays royalties to artists and other right holders. Up to 70% of income, including licencing fees, is set aside for these payments. Other big streaming services, particularly Apple Music, which is built into Apple's iOS devices, pose a serious threat to Spotify. Since Daniel Ek launched the service in 2008, Spotify has grown from having many free users to a rising number of premium members. Early in2016, Spotify had over 70 million free users and 30 million premium members, most of them were from the US and the UK (Voigt, Buliga, and Michl, 2017).

#### 2.3. Apple Music.

An important turning point accoured in 2003 with the release of Apple Music. Before iTunes, there was very few digital streaming services, and the main way to legally buy music was using physical CD's. According to Waldfogel (2010), physical CDs was the main source of accessing music before online music streaming services. The biggest change within the music industry was the introduction of streaming services, which sold individual songs for \$0.99. 32% of recorded sales was due to online streaming, with iTunes leading the market. According to Waldfogel's (2010) research, file sharing had little impact on legal sales, usually accounting for less than 25% of sales for every song that was obtained. But as more and more sources for legal music have been available, these conclusions are no longer as accurate.

Initially iTunes was created for music on Apples iPod. iTunes developed rapidly into a universal digital music retailer. When iTunes became available in 2003, it allowed consumers to purchase singular music instead of having to purchase full albums. This gave consumers more freedom and control over their music libraries.

Customers responded favourably to the option of purchasing individual songs for 99 cents each, which fuelled the explosive rise in digital music sales. By 2008, iTunes had established itself as a major player in the music business, with its platform driving a large share of digital music sales and the store's song catalogue growing from 200,000 to over 700,000 (Waldfogel, 2010).

The influence of iTunes on the sales of physical music was significant. Before the digital revolution, people could only download their favourite tunes from albums, which they had to buy in whole. CD sales, which had been the main method of music distribution until the introduction of iTunes, have decreased because of customers being able to choose and buy just one song (Covert, 2013). This change not only changed standard retail but also changed how consumers behaved as iTunes made it more accessible and easier for consumers to use. This influenced consumers to purchase more digital content than physical.

Although iTunes had its benefits, there was still critics about the service. according to Covert (2013), the pricing system was viewed as damaging to record stores and displayed difficulties to artists to adjust as it reduced the price of physical CD's. In addition, the market dominance of iTunes sparked worries about its control over accessibility and diversity of music. The critics suggested that iTunes' authority over price and accessibility could alter the popularity of specific musical genres and performers (Waldfogel, 2010).

In 2014, Apple stated they wore buying Beats electric for a sum of over \$3 billion (Coffey, 2016). By this move, Apple gained access to a well-known headphone brand. It is suggested that Apple purchased Beats to close the gap between Spotify, rather than developing their own streaming service. There were more than 11 million trial

users signed up to Apple Music by August 2015 according to Coffey (2016). When the free trial ended, users would then pay \$10 every month. While Apple music did not first dominate the streaming market, Apple benefited from their popular products, including the iPhone (Coffey, 2016). Due to been accessible through smartphones devices, it was hard for people to ignore it. With the release of Apple Music, is it evident that iTunes paved the way for streaming revolution. Through its vast library of music, Apple Music established itself as a fierce competitor. This not only helped the popularity of Apple Music but shows how the business is still changing today.

The arrival of iTunes was a significant turning point within the music business, since it shifted the emphasis from physical media to digital distribution (Swanson, 2013). Its business concept changed the way music was sold and consumed, changing both consumer behaviour and company processes. The move from iTunes to Apple Music is indicative of larger patterns in the music business, showing how digital platforms have developed over time to adapt to the shifting demands of consumers and industry participants.

#### 2.4. YouTube Music

The way that music is created, shared, and enjoyed has changed significantly because of YouTube. Record labels and distribution methods dominated the music business before the emergence of internet platforms like YouTube. These influential organisations selected which music was released to the public and which performers received promotion, which frequently made it impossible for many gifted musicians to achieve greater fame. But YouTube has completely changed this scene by providing a platform where anybody can release their music and communicate with listeners all over the world, breaking down a lot of the previous obstacles that prevented people from entering the music industry (Rahimi & Park, 2020).

Digital technologies have further reshaped music industry. Due to this growth, listening to music has become more digital, adaptable, and intangible, illustrating the methods by which music is currently accessible (Airoldi, 2016). YouTube has been a significant force in the digital music landscape since. YouTube's significance was highlighted by the fact that it had over 1 billion users by 2015 and 300 hours of video posted per minute (Airoldi, 2016). Music videos are increasingly often uploaded on YouTube and other similar platforms, transforming the platform from a traditional broadcast channel to a crucial part of online music consumption and developing a unique community that affects music findings (Airoldi, 2016).

An example of YouTube influence is Wade Johnson. Johnston gained a sizable fan base and promoted his songs on YouTube. His story demonstrates how the music industry has become more accessible because to websites like YouTube. Independent musicians no longer must go through established industry ways to reach fans across the world. Johnston began with visuals and worked his way up to more audio pieces. This development demonstrates how internet platforms allow artists to grow as professionals, pursue innovation, and get approval in ways that were not before accessible. This viewpoint is supported by research by Rahimi and Park (2020), which points out that by supporting independent musicians and promoting new forms of creation, websites like YouTube have changed the music business.

Another important aspect is YouTubes recommended algorithms. YouTube provides similar videos or music to consumers. Recommended algorithms impact several types of decision-making, such as listening to music (Airoldi, 2016). Research into how these algorithms affect how music is received is crucial. Airoldi (2016) investigates how content recommendations made by algorithms on websites such as YouTube and Spotify impact users' musical experiences by analysing user behaviour. (Airoldi, 2016).

YouTube has a significant impact on music education in addition to music discovery. The website has developed into a tool for educators and learners worldwide. These days, a lot of teachers apply YouTube to improve their lesson plans and provide their pupils a more engaging experience. YouTube has a wealth of materials that may be utilised to educate different areas of music, such as tutorials, live performances, and instructional films. Instructors can utilise This YouTube usage in the classroom is consistent with research by Macintyre Latta, Thompson, and Cayari (2011), which highlights the importance of digital resources like YouTube for promoting non-formal learning.

The way that music is produced and listened to has also changed because of YouTube's influence on the music business. Through the platform, musicians may work with other artists, and interact in new ways with their audience. As a result, the music scene has become more varied, allowing up-and-coming musicians to become well-known alongside more well-established performers. Through direct communication between artists and fans, YouTube enables musicians to get feedback right away and more successfully market their work. This change is a major shift from conventional music promotion strategies and is reflective of wider shifts, as noted by Rahimi and Park (2020).

In conclusion, YouTube has completely transformed the music business by removing long-standing problems, presenting new ways for artistic expression, and improving access to music education. Studies conducted by Rahimi and Park (2020) have shown evidence of its function in democratising music access and assisting independent musicians. Furthermore, Macintyre Latta, Thompson, and Cayari's (2011) discussion of the platform's influence on education demonstrates how important it is for teaching methods and encouraging informal learning. Additionally, Airoldi (2016)'s discussion of the wider effects of digital technologies on the sector emphasises how platforms like YouTube have revolutionised methods of creation and consumption. YouTube's recommendation algorithms have a big impact on how music is discovered and categorised, which is not surprising given its considerable influence on how music is listened to and enjoyed. The platform's ability to dismantle boundaries and facilitate forms of interaction highlights its revolutionary influence on the music business (Airoldi, 2016).

#### Chapter 3. Methodology.

#### Research question and hypothesis.

The research question for this study is "The impact of music streaming services and how they have effected physical purchasing". This study explores the connection between the decrease in sales of physical media and the increasing use of streaming services. According to the concept of the rise of digital streaming usage has had a major impact on the decline of consumption and sales of physical media. This hypothesis is based on the idea that streaming services provide more accessibility, convenience, and variety which results in the shift in consumer behaviour. streaming services have completely altered the music industry by introducing new revenue structures, distribution strategies, and consumption patterns. They have also changed the relationship between labels, artists, and streaming platforms while also increasing music accessibility.

#### Nature of work:

Transitioning from a data-driven methodology to a more comprehensive viewpoint indicates an increased awareness of the complex relationships within the study topic. The study's shift to a more advanced methodology acknowledges the complex link involving music streaming services and the music business, having first focused on quantifiable outcomes and findings.

Within an interpretive framework, the study embraces the topic's diversity and moves beyond basic results and numerical data. The research investigates the different variables that influence the music business rather than minimising the issue. It acknowledges that the implications of music streaming services go beyond basic statistical analysis, involving cultural transformations, financial ripple effects, and evolving customer behaviour.

Moreover, the research might take a more comprehensive and comprehensive approach by using an interpretive perspective. The research attempts to reflect the breadth and range of this topic by considering a variety of viewpoints and interacting with individuals from the music business spectrum, such as artists, record labels, streaming platforms, and customer base. This method attempts to put light on all the perspectives and ideas associated with the concept of music streaming while acknowledging the subjective character of human interaction.

To put it simply, the move to an interpretive paradigm is deciding to delve into the most significant levels of investigation, accepting inconsistency, and appreciating the basic variety of the study subject. By using this method, the study hopes to provide a thorough knowledge of the many ways that music streaming services have affected the music business, adding valuable information to academic discussions and guiding future research paths.

#### Methods and Framework.

The positivist paradigm, which guides this study, places a strong emphasis on quantifiable variables and empirical data to answer research questions. The positivist method seeks to demonstrate direct, measurable connections between the growth of streaming services and the fall in revenues of tangible media. The study aims to offer unbiased, data-driven insights on these relationships by applying statistical analysis. The positivist paradigm is suitable for this study as it emphasises measurable results and offers a foundation for drawing firm conclusions on how streaming services affect traditional media.

#### Assumptions.

The research's hypotheses provide an understanding of interactions between music streaming services and the music business. Firstly, their widespread use highlights them as a main source of music consumption. The music industry is shifting due to technological breakthroughs, challenging traditional thinking, increasing openness in music creation and marketing, and empowering artists through direct distribution channels. Social factors, technical advancements, and cultural trends are evolving music consumption, reflecting in consumer behaviours. These assumptions guide the study's methods and conclusions on how streaming affects the music business.

The investigation expects streaming services significantly influence the music business, impacting traditional media revenues like CDs and tapes due to their convenience. Streaming also boosts new musicians' popularity by facilitating talent discovery. The research will examine the popularity of services like Apple Music, YouTube Music, and Spotify, expecting Spotify to be the most popular. Respondents need prior experience with music ownership and engagement with different genres to provide insightful feedback. These hypotheses shape the study methodology for investigating streaming's impacts on the music industry and consumer behaviour.

#### Assumptions of others.

Opinions provide an overview of how music streaming services have affected the music business. Many believe these services have increased music accessibility by offering a wide variety of songs to everyone, regardless of location or financial status. Survey data shows Spotify as the most popular streaming service due to its accessibility. Surveys also show a decline in traditional CD and tape sales because of streaming, suggesting a change in the industry's financial model. Consumer behaviour trends include preferences for custom playlists and consistent listening. Streaming benefits musicians by reducing dependency on major companies and increasing exposure for new performers. These impacts are supported by survey data.

Quantitative approaches are crucial for validating these concepts. Surveys reveal user behaviours, platform preferences, and reasons. Analysing income data from music publishers, artists, and streaming platforms shows the percentage of revenue from streaming and its changes over time compared to traditional sales. Surveys track artist income sources, with statistical analysis linking streaming revenue to overall income. Examining streaming data for artist visibility and audience interaction includes metrics like stream counts and listener demographics.

#### Survey design.

This survey will collect a broad variety of statistical information as well as responses on music streaming services. It will conduct research about users' spending patterns, what platforms users prefer, how often services are used, and opinions about the effect of streaming on the music business. To make the questions easy to comprehend and respond to, they will be arranged clearly, starting with broad topics, and moving to more detailed ones.

The most efficient way to collect data for this study is through surveys because it employs quantitative methodologies. Through the collection and analysis of data, quantitative research enables researchers to understand causal interactions, identify trends, develop predictions, and use the results to create conclusions (Bhandari, 2023). In addition, the study will examine historical patterns in traditional music sales and the effects of music streaming services on the business using secondary data from scholarly sources such as publications and studies.

For easier access, the survey will be released using online platforms such as Microsoft Forms. This enables respondents to complete the survey at any time. To provide participants another opportunity to contribute to the study and express their opinions, the survey will also be given by email.

Multiple responses will be included in the survey to gather data from various categories. For instance, to determine the age range of responses, it will inquire about age. To thoroughly examine people's thoughts and ideas, it will also inquire about how people feel that music streaming services have changed the music business.

To collect several replies, the survey will include both closed-ended and open-ended items. The answers to closed-ended questions have been selected, which improves data processing and analysis. Open-ended questions allow participants to share their ideas and provide in-depth responses, which will deepen the research.

The survey's main objectives are expected to be comprehensive, understandable, and clear.

This allows us to gather essential information about the impact of music streaming services on the music business. Through careful planning and thoughtful survey design, the goal is to collect valuable information that will offer valuable insights for this investigation.

#### **Gathering Data.**

Using Microsoft Forms, a survey with 128 participants was conducted. It gathered data on statistics and media usage. SPSS was used to conduct statistical data and was examined in depth. Through this, the data was split into gender and age groups, ranging from 18 to 54+. This examines patterns and trends, demonstrating frequent consumer behaviours. Connections between the use of streaming services and consumption of physical media has been evaluated.

#### Ethics:

Important ethical guidelines will be applied to in this investigation of music streaming and the music business.

Firstly, it is important to get participants' informed consent. We will make sure they understand the purpose of the study and participants' rights. When participants' access the survey, participants will allow consent and their participation is completely voluntary.

All participants personal information will be private. Participants information and results will only be accessible to the study team, Microsoft Forms to conduct data analysis. Any personal information from any participants will be removed.

Throughout the study, steps will be taken to keep participants safe. Questions within the survey will be thoughtful, meaning questions will not be uncomfortable for participants, and help will be offered to participants during this survey. Throughout this survey, ethical guidelines in the NCI ethics form will be followed, implying honesty and attention to participants rights, and ethical study practices. Our study will be guided by these standards to guarantee that it is conducted ethically.

#### Limitations:

There is a couple of limitations displayed within Microsoft Forms. Compared to different survey types, Microsoft Forms offers users fewer questions, which limits the sorts of data users can gather. Within the free addition of Microsoft Forms, the number of replies users gather is limited which can play a factor on the quality of data collected. Within Microsoft Forms, there is limited choices for modifying the surveys layout, and only provides users with basic data analysis and reporting tools.

Within Microsoft Forms, there is limited interaction between other applications, which can later be an issue if applying other tools for data management and analysis. Also, the free version of Microsoft Forms lacks advanced functions like logical questions. A limit control is also implemented within Microsoft Forms, meaning a limit control over who can change and view the survey, which can cause problems for larger groups. Participants who access the survey through mobile devices may affect participation due to performance being poor.

#### Chapter 4 Results.

In this section we present the results associated with this study. We present the results of our analysis of the impact that music streaming service usage has on physical media purchasing behaviour. We first present an overview of the characteristics of our sample relative to their physical media purchasing behaviour. Within that subsection we present that analysis from a pooled perspective, describing the full sample characteristics. We then decompose the sample based on gender and present the characteristics for each gender level. We finally present an overview of the relationship between physical media purchasing behaviour and respondents age profiles. In addition, we present a similar analysis based on streaming service usage behaviour. We finally present the results of the relationship between streaming service usage and physical media purchasing behaviour.

#### **Characteristics of Physical Media Purchasing Behaviour**

Physical media purchasing relates to consumer behaviours to purchasing physical media, such as CDs and records. In this subsection we present the results associated with an analysis of the purchasing behaviour regarding physical media.

In Figure 1, we present a bar chart depicting the distribution of physical media purchasing. The horizontal axis lists several categorical levels, from left to right, representing increases in physical media purchasing behaviour. The vertical axis lists the percentage of participants for each categorical level. Predominately, participants have never purchased physical media in the last year, representing approximately 60% of behaviour. The remaining 40% of the sample have indicated that they purchase physical media at least once a year. In Table 1, we present a more detailed breakdown of the number of participants falling into each category.



Table 1: Frequency distribution depicting the frequency of physical media purchasing behaviour.

Туре	Frequency	%
Never	79	62
Once a year	15	12
Few times year	25	20
Once a month	6	5
Few times a month	1	1
Once a week	2	2

In Figure 2 and Figure 3, we present a bar chart depicting the distribution of physical media in both male and female. The horizontal axis lists several categorical levels, from left to right, representing increases in physical media purchasing behaviour in both male and female. The vertical axis lists the percentage of participants for each categorical level in Figure 2 and Figure 3.

In Figure 2, representing males, predominately, participants have never purchased physical media in the last year, representing 48% of behaviour. The remaining 52% of the sample have indicated that they purchase physical media at least once a year. In Figure 3, representing females, predominately, participants have never purchased physical media in the last year, representing 68% of behaviour. The remaining 32% of the sample have indicated that they purchase physical media at least once a year.

It is evident that more females have purchased fewer physical media than males. While 68% have never purchased physical media, displayed in Figure 3, 48%% of males have never purchased physical media, displayed in Figure 2. It is evident that majority of males purchase media more than females, for example, in Figure 2, which represents males, shows 20% of males at least purchase physical media Once a year, while in Figure 3, which represents females, has a substantial difference, representing 8%.

In Figure 2, 25% of males purchase physical media a Few times a year, while in Figure 3, 17% of females purchase physical media a Few times a year. While both Figure 2 and Figure 3 show a low frequency of media been purchased Once a month, it is evident between both bar charts that males purchase more physical media Once a month. In Figure 2, represents 5% of Once-a-month frequency in males and Figure 3 represents 5%. This bar chart also indicates that some males have purchased physical media a Few times a month, shown in Figure 2 of 3% while females have not, shown in Figure 3. In Figure 2, shows that no males have purchased media Once a week but in Figure 3, shows a small percentage of 2% of females do purchase physical media Once a week.

In Table 2 and Table 3, we present a more detailed breakdown of the number of participants falling into each category broken down into males and females.



Figure 2: Bar chart depicting the frequency of physical media purchasing behaviour in male participants.



*Figure 3: Bar chart depicting the frequency of physical media purchasing behaviour in female participants.* 

Table 2: Physical Med	lia Purchasing	Behaviour
associated with Male	participants.	

Table 3: Physical Media Purchasing Behaviour associated with Female participants.

Туре	Frequency	%	Туре	Frequency	%
Never	19	48	Never	60	68
Once a year	8	20	Once a year	7	8
Few times year	10	25	Few times year	15	17
Once a month	2	5	Once a month	4	5
Few times a	1	3	Few times a	0	0
month			month		
Once a week	0	0	Once a week	2	2

In Figure 4, Figure 5, we present a bar chart depicting the distribution of physical media purchasing in age groups between 18-24 and 25-34. The horizontal axis lists several categorical levels, from left to right, representing purchasing media behaviours. The vertical axis lists the percentage of participants for each categorical level.

In Figure 4, predominantly, participants have never purchased physical media in the last year, representing 76% of behaviour. The remaining 24% of the sample have indicated that they purchase physical media at least once a year. In Figure 5, representing age groups between 25-34. Predominantly, participants have never purchased physical media in the last year, representing 75% of behaviour. The remaining 25% of the sample have indicated that they purchase physical media at least once a year. In Table 4 and Table 5, we present a more detailed breakdown of the number of participants falling into each category broken down into age groups including 18-24 and 25-34.



Figure 4: Bar chart depicting the frequency of physical media purchasing behaviour in 18-24 age participants.



Figure 5: Bar chart depicting the frequency of physical media purchasing behaviour in 25-34 age participants.

Table 4: Physical Media Purchasing Behaviour associated with 18-24 age participants.

Table 5: Frequency distribution depicting the frequency of physical media purchasing behaviour in 25-34 age participants.

Туре	Frequency	%
Never	40	76
Once a year	4	8
Few times year	6	11
Once a month	3	6
Few times a month	0	0
Once a week	0	0

Туре	Frequency	%
Never	18	75
Once a year	4	17
Few times year	1	4
Once a month	1	4
Few times a	0	0
month		
Once a week	0	0

In Figure 6 and Figure 7, we present a bar chart depicting the distribution of physical media purchasing in age groups between 35-44 and 45-54. The horizontal axis lists several categorical levels, from left to right, representing purchasing media behaviours. The vertical axis lists the percentage of participants for each categorical level.

In Figure 6, representing age groups between 35-44. Predominantly, participants have never purchased physical media in the last year, representing 48% of behaviour. The remaining 52% of the sample have indicated that they purchase physical media at least once a year. In Figure 7, representing age groups between 45-54. Predominantly, participants have never purchased physical media in the last year, representing 44% of behaviour. The remaining 56% of the sample have indicated that they purchase physical media at least once a year. In Table 6 and Table 7, we present a more detailed breakdown of the number of participants falling into each category broken down into age groups, 35-44 and 45-54 age groups.



*Figure 6: Bar chart depicting the frequency of physical media purchasing behaviour in 35-44 age participants.* 

*Figure 7: Bar chart depicting the frequency of physical media purchasing behaviour in 45-54 age participants.* 

Table 6: Frequency distribution depicting the frequency of physical media purchasing behaviour in 35-44 age participants.

requency	%
12	48
3	12
8	32
1	4
0	0
1	4
	12 3 8 1 0 1

Table 7: Frequency distribution depicting the frequency of physical media purchasing behaviour in 45-54 age participants.

Туре	Frequency	%
Never	8	44
Once a year	4	22
Few times year	4	22
Once a month	1	6
Few times a	0	0
month		
Once a week	1	6

In Figure 8 we present a bar chart depicting the distribution of physical media purchasing in age groups between 55+. The horizontal axis lists several categorical levels, from left to right, representing purchasing media behaviours. The vertical axis lists the percentage of participants for each categorical level.

In Figure 8, representing age groups between 55+. Predominantly, participants have never purchased physical media in the last year, representing 13% of behaviour. The remaining 88% of the sample have indicated that they purchase physical media at least once a year. In Table 8, we present a more detailed breakdown of the number of participants falling into each category broken down into age groups including 55+.



Figure 8: Bar chart depicting the frequency of physical media purchasing behaviour in 55+ age participants.

Table 8: Frequency distribution depicting the frequency of physical media purchasing behaviour in 55+ age participants.

Туре	Frequency	%
Never	1	13
Once a year	0	0
Few times year	6	75
Once a month	1	13
Few times a	0	0
month		
Once a week	0	0

#### Characteristics of Streaming Service Usage.

"A music streaming service is a type of online streaming media that focuses primarily on music, and sometimes other forms of digital audio content such as podcasts. These services are usually subscription-based services allowing users to stream digital copyright-restricted songs on-demand from a centralized library provided by the service over the internet" (Wikipedia contributors, 2024c: online). In this subsection, we present the results associated with an analysis of the behaviour of listening to music streaming services.

In Figure 9, we present a bar chart depicting the distribution of listening to music streaming services. The horizontal axis lists several categorical levels, from left to right, representing increases in listening to music streaming services. The vertical axis lists the percentage of participants for each categorical level. Predominately, participants have never consumer music streaming services in the last year, representing 7% of behaviour. The remaining 93% of the sample have indicated that they have listened to music streaming services at least once a year. In Table 9, we present a more detailed breakdown of the number of participants falling into each category.

*Table 9: Frequency distribution depicting the frequency of listening to music streaming services.* 

Туре	Frequency	%
Never	79	62



In Figure 10 and Figure 11, we present a bar chart depicting the distribution of listening to music streaming services in both male and female. The horizontal axis lists several categorical levels, from left to right, representing increases in consuming music streaming services in both male and female. The vertical axis lists the percentage of participants for each categorical level in Figure 10 and Figure 11.

In Figure 10, representing males, predominately, participants have never consumed music streaming services in the last year representing 15% of behaviour. The remaining 85% of the sample have indicated that they have listened to music streaming services at least once a year. In Figure 11, representing females, predominately, participants have never consumed music streaming services in the last year representing 3% of behaviour. The remaining 97% of the sample have indicated that they have listened to music streaming services at least once a year.

It is evident that females have consumed music streaming services more frequent than males. While 15% of males have never listened to music streaming services, only 3% of females have not. 50% of males and females consume music streaming services a few times a day. While 13% of females in the sample listen to music streaming services once a day, only 5% of males in the sample consume music streaming services once a day.



Figure 10: Bar chart depicting the frequency of listening to music streaming services in male participants.



Figure 11: Bar chart depicting the frequency of listening to music streaming services in female participants.

Table 10: Frequency distribution depicting the frequency of listening to music streaming services in male participants.

Table 11: Frequency distribution depicting the frequency of listening to music streaming services in female participants.

Туре	Frequency	%	Туре	Frequency	%
Never	6	15	Never	3	3
Once a month	0	0	Once a month	2	2
Few times a month	1	3	Few times a month	3	3
Once a week	0	0	Once a week	5	6
Few times a week	11	28	Few times a week	20	23
Once a day	2	5	Once a day	11	13
Few times a day	20	50	Few times a day	44	50

In Figure 12, Figure 13, we present a bar chart depicting the distribution of listening to music streaming services in age groups. Figure 12 represents 18-24 age groups and Figure 13 represents 25-34 age groups. The horizontal axis lists several categorical levels, from left to right, representing increases in listening to music streaming services. The vertical axis lists the percentage of participants for each categorical level.

In Figure 12, predominantly, participants within the sample have never listened to music streaming services in the last year, representing 4% of behaviour. The remaining 96% of the sample have indicated that they have listened to music streaming services at least once a year. In Figure 13, predominantly, participants within the sample have never listened to music streaming services in the last year, representing 0% of behaviour. 100% of participants within the sample have indicated that they have listened to music streaming services at least once a year. In Table 12 and Table 13, we present a more detailed breakdown of the number of participants falling into each category.



Figure 12: Bar chart depicting the frequency of listening to music streaming services in 18-24 age participants.



Figure 13: Bar chart depicting the frequency of listening to music streaming services in 25-34 age participants.

*Table 12: Frequency distribution depicting the frequency of listening to music streaming services, 18-24 age participants.* 

Table 13: Frequency distribution depicting the frequency of listening to music streaming services, 25-34 age participants.

Туре	Frequency	%	Туре	Frequency	%
Never	2	4	Never	0	0
Once a month	0	0	Once a month	0	0
Few times a month	0	0	Few times a month	2	8
Once a week	2	4	Once a week	0	0
Few times a week	8	15	Few times a week	4	17
Once a day	8	15	Once a day	2	8
Few times a day	33	62	Few times a day	16	67

In Figure 14, predominantly, participants within the sample have never listened to music streaming services in the last year, representing 0% of behaviour. 100% of participants within the sample have indicated that they have listened to music streaming services at least once a year. In Figure 15, predominantly, participants within the sample have never listened to music streaming services in the last year, representing 6% of behaviour. The remaining 94% of participants within the sample have listened to music streaming services at least once a year. In Table 14 and Table 15, we present a more detailed breakdown of the number of participants falling into each category.



Figure 14: Bar chart depicting the frequency of listening to music streaming services in 35-44 age participants.



*Figure 15: Bar chart depicting the frequency of listening to music streaming services in 45-54 age participants.* 

# Table 14: Frequency distribution depicting the frequency of listening to music streaming services, 35-44 age participants.

# *Table 15: Frequency distribution depicting the frequency of listening to music streaming services, 45-54 age participants.*

Туре	Frequency	%	Туре	Frequency	%
Never	0	0	Never	1	6
Once a month	2	8	Once a month	0	0
Few times a month	1	4	Few times a month	0	0
Once a week	2	8	Once a week	1	6
Few times a week	10	40	Few times a week	9	50
Once a day	0	0	Once a day	2	11
Few times a day	10	40	Few times a day	5	28

In Figure 16, predominantly, participants within the sample have never listened to music streaming services in the last year, representing 75% of behaviour. The remaining 25% % of participants within the sample have indicated that they have listened to music streaming services at least once a year. In Table 16, we present a more detailed breakdown of the number of participants falling into each category.



*Figure 16: Bar chart depicting the frequency of listening to music streaming services in 55+ age participants.* 

Table 16: Frequency distribution depicting the frequency of listening to music streaming services, 55+ age participants.

Туре	Frequency	%
Never	6	75
Once a month	0	0
Few times a	1	13
month		
Once a week	0	0
Few times a	0	0
week		
Once a day	1	13
Few times a	0	0
day		

## The Relationship between Streaming Service Usage and Physical Media Purchasing Behaviour

In the previous sections we presented the characteristics associated with Online Streaming Service usage and Physical Media Purchasing behaviour. In this section we present the results associated with an analysis of the associative relationship between online streaming service usage and its impact on physical media purchasing behaviour.

In Table 17 we present a cross tabulation of the number of respondents indicating levels associated with streaming service usage paired with each of the levels associated with physical media purchasing behaviour. For example, 0 respondents indicated that they listened to streaming services a few times a month and purchased physical media once a year. Similarly, 48 respondents that use streaming services daily have never purchased physical media. This indicates that streaming usage plays a factor on physical media purchasing behaviour. The distribution of observations across Table 17, would seem to suggest that increased streaming usage is associated with less frequent physical media purchasing.

	Physical Media Purchasing Behaviour					
Streaming		Once	Few times	Once a	Few times	Once
Usage	Never	a Year	a year	month	a month	a Week
Never	1	0	6	0	1	1
Once a month	1	1	0	0	0	0
Few times a month	2	0	2	0	0	0
Once a week	3	0	1	0	0	1
Few times a week	16	8	4	3	0	0
Once a day	8	3	1	1	0	0
Few times a day	48	3	11	2	0	0

Table 17: A cross tabulation of streaming service usage paired with physical media purchasing behaviour.

In Figure 17, we present a scatterplot of the relationship between streaming usage and physical media consumption. The horizontal axis depicts the frequency of listening to streaming services, and the vertical axis lists the frequency for which respondents purchase physical media. We superimpose a best fit regression on the scatterplot, which highlights a negative trend. Increases in listening to online streaming is associated with less frequency physical media purchasing.



Figure 17: A scatterplot of the relationship between streaming service usage and physical media purchasing.

To determine the strength of relationship between frequency of listening to streaming services and the frequency of purchasing physical media a correlation analysis was undertaken. We first assessed each distribution for normality using the Sapiro-Wilks test procedure. We found that frequency of listening to streaming was non-normal, W = .743, Df = 128, p < .001. The frequency of purchasing physical media was also non-normal, W = .700, Df = 128, p < .001. Due to deviations in normality, we relied upon the nonparametric Spearman correlation procedure. The results of the correlation analysis indicated that there was a negative association between frequency of listening to streaming and frequency of physical media purchasing, r = -.318, n = 128, p < .001. There was a practical minimum effect observed.

SPSS was used to organise and assess the data on music consumption behaviours to analyse the data. At first, the information was divided into groups according to how frequently people used internet streaming services and bought physical media. This made it possible to produce several tables and figures that show these trends. These illustrations made it possible to conduct an in-depth study of the ways in which various age and gender groups interact with streaming services online against offline media. By providing tools for making and analysing these figures and tables, SPSS enabled a thorough investigation and offered insightful information about the consumption patterns and preferences of different user groups.

#### Chapter 5 Conclusions.

Overall, the study's findings provide important new information about how the growth of streaming services has affected consumers' physical media buying habits. The research shows that a significant portion of the sample has shifted from buying physical media—such as CDs and records—to digital options. To be more specific, Figure 1 shows that 60% of participants did not buy any physical media in the previous year, while only 40% bought some. Table 1 breaks down this distribution in more detail, highlighting the overall trend of fewer physical media purchases.

Larger differences can be seen when examining purchasing behaviour by gender, as illustrated in Figures 2 and 3. For example, Figure 2 shows that 48% of participants who are male have never bought physical media, while Figure 3 shows that 68% of participants who are female have done the same. This implies that women are more likely than men to decide not to purchase tangible media. A more detailed look at these gender disparities can be seen in Tables 2 and 3, which demonstrate that men purchase physical media at least once a year on average somewhat more frequently than women do.

The data also shows patterns in the purchase of physical media that are connected to age. Younger age groups, especially those between the ages of 18 and 24, are far less likely than older age groups to own physical media, as shown by Figures 4 through 8 and the tables that relate to them. For instance, Figure 4 demonstrates that 76% of participants in the 18–24 age range have not purchased physical media in the last year, and Figure 5 demonstrates a same pattern with 75% of participants in the 25–34 age range not purchasing physical media. Tables 4 through 8 provide specific age group breakdowns that further support the age-related reduction in physical media purchases.

On the other hand, older participants, particularly those in the 35–44 and 45–54 age groups, demonstrate a little increased preference to buy physical media, even if the trend still leans towards limited purchases, as shown by Figures 6 through 8 and the related tables (Tables 6 and 7). Additionally, Figure 8 reveals that 87% of participants who are 55 years of age and older still buy physical media at least once a year, suggesting that older audiences continue to find physical media to be more desirable.

Figure 9 and Table 9's examination of streaming service usage demonstrates that 93% of the sample uses streaming services at least once a year. Figures 10 and 11 further demonstrate that women employ streaming services more frequently than men do. Figure 10 shows that 85% of men have used streaming services at least once a year, while Figure 11 shows that 97% of women have done the same. Additional frequency distributions in Tables 10 and 11 confirm this discovery, showing that a greater proportion of women than men use music streaming services many times a day.

There are more obvious age-related patterns in the use of streaming services. Younger age groups, particularly those between the ages of 18 and 24 and 25 and 34, are essentially evenly engaged with streaming services, with 96% and 100%, accordingly, applying them at least once a year, according to Figures 12 through 16 and their associated tables. Figure 16 and Table 16 show that although 75% of participants aged 55 and above still use streaming services, their usage is comparatively lower than that of younger participants, who have a strong preference for these services.

Table 17, which cross-tabulates streaming usage with physical media purchasing behaviour, provides more insight into the link between the use of streaming services and physical media purchases. According to the statistics, there appears to be a clear negative link between the frequency of physical media purchases and the frequency of streaming consumption. Figure 17 provides a visual representation of this pattern.

A scatterplot with a regression line shows that there is a negative correlation between the frequency of streaming and the purchase of physical media. This finding is confirmed by the Spearman correlation analysis, which is included in the findings. It shows a statistically significant negative correlation (r = -0.318) between increased streaming and decreased physical media sales.

The study concludes by providing a thorough demonstration of how the rise of music streaming services has affected consumers' purchase habits for physical media, with younger populations driving this trend towards digital consumption. The in-depth

examination offered by the study's numbers and tables highlights how music consumption is changing and what that means for the music business as well as media consumption patterns.

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